Supplemental Materials to the Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International

Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Supplemental Materials to the Written Testimony for the Record

1) U.S. Import Data by Selected Species
2) Case Study through Comments: Imports of African Elephant (10.6.17) and Lion (10.5.17) Trophies from Tanzania Should Not Be Permitted
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12) Comment: Imports of African Lion Trophies from Tanzania Must Not Be Permitted; October 5, 2017
13) Comment: Imports of African Elephant Trophies from Zimbabwe Should Not Be Permitted; October 6, 2017
14) Comment: Imports of African Lion Trophies from Zimbabwe; November 20, 2017
15) Comment: Cape Mountain Zebra (*Equus zebra zebra*) Trophy Import Permit; April 21, 2017
16) Comment: Bontebok Trophy Import Permits; May 1, 2019
17) Comment: Petitioners' Comments on the Status Review for Panthera pardus (Docket No. FWS-HQ-ES-2016-0131); January 30, 2017
18) Petition: Before the Secretary of the Interior, Petition to List the African Lion (*Panthera leo leo*) as Endangered Pursuant to the U.S. Endangered Species Act; March 1, 2011
19) Petition: Petition to the Secretary of the Interior to List the African Elephant (*Loxodonta africana*) as Endangered Pursuant to the Endangered Species Act; February 11, 2015
20) Petition: Petition to List the Giraffe (*Giraffa camelopardalis*) under the Endangered Species Act; April 19, 2017
21) Petition: Petition to List All *Panthera pardus* as Endangered and to Immediately Restrict Leopard Trophy Imports; July 25, 2016

Annex I

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U.S. Trophy Import Data by Selected Species

According to a 2016 HSUS analysis of wildlife trophy import trade data obtained from the U.S. Fish and Wildlife Service (USFWS) Law Enforcement Management Information System (LEMIS), more than 1.26 million wildlife trophies were imported to the U.S. between 2005 and 2014, an average of more than 126,000 trophies every year. [1] Unfortunately, 2014 is the most recent data released by the USFWS on LEMIS. Among these imports were 32,453 African Big 5 trophies including these threatened species, 5,605 African lions, 4,624 African elephants, 337 southern white rhinos, and 4,598 African leopards. A separate analysis done by HSUS/HSI revealed that close to 4,000 giraffe hunting trophies were imported into the U.S. between 2005 and 2016, equal to more than one giraffe a day;[2] the giraffe has been proposed for listing under the ESA.

A 2019 report by the Congressional Research Service confirmed similar findings about the prominent role that the U.S. plays in international trophy hunting. It noted that the U.S. imports over 10 times more wildlife trophies than China, the world's second-largest trophy importer. From 2011 to 2015, trophy imports of CITES-listed species into the United States exceeded the sum of CITES-listed species imported into the other top nine trophy-importing countries combined."[3]

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[1] HSUS, HSI (2016). Trophy hunting by the numbers: the United States role in trophy hunting. Washington, DC.
[2] https://www.hsi.org/wp-content/uploads/assets/pdfs/giraffe_esa_petition_2017.pdf
[3] International Trophy Hunting. Pervaze A. Sheikh and Lucas F. Bermejo. March 2019. https://fas.org/sgp/crs/row/R45615.pdf

Annex II

Testimony of Iris Ho
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Case Study through Comments: HSUS Letters to the U.S. Fish and Wildlife Service Tanzania

1) Re: Imports of African Elephant Trophies from Tanzania Should Not Be Permitted; October 6, 2017 (25 pages)

2) Re: Imports of African Lion Trophies from Tanzania Must Not Be Permitted, October 5, 2017 (29 pages)

Attached below.

October 6, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Rosemarie Gnam, Ph.D.
Chief, Division of Scientific Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Imports of African Elephant Trophies from Tanzania Should Not Be Permitted

Dear Chief Van Norman & Chief Gnam:

The Humane Society of the United States (HSUS), Humane Society International (HSI), and the Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service (FWS or "the Service") to continue prohibiting the import of African elephant trophies from Tanzania. As detailed herein, recent evidence demonstrates that elephants in Tanzania are threatened with extinction from poaching and habitat loss and Tanzania cannot ensure that recreational offtake of elephants is sustainable. Therefore, the Service cannot lawfully make an enhancement finding under the Endangered Species Act (ESA) for imports of elephant trophies from Tanzania.

ESA Requirements for Elephant Trophy Imports

Since the African elephant special rule amendment (50 C.F.R. § 17.40(e)) went into effect in June 2016, every import of an African elephant trophy is required to comply with ESA permitting requirements (and imports from Tanzania must also qualify for an import permit under the non-detriment standard in the Convention on International Trade in Endangered Species of Wild Fauna and Flora, "CITES"). Pursuant to the ESA (16 U.S.C. § 1538) and implementing regulations (50 C.F.R. § 17.40(e)), before the Service can authorize the import of an African elephant trophy it must be able to make a finding that the take of the animal enhances the survival of the species. According to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at*

http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with FWS that the IUCN provides relevant standards for determining whether elephant trophy hunting meets this conservation goal. *See* 81 Fed. Reg. 36388, 36394 (June 6, 2016). We strongly encourage FWS to conduct this enhancement analysis consistent with how the Service conducts its analysis for determining whether African lion hunting meets the enhancement standard. 80 Fed. Reg. 79999, 80045 (Dec. 23, 2015). Specifically,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival[], the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of African elephants, as it does for African lions:

> "(a) Biological Sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.
>
> (d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population

counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Further, FWS regulations provide that "No more than two African elephant sport-hunted trophies [can be] imported by any hunter in a calendar year." 50 C.F.R. § 17.40(e)(6)(E).

Strict scrutiny of elephant trophy imports is especially imperative, given that the Service has found that uplisting the species to endangered may be warranted. 81 Fed. Reg. 14058 (March 16, 2016).

There Is No Evidence that Elephant Trophy Hunting in Tanzania Enhances the Survival of the Subspecies

For calendar years 2014 and 2015, the Service was unable to make the requisite findings that hunting African elephants in Tanzania enhances the survival of the species (or that hunting African elephants in Tanzania is not detrimental to the survival of the species). In announcing those suspensions, the Service committed that "Unless information is received that shows a significantly improved situation for elephants in Tanzania such that the required findings could be made, permit applications for the import of elephant sport-hunted trophies would be denied." *See* https://www.fws.gov/international/permits/by-activity/sport-hunted-trophies.html. Elephant populations in Tanzania have declined by as much as 60 percent since 2009 due to poaching and are still extremely vulnerable to exploitation, such as trophy hunting; thus, the Service cannot lawfully make an enhancement finding (or non-detriment finding) for trophy imports from this population for calendar year 2016 or beyond, as detailed herein.

Tanzania Lacks an Adaptive and Up-to-Date Elephant Management Plan

As noted above, the Service's enhancement analysis for trophy imports must consider whether the range country has adaptive and appropriate resource assessments and monitoring to establish quotas for off-take that ensure that sex/age restrictions of harvested animals are met. Although the most recent survey (Chase MJ *et al.* 2016) indicates that the Tanzanian population of elephants has decreased by more than 60% since 2009 (including through offtake by American trophy hunters), Tanzania has not developed a new elephant management plan since 2010.

Tanzania's Ministry of Natural Resources and Tourism (MNRT) initiated the Tanzania Elephant Management Plan process and conducted a series of stakeholders and consultative meetings. The culminating document, Tanzania's Elephant Management Plan 2010 – 2015, prepared by the Tanzania Wildlife Research Institute (TAWIRI), was endorsed and signed by Hon. Ezekiel M. Maige, Minister for Natural Resources and Tourism, on January 15th 2011. (TAWIRI 2010).

The 2009 national elephant population census estimated approximately 109,501 individuals. (TAWIRI 2010, pp.10) At the time, now eight years ago, some populations were said to be increasing and others were expected to stabilize if poaching (then mostly localized) could be minimized. However, the Management Plan recognized that Tanzania was currently facing challenges from poaching due to a resurgent demand for ivory in Asia. A downward trend in elephant population since 2006 was recorded in the TAWIRI National Elephant Censuses (TAWIRI 2010 pp.10).

Workshops and consultative meetings with stakeholders were held during the collection of information for the Management Plan. The Management Plan summarized discussions from four zonal workshops. Participants in the workshops identified several problems facing the conservation of African Elephants in Tanzania. Among them were: (1) lack of benefits from conservation and protection of elephants; (2) inadequate capacity of district councils to implement policies, and enforce laws and regulations; (3) conflicting policies, laws, and institutions or weak and outdated laws; (4) inadequate stakeholder coordination; (5) inadequate integration of indigenous knowledge in conservation; (6) lack of or inadequate conservation education amongst communities; and (7) corruption. (TAWIRI 2010, Annex II, p.83) The Tanzanian government provided a list of 36 action items – "Annual Operation Plan and Budget for Implementation of the Tanzania Elephant Management Plan for 2015" – in a letter to the Species Review Group of the European Commission in August 2015. However, this document did not cure the defects in the 2010 Plan and there is an urgent need to update the Management Plan to reflect the current population size, demographic structure and trends, address the challenges identified in the 2010 Plan, strengthen existing wildlife laws, and implement feasible and sustainable measures to combat elephant poaching and ivory trafficking.

No country in Africa has experienced worse elephant poaching than Tanzania. A 2014 aerial survey, in collaboration with the Great Elephant Census, documented that a shocking 60% of Tanzania's elephants were killed due to poaching over a five-year period. The elephant population dropped from 109,051 in 2009 to 42,871 in 2014. (Chase MJ et al. pp. 13 Table 2). Survey results released in 2016 by the IUCN African Elephant Specialist Group put the number of the population slightly higher at 50,433. The 2010 Elephant Management Plan, which is the latest elephant management plan of Tanzania, does not reflect this current population status and trend. Without an updated Management Plan, it is not possible to ascertain if Tanzania has sufficiently addressed each identified challenge and action items. Therefore, it is essential that Tanzania update its Elephant Management Plan and develop and implement a vigorous, science-based, and comprehensive conservation program for the species in Tanzania. Unless or until that occurs, it would be arbitrary and capricious for the Service to issue an enhancement finding for the import of elephant trophies from Tanzania.

Beleaguered Elephant Populations in Tanzania Yet to Recover from Poaching, Cannot Sustain Further Exploitation

Due to the insufficient management of the population, Tanzania – once a stronghold of elephant populations in Eastern Africa – has suffered from a poaching epidemic in recent years. In 2009 an aerial census conducted by Tanzania Wildlife Research Institute (TAWIRI) surveyed six ecosystems, Tarangire-Manyara, Serengeti, Selous-Mikumi, Ruaha-Rungwa, Katavi-Rukwa and Moyowosi-Kigosi. The survey estimated 109,051 elephants in Tanzania. (TAWIRI 2010). In 2016, the Great Elephant Census (GEC), the first continent-wide survey of African savannah elephants, covered 93% of savannah elephants in the 18 countries surveyed. The GEC estimated 42,871 elephants in Tanzania, a reduction of 66,180 animals or approximately 60% since 2009. (Chase MJ et al.). A survey in 2006 placed an estimate of 139,915±12,338 elephants across the six ecosystems. (CoP15, Document 68. Annex 6a). Contrasting the 2016 data with the 2006 figure, Tanzania has lost a staggering 70% of its elephants in a decade.

Elephants in Tanzania face a myriad of threats, such as habitat loss, retaliatory killings due to human-elephant conflict, poaching, and trophy hunting. As human populations and development grow, habitats previously occupied by elephants have been converted to farmlands, roads or for other human use. Loss of connectivity between core wildlife habitat areas poses a major threat to the elephant population as existing corridors are becoming blocked by expanding agriculture, human settlements and livestock grazing, and destruction of habitats for logging and charcoal production. (TAWIRI 2010).

A presentation in May 26th 2016 at the Proceedings of the 3rd National CBNRM Forum in Tanzania by Professor Neil Burgess of UNEP-WCMC discussed predictors of elephant poaching in southern Tanzania and northern Mozambique. Professor Burgess found that "in Tanzania, elephant carcasses were mostly associated with human variables. State-managed protected areas were negatively associated with the number of elephant carcasses, whereas the numbers of elephant carcasses were high in community-managed sites." [1] This suggests that the community management of elephant conservation has not been effective in halting elephant poaching. If the communities were benefiting from trophy hunting in the community-managed game reserve sites, the poaching would not be as high as it is.

Declines occurred in most of the Tanzanian elephant populations surveyed by the Great Elephant Census or IUCN AfESG, some more drastic than others. According to the African Elephant Status Report 2016:

- Moyowosi-Kigosi ecosystem: A 2015 estimate of 1,645 ± 2,389, down from a 2006 estimate of 9,541 ± 3,657.

- Sagara-Nyamagoma ecosystem: A 2015 estimate of 503 ± 592 down from a 2007 estimate of 4,635 ± 3,028.

[1] Tanzania Natural Resources Forum, *Proceedings of the 3rd National CBNRM Forum* (2016), https://tnrf.org/files/proceedings_of_the_3rd_cbnrm_forum_final_report31082016.pdf.

- Ugalla Game Reserve: A 2015 estimate of 659 ± 549, down from a 2007 estimate of 1,352 ± 837.

- Katavi National Park and Rukwa Game Reserve: A 2015 estimate of 5,738 ± 2,993, down from a 2006 estimate of 6,261 ± 1344. The IUCN AfESG African Elephant Status Report stated that several surveys carried out in the areas over time did not result in substantially different estimates, suggesting that the population has been relatively stable over the period. However, the carcass ratio of 10% in 2014 is a cause of concern as the AfESG report points out.

- Ruaha-Rungwa ecosystem: A 2015 estimate of 14,283 ± 6,123, down from the 2006 estimate of 35,409 ± 11,507. A 2014 aerial survey done by the Great Elephant Census provided a much lower estimate of 8,272 ± 6,433, and a high carcass ratio of 29%. A 2009 estimate found 34,643 ± 8,199, indicating that rampant elephant poaching took place after 2009.

- Selous-Mikumi ecosystem: A 2014 survey by the Great Elephant Census gave an estimate of 14,040 ± 3,252 with a very high carcass ratio of 40%, a very large reduction from the 2006 estimate of 70,406 ± 24,843. The AfESG census report expressed concerns that the 2006 figure may have been an overestimate. A 2013 survey gave an estimate of 13,084 ± 3,559 with a 30% carcass rate while a 2009 survey estimated 38,975 ± 5,182 with a 2% carcass rate. The various surveys confirmed that the Selous elephant population has experienced a significant decline.

- Serengeti is among the few areas that saw an increase in elephant populations. The 2014 survey by the Great Elephant Census estimated 6,078, up from the 2006 estimate of 1,472. The increase could be due to movement from Kenya's Masai Mara ecosystem as well as higher intensity surveys, additional blocks counted and the possibility of immigration of elephants from unsurveyed adjoining areas.

CITES Monitoring of Illegal Killing of Elephants (MIKE) operates in 58 sites in 30 countries and 27 sites in 13 countries in Asia. MIKE monitors relative poaching levels using the Proportion of Illegally Killed Elephants (PIKE), which is calculated as the number of illegally killed elephants found divided by the total number of elephant carcasses encountered by patrols or other means (e.g. community reports, researchers, etc.), aggregated by year for each site. Coupled with estimates of population size and natural mortality rates, PIKE can be used to estimate numbers of elephants illegally killed, as well as poaching rates (i.e. the proportion of the total elephant population illegally killed). A PIKE level 0.5 or higher (i.e. where half of dead elephants found are deemed to be illegally killed) is considered unsustainable.

MIKE data reported to CITES CoP17 shows a steady increase in levels of illegal killing of elephants starting in 2006, punctuated by a decline in 2009 and peaking in 2011 and remaining virtually unchanged after 2013. Poaching levels in 2015 overall remained stable but high across African MIKE sites.

There are five MIKE sites in Tanzania: Katavi National Park and Rukwa Game Reserve, Mkomazi National Park, Ruaha Rungwa National Park and Game Reserve, Selous-Mikumi Game Reserve and National Park and Tarangire National Park. Among sites that reported 20 or more carcasses for 2015, Katavi-Rukwa, Ruaha-Rungwa and Selous-Mikumi are of particular concern. PIKE increased substantially in Ruaha-Rungwa by 28%, from 0.58 to 0.74 from 2014 to 2015. (CITES CoP17 Doc 57.5. pp.3.) The 2011 PIKE level was alarmingly high with 0.64 at Selous-Mikumi, a shocking 0.94 at Ruaha-Rungwa and 0.86 at Katavi-Rukwa MIKE site. The 2013 PIKE level was 0.74 in Selous-Mikumi and 0.84 at Ruaha-Rungwa. (CITES SC65 Inf.1, pp.2.)

This data demonstrates a high poaching rate in across Tanzania, including areas that were formerly strongholds of elephant populations in Eastern Africa. Among the worst poaching sites are the Selous and Ruaha eco-systems areas. The Selous Game Reserve and ecosystem once had the second highest population of elephants in Africa and the highest population in Tanzania. Covering an area of some 80,000km^2, the Selous Game Reserve and nearby ecosystems (i.e. Mikumi National Park, the Kilombero Game Controlled area, and land to the north, east and south of the Selous Game Reserve), boasted 109,419 elephants in 1976. There approximately 50,000 individuals in 2009. (TAWIRI 2010) As mentioned above, the best estimate of the elephant populations in the area today is 14,040 ± 3,252, according to the Great Elephant Census.

The Ruaha-Rungwa ecosystem covers an area of approximately 43,000 km^2 and includes Tanzania's largest national park, Ruaha National Park, Rungwa, Kizigo and Muhesi Game Reserves. It once had the second largest elephant population in Tanzania, after the Selous ecosystem. Data on poaching within Ruaha NP since 2005 show a consistent, high level of poaching.

Table 1 below are TAWIRI estimates of the elephant populations in the Ruaha-Rungwa ecosystem. It is important to note that the area surveyed has increased, and that elephants were counted in 2015 that were outside of the previously defined census zone.

Table 1. Population estimate in the Ruaha-Rungwa ecosystem

Year	**Population Estimate**	**Standard Error**	**Population Estimate Range**	**Are Surveyed (km^2)**
2006	35,461	±3,653	31,808-39,114	43,601
2009	34,664	±4,178	30,486-38,842	43,641
2013	20,090	±3,282	16,808-23,372	50,889
2014	8,272	±1,652	6,620-9,924	30,368
2015	15,836	±4,759	11,077-20,595	52,462

(Source: http://www.stzelephants.org/census-results-ruaha-rungwa/)

A CITES MIKE report in March 2017 indicated a 55% reduction PIKE levels in Katavi-Rukwa, Ruaha-Rungwa and Selous-Mikumi ecosystems. However, the report noted that "As of now no explanation has been received why there was a significant drop in the number of carcasses reported

from these sites in Tanzania."[2] It would be premature to conclude that poaching has therefore subsided in Tanzania. Moreover, as explained further below, a reduction of PIKE level, albeit a temporary one, does not equate to recovery of elephant populations in Tanzania.

A new study by Robson et al. (April 2017) found that savanna elephant population sizes in protected areas are only a quarter of their expected size, based on a modelling exercise using ecological benchmarks given a scenario of zero poaching. Of the 73 protected areas studied, Tanzania's Selous had the greatest deficit: ~89,000 elephants (p. 9).

For Tanzania, Robson et al. (2017, supporting information) found that the protected areas are "missing" (signified by the minus sign) the following number of elephants (Table 2):

Table 2: Number of elephants missing in the protected area based on the zero poaching model

Game reserve/National Park	**Number of elephants missing based on the zero poaching model**
Katavi-Rukwa Region	-13,851
Kigosi GR	-16,487
Kizigo GR	-4,602
Maswa GR	-2,626
Mikumi NP	-4,491
Mkomzai GR	-1,868
Moyowosi GR	-13,857
Muhesi GR	-5.950
Ruaha NP	-25,786
Rungwa GR	-3,976
Selous GR	-89,344
Serengeti NP	-14,285
Ugalla River GR	-7,318
Total	**-210,167**

Poaching Negatively Affects the Reproductive Output of Breeding Female Elephants

Research (Gobush et al.2008) found that widespread poaching has long-term, negative impacts on adult female elephants because it alters the demographic structure of matrilineal family groups by decreasing the number of old matriarchs (Moss & Poole 1984; Poole 1989; Barnes & Kapela 1991 as cited in Gobush et al. 2008). The researchers examined the fecal glucocorticoid levels of 218 adult female elephants from 109 groups in Mikumi National Park. High physiological stress as reflected by high fecal glucocorticoid measures indicates a negative physiological state for an elephant, which in turns translate into diminished reproductive function, depressed immunity, muscle breakdown, and an increased risk mortality (Singfield & Ramenofsky 1999; Sapolsky et al. 2000 as cited in Gobush et al. 2008).

[2]"Levels and trends of illegal killing of elephants in Africa to 31 December 2016-Preliminary Findings", CITES website (accessed August 14, 2017) https://cites.org/sites/default/files/eng/prog/MIKE/MIKE_report_released_WWD_3Mar2017.pdf

The study found a multi-generational effect of poaching which imposes chronic stress condition for the elephants in a disrupted family group. Because old female elephants hold unique social positions in their families, their removal by poaching impairs group social functions, elevates physiological stress and reduces reproductive output among the females left behind. The study concludes that the consequences of disrupting group composition in this way may persist for upwards of 20 years until sufficient time has elapsed for a new mother-adult daughter pairs to form. (Gobush et al. 2008).

It will be a couple of decades from now that Tanzania's remaining elephants would be able to recover from the recent poaching epidemic, provided that the poaching and other offtake are halted. Any additional pressure on the populations, such as trophy hunting offtake, will impede their recovery.

Poaching has a direct impact on sleep, foraging and movement patterns of the elephants

A 10-year researched (Ihwagi et al. 2018) conducted by Save the Elephants and the University of Twente has discovered that poaching has a direct and profound impact on an elephant's behavior, causing elephants to adapt by developing nocturnal behavior to stay out of danger from poachers active during the day. Using elephant GPS tracing and mortality data collected in Northern Kenya between 2002 and 2012, researchers found that elephants move more at night in areas that suffer high levels of poaching, turning to feeding and traveling instead of sleeping. Other key findings from the study include: the relationship between poaching levels and night-day speed ratios was stronger for females than for males and that this change in elephant behavior has potential long term implications for the survival of elephants which normally rest at night and are more active during the day. One of the authors, world-renowned elephant scientist Iain Douglas-Hamilton, remarked that, "This alteration in movement behavior by elephants has implications for their foraging strategy, reproduction and survival, which are not yet fully understood."

This research presents the latest scientific evidence that poaching poses an ongoing direct and negative impact on the elephants' biological behaviors. Lethal offtake for trophy hunting has an additive impact and further undermines the effort to conserve the species and restore the species' populations.

Tanzania Is a Hub of Ivory Trafficking

Tanzania is a "country of primary concern" in the CITES EITS (Elephant Information Trade System) reports (CoP17 Doc.57.6 (Rev.1), pp. 17). ETIS tracks large-scale ivory seizures (defined as 500 kg or more of raw or worked ivory). Among the African countries of primary concern, Tanzania has been the source of the greatest portion of this ivory. Corruption was identified as a major problem, "with various reports documenting serious governance shortfalls at ports of entry and exit, within government institutions charged with protecting wildlife, and by political and economic elites in these countries, including ivory stock thefts." While the report noted progress, it also recommends that efforts be sustained for the foreseeable future. Indeed, the CITES Secretariat has taken the position that Tanzania's National Ivory Action Plan is not substantially

achieved. (CoP17 Doc.24 (Rev.1) pp.12), suggesting that Tanzania is not out of the woods yet in enforcing ivory related wildlife crime.

A study by Wasser et al. (2015)[3] on DNA analysis of seized ivory confirmed the prominent role of Tanzania in the illegal ivory trade. Wasser examined 28 large ivory seizures (larger than 0.5 tons) made between 1996 to 2014 and genetically assigned origin to all these seizures. The results suggested that major poaching hotpots were concentrated in just a few areas in Africa. Excluding a single seizure assigned to Zambia, all of the 15 savanna elephant seizures during this period were assigned to southern Tanzania and adjacent Mozambique. In particular, "7 out of the first 10 seizures made between 2006 and 2011 were almost entirely concentrated in the cross border ecosystem of the Selous and Nyasa Game Reserves. (pp.3)" Other seizures pointed to Ruaha National Park and the adjacent Rungwa Game Reserve as the source of ivory. The study concluded that "between 86 and 93% of the savanna elephant ivory from that period was predominantly assigned to SE Tanzania and adjacent northern Mozambique."

Multi-year undercover investigations by the Environmental Investigation Agency (EIA) found Chinese-led criminal syndicates operating between East Africa and Shuidong in Southern China. EIA's report documented how the Chinese traffickers led and conspired with their local Tanzanian contacts who were employed as freight agents whose names appeared on shipping documents or were tasked with sourcing the poached tusks and storing ivory until a significant amount had been collected. "The contraband would then be transported to Zanzibar on small vessels…shipments would also be handled by the trusted Tanzanians, as would payments of about $70 per kg of ivory to customs officers and port officials to ensure safe departure."[4]

Tanzania has, commendably, established a National and Transnational Serious Crimes Investigation Unit (NTSCIU) and a Wildlife and Forest Crime Task Force and hosted a wildlife crime conference (in November 2014) with the participation from the East African Community (EAC) and South African Development Community (SADC). The conference's output, the Arusha Declaration, called for "a comprehensive list of activities to strengthen trans-border collaboration on combatting wildlife/environmental crimes and advancing conservation work."[5]

However, EIA's report cautioned that more work must be carried out by the government of Tanzania in order to promote the conservation of elephants. The findings that the Chinese syndicates are shifting their operations to Nigeria and Mozambique are a reminder that the Tanzanian government must remain vigilant and that their effort in combating poaching and trafficking must be persistent, consistent and sustainable.

The tragic murder of conservationist Wayne Lotter, co-founder of the PAMS Foundation, in Dar es Salaam on August 16, 2017 demonstrates that there remains a significant poaching threat to

[3] Wasser SK, Brown L, Mailand C, Mondol S, Clark W, Laurie C, Weir BS, Genetic assignment of large seizures of elephant ivory reveals Africa's major poaching hotpots, Science, June 2015, http://science.sciencemag.org/content/349/6243/84/tab-pdf

[4] EIA, *Exposing the global hub in illegal ivory trade* (July 2017), at 5, https://eia-international.org/wp-content/uploads/EIA-The-Shuidong-Connection-FINAL.pdf.

[5] Kideghesho, J., *The elephant poaching crisis in Tanzania: a need to reverse the trend and the way forward*, Tropical Conservation Science Vol.9(1): 369-388 (2016), https://tropicalconservationscience.mongabay.com/content/v9/tcs_v9i1_369-388_Kideghesho.pdf.

elephants in Tanzania.[6] The PAMS Foundation was instrumental in bringing elephant poachers and ivory traffickers to justice through their partnership with the National and Transnational Serious Crimes Investigations Unit, NTSCIU. According to news reports, Wayne Lotter received numerous death threats over his work and that his laptop, which may contain critical information on wildlife criminals, was stolen from the crime scene.[7]

Elephant Trophy Hunting Negatively Affects Biological Sustainability

Given the threats posed to Tanzanian elephants from poaching and trafficking to supply global ivory markets, as well as the pressures the population faces from habitat loss and human-elephant conflict, this population cannot withstand recreational offtake by American trophy hunters.

Between 2005 and 2014, the United States – the top importer of wildlife trophies in the world – imported trophies of an estimated 374 African elephants from Tanzania. Between 2010 and 2014, 226 elephants were killed and exported from Tanzania as trophies to the U.S. (60%) and EU countries (over 30%). (TAWIRI 2015 Addendum to the 2014 Non-Detriment Finding for African Elephant in Tanzania). The Service's ESA Enhancement Findings in 2014 and 2015 concluded that there is *no* evidence to support that sport-hunting of elephants in Tanzania enhances the survival of the species – the same continues to be true today.

In Tanzania, the trophy hunting season is restricted to the dry months, beginning on July 1st and ending on December 31st. Trophy hunting occurs in Game Reserves, Game Controlled Areas, and Wildlife Management Areas (WMAs) where designated hunting blocks exist. (TAWIRI 2010, pp.52) According to TAWIRI, WMAs are village lands surrounding protected areas and are used by communities for conservation and benefits sharing in conjunction with the Wildlife Division (50% of the hunting revenue is retained by the Wildlife Division, which also sets quotas and tariffs for any hunting in the WMA. TAWIRI 2010, pp.51) Hunting of elephants is permitted only to trophy hunters on payment of a license fee ranging from $7,500 to $25,000, depending upon the tusk size of the animal shot and the type of weapon used. The minimum tusk size for a trophy animal is 15 kg for both males and females. (USFWS Enhancement Finding 2015). In 2014, the minimum requirement for a legal trophy was raised to a weight of at least 20 kg or a length of at least 1.6 meters. (USFWS Enhancement Finding 2015). However, the national quota for export under CITES is "restricted to adult males only with tusk weighing more 20 kg and/or length of 200 cm." (TAWIRI 2015 Addendum to 2014 Non-Detriment Finding for African Elephants in Tanzania, pp.2). The 2010 Management Plan is outdated and still states that female elephants can also be trophy hunted, despite the clear threat that removal of breeding female poses to this imperiled species. (Page 52, TAWIRI 2010). There is no information publicly available on elephant trophy quality analyses and the enforcement of the size, weight, sex of the hunted species trophies required under the Tanzanian laws.

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[6] *See* https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania

[7] *See* https://www.thetimes.co.uk/article/wayne-lotter-the-elephant-conservationist-who-caught-poachers-shot-dead-in-tanzania-8sqdfk7x9

Trophy hunting has been shown to disrupt family groups and social stability, negatively impacting elephant survival.[8] Hunters generally target the biggest and strongest males, meaning that trophy hunting removes these animals from the breeding pool and unnaturally selects for smaller or weaker animals.[9] In addition, as illustrated above, study on the elephant populations in Mikumi National Park shows long-term, negative impacts on the reproductivity of the female elephants. Trophy hunting offtake decreases the likelihood of recovery of the subspecies.

Researchers have found that the selective nature of trophy hunting causes changes in desirable phenotypic traits in harvested species. In particular, trophy sizes for wild herbivores experienced temporal decline in South Africa and Tanzania. "Declines in trophy size over time due to selective harvesting could be attributed to phenotypic plasticity that may result due to a decline in abundance of big tuskers and individuals with big horns or tusks as these are mostly selected by hunters."[10] Further, when trophy hunting is sanctioned, poaching activity increases, likely due to the perception that species authorized for hunting are of diminished value and the perception that legal killing increases the acceptability of poaching.[11]

In Selous Game Reserve, where hunting is permitted, demographic analysis showed a very low calf-to-mother ratio, with only one breeding-age bull to every 20 breeding-age females. (TAWIRI 2010, pp.16). This could have a negative impact on the long term growth rate of the population. The 2010 Elephant Management Plan also showed that the sex ratio of the breeding adults (male-female) were exceptionally low in Selous (0.05%) and Ugalla Game Reserves (0.01%). In addition, it is alarming that the survey found that there were no adult bulls in the hunting blocks of Selous (2.8% in tourism areas), Katavi and Ugalla. (TAWIRI 2010. pp.75, Table 2.)

These findings, combined with the aforementioned research that poaching has negative outputs on the reproductivity of female elephants in Tanzania, show that human-induced factors such as trophy hunting negatively affects the biological sustainability of the hunted species.

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[8] Milner J.M., Nielsen E.B., Andreassen HP, *Demographic side effects of selective hunting in ungulates and carnivores*, Conservation Biology Vol. 21:36-47 (2007), doi: 10.1111/j.1523-1739.2006.00591.x ("Such selective harvesting can destabilize social structures and the dominance hierarchy and may cause loss of social knowledge, sexually selected infanticide, habitat changes among reproductive females, and changes in offspring sex ratio.")

[9] Allendorf, F.W. and Hard, J.J., *Human-Induced Evolution Caused by Unnatural Selection through Harvest of Wild Animals*, 106 Proceedings of the National Academy of Sciences, 9987-94 (2009); Jachmann, H. et al., *Tusklessness in African Elephants: A Future Trend*, 33 African Journal of Ecology, 230-35 (1995); Crosmary, William-Georges et al., *Does trophy hunting matter to long-term population trends in African herbivores of different dietary guilds?*, 18 Animal Conservation, 117-30 (2015); Pigeon, G., Festa-Bianchet, M., Coltman, D. W. and Pelletier, F. (2016), Intense selective hunting leads to artificial evolution in horn size. Evolutionary Applications, 9: 521– 530. doi: 10.1111/eva.12358.

[10] Muposhi VK, Gandiwa E, Bartels P, Makuza SM, Madiri TH, *Trophy Hunting and Sustainability: Temporal Dynamics in Trophy Quality and Harvesting Patterns of Wild Herbivores in a Tropical Semi-Arid Savanna Ecosystem*, PLoS ONE 11(10) (2016), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164429.

[11] Chapron, G. and Treves, A., *Blood does not buy goodwill: allowing culling increases poaching of a large carnivore*, Proc. R. Soc. B 283 (2016), http://dx.doi.org/10.1098/rspb.2015.2939.

Tanzania's Elephant Trophy Quota is Not Based on Scientific Data

During the height of the recent poaching epidemic, Tanzania's annual CITES export quota of African elephant trophies remained the same, 200 elephants, from 2010 to 2013. Since 2014 the quota has been reduced to 100 animals. (TAWIRI 2015 Addendum to 2014 Non-Detriment Finding of African Elephants in Tanzania. pp2.). The fact that the quota remained unchanged until 2014 despite the concurrent drastic decline of the elephant populations demonstrates that Tanzania's elephant hunting quota is not based on science and does not adapt based on population assessment, structure or trends.

The Service pointed out in its 2015 Non-Detriment Finding that legal offtake of the animals, such as hunting, should be measured against total offtake which includes illegal offtake such as poaching. In the government of Tanzania's response to the Service on January 21, 2015, the government provided a summary of elephant harvests from 2010-2014 which included elephants killed through problem animal control (PAC). Yet, it doesn't appear that the government of Tanzania included illegal offtake or other legal offtake, such as PAC, in its annual review and determination of its export quota.

A January 2016 letter by Tanzania's Director of Wildlife to the Scientific Review Group of the European Commission requested the Commission to allow importation of sport-hunted elephant trophies from Tanzania. The letter stated that the 100 elephants in the CITES export quota represents "only 0.23% offtake, well within the standing guideline of 0.5% - 0.6%." It ignored the illegal offtake (poaching) and other legal offtake (such as PAC).

In 2015 TAWIRI provided an ecosystem-based elephant hunting quota; however, it is not clear how the quota for each ecosystem is determined.

Table 3. Ecosystem-based elephant hunting quota

S/N	Ecosystem	Quota (No. of elephants)
1	Selous-Mikumi and surroundings	36
2	Ruaha-Rungwa and surroundings	19
3	Katavi-Rukwa and surroundings	13
4	Tarangire-Manyara and surroundings	10
5	Malagarasi-Muyovosi and surroundings	7
6	Serengeti and surroundings	15
Total		**100**

(Source: TAWIRI)

The Service requested the Tanzanian government to provide an analysis on trophies taken in the Selous Game Reserve because the Selous Game Reserve General Management Plan (2005) only includes an analysis of trophies taken from the Selous Game Reserve between 1994 and 2004. However, the government of Tanzania was not able to provide such analysis in its January response to the Service. Instead, the government responded that "Tanzania is a leader in maintaining high trophy quality because our added restrictions are designed to protect younger bulls, before they are taken, unlike a trophy quality analysis, which only looks at after-the-fact data."

EU CITES SRG Report Provides No New Information to Show Trophy Hunting Enhances the Survival of the Elephants

A delegation from the EU CITES Scientific Review Group (SRG) visited Tanzania between August 19 and 27, 2016 to follow up on discussions and exchanges with the Tanzanian Wildlife Authorities regarding the sustainability and management of lion and elephant trophy hunting. Subsequently, the SRG recommended a "Positive Opinion" which allows the import to the EU of trophy animals taken from Serengeti, Tarangire-Manyara, Katavi-Rukwa, and Selous-Mikumi ecosystems among other conditions. As for trophy animals taken from Ruhaha-Rungwa and Malagarasi-Muyovozi (and Burigi-Biharamulo) ecosystems, the SRG maintains the position that a confident non-detriment finding for these ecosystems cannot be established at this stage.[12]

The EU recommendations are based among a host of factors, including the current CITES quota of 100 elephants set by the Tanzanian government. The quota represents 0.24 percent of the total elephant population (Chase MJ et al.) and 0.20 percent on the basis of the updated 2015 total estimates by IUCN African Elephant Specialist Group, and doesn't exceed 0.3 percent of managed population which is the minimum off-take to maintain high level trophy quality, and well below the standing population guidelines of the total population. The quota information in the EU SRG report mostly recycles information from TAWIRI's 2015 submission to the Service.

As discussed above, it does not appear that the elephant trophy quota, that of national and each ecosystem, considers illegal offtake and other legal offtake. As the Service notes in its 2015 Non-Detriment Finding, "sustainability is measured against total offtake, including illegal offtake" and that "in order to evaluable whether offtake from trophy hunting is sustainable, all losses to the African elephant population, including illegal offtake, must be considered."

In addition, while the Tanzanian government provided a trophy quota for each of the six ecosystems, there is no information on the estimated offtake, such as natural mortality or problem animal control for each ecosystem and how that is calculated into the total offtake, both illegal and legal, of each ecosystem.

SRG recommends resumption of hunting at worst elephant poaching site

It is particularly concerning that the EU SRG has recommended a Positive Opinion for trophies taken from the Selous-Mikumi ecosystem. The EU report cited elephant population status and trend from a 2016 TAWIRI presentation. In 2009 there were an estimate of 44,806 elephants and in 2014, the number of elephants dropped to 15,217. Trophy hunting has existed in Selous for decades, yet poaching in the Selous-Mikumi ecosystem was among the worst in Tanzania. The high number of poached elephant in the Selous area does not support the claim that trophy hunting revenues were used effectively to combat poaching. It also suggests that the communities were not

[12] "A Report to the EU CITES Scientific Review Group on the EU Experts Mission to Assess the Sustainability and Management of Lion and Elephant Trophy Hunting in Tanzania". http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=33601&no=49 ("EU SRG Report").

benefiting from the trophy hunting revenues and therefore did not see the incentive to conserve the elephants.

We disagree with the approach of EU SRG who issues recommendations for each ecosystem, rather than making a determination for the country as a whole. This approach fails to take into account that elephants are migratory species and some are part of transboundary populations shared with neighboring countries. It can also reward an otherwise corrupt government or industry or remove incentives to improve inadequate country-wide management scheme with trophy hunting authorizations when reform is actually called for. We agree with the Service's approach that considers the overall conservation and management of the species in the country, rather than breaking it up by specific ecosystem.

SRG report prematurely concludes that poaching is stabilized

The EU SRG report finds that "the wave of poaching that hit Tanzania until 2012/2013 has probably decreased" based on carcass count data and population status. The NTSCIU provided carcass counts on the number of new carcasses, showing a decline from 219 carcasses in 2013 to 16 as of June 2016. TAWIRI caveated the 2014 survey results of the Great Elephant Census and commented that the "follow-up 2015 census conducted in Ruaha-Rungwa ecosystem suggests the population may not have declined to such an extent as reported in 2014". However, the same report pointed out that "further studies are required to understand localized migrations…and some populations remain severely threatened and in decline and continued monitoring and research is essential to verify the trend, as well as the theories around the fluctuations in elephant populations." (Page 18-19, EU SRG Report).

As iterated above, the EU SRG maintains a Negative Position on trophy animals taken from the Ruaha-Rungwa and Malagarasi-Muyovozi (and Burigi-Biharamulo). The SRG remarked that even though quota allocated for these two ecosystems "do not exceed 0.3% of the managed population, "the significant declines and high carcass ratio, together with the lack of information on the extent or impact of anti-poaching measure in these regions on illegal killings means a confident non-detriment finding for these ecosystems cannot be established at this stage." (EU SRG Report, p.6)

Tanzania Wildlife Management Authority (TAWA) Wildlife Division responded in April 27, 2017 urging the EU SRG to reconsider its Negative Positions for trophy animals from these three eco-systems. TAWIRI state that the carcass ratio (1+2) was extremely low in these three eco-systems, habitat loss due to hunting blocks' conversion to agro-pastroal lands was a concern, and the weight and length minimum size of the hunted elephants was reasonable. TAWIRI also argued that safari operators can provide increased protection for elephants. However, there is missing information in the TAWA's response as the response put down "xxx hunting blocks totally xxxxx km^2" when referring to the hunting blocks that will be converted to agro-pastoral land after the EU visit. (EU SRG Report, p.6) This incomplete information is a reminder that information provided by the Tanzania government should be subject to verification by a third-party or independent source.

There are contradictions in the EU SRG's decisions on forming a Positive or Negative Position for trophy animals from each ecosystem. The report cited carcass estimated for the six ecosystems in Tanzania in 2014, provided by TAWIRI in August 2016. Selous-Mikumi ecosystem has the highest carcass ratio (39%), followed by Ruaha-Rungwa ecosystem (15.3%). (EU SRG Report, 2016, p.20. Figure 5 (a-f)). Trophy hunting quota for Selous in 2015 was set at 0.23% of the managed population while the quota for Ruaha was set at 0.12%. Yet, Selous, where the EU

delegation visited, was given a Positive Position while Ruaha was given a Negative Position. (EU SRG Report, 2016, p.25. Table 6).

A 2017 paper published in the African Journal of Ecology (Kyando et al. 2017) identifies areas within the Eastern Selous Game Reserve (ESGR) that are at higher risk of elephant poaching and attributes the lack of economic opportunities as a main reason for the involvement in poaching by local people adjacent to the ESGR. The paper analyzed the data on the distribution of poached elephants and the seasons of poaching from 2008 to 2013. Authors found that almost 60% of poaching incidents occurred within 20km inside the reserve from the boundary of the reserve and that there was much higher poaching frequency during the wet season than the dry season. Trophy hunting proponents consistently complained that the prohibitions of Tanzania's elephant trophy imports by the U.S. and the EU, in 2014 and 2015 respectively, removes the local community's incentives to conserve the elephants. Yet, this paper studying the poaching data from 2008 to 2013 showed that the lack of economic opportunities had long existed before the trophy import bans, indicating that trophy hunting revenues repeatedly fail to motivate the local communities to protect the elephants from poaching.

Until there is substantiated or peer-reviewed research findings on updated poaching statistics in Tanzania, it would be premature to conclude that Tanzania's elephants are no longer threatened with extinction by poaching. In addition, a minor fluctuation of the elephant populations towards a possible increase (yet to be substantiated by independent scholars) from 2014 to 2015 does not alter the devastating fact that Tanzania's elephants have drastically declined since 2009 and need significant time and protections to rebound.

The SRG Report lacks input from independent sources, relies heavily on trophy hunting interests and the government's data.

The EU SRG delegation met with numerous groups and government representatives. They visited and received input from trophy hunting outfitters in the Selous Game Reserve. Missing from the list of people that the EU SRG met are independent sources of data that do not depend on trophy hunting revenues and do not fear retribution for disagreement with claims by the government.

One group that the EU SRG delegation met was communities in the Wild Management Areas (WMAs). They are a key stakeholder group of rural development and whose revenues are primarily driven from trophy hunting. There are currently 38 WMAs established, covering an approximately 50,000km^2. In July 2015, the government raised "the game fee-sharing percentage for rural communities in the WMAs to 65%, and 70% of conservation, observation and permit fees from tourist hunting activities. It is also a legal requirement for Hunting Operators within a WMA to contribute a minimum of five thousand USD to the villages, in addition to the block, permit and conservation fees)." (EU SRG Report, p.25) Out of the 38 WMAs, the EU delegation spoke to community leaders and district councilor's from two WMAs near the Selous Game reserve. Given that these communities have a financial interest in receiving funds from trophy hunting revenues, there is little doubt that their views align with the trophy hunting outfitters.

The EU delegation did not appear to meet with those who are not in search of trophy hunting revenues or who hold alternate views, such as those employed in the photographic tourism sectors. In fact, the socio-economic benefits of trophy hunting revenues to the local communities have routinely been exaggerated by the hunting proponents. A 2017 report revealed that for eight countries surveyed (Botswana, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, Zambia

and Zimbabwe), of the $17 billion in annual tourism spending, trophy hunting adds less than $132 million or just 0.78% of that total (Economists at Large 2017, p. 3). Tourism in these countries accounts for between 2.8% and 5.1% of gross domestic product (GDP) (*Ibid*). Trophy hunters contribute only an estimated 0.03 percent of GDP. Finally, non-trophy hunting tourism employs 132 times more people than trophy hunting (*Ibid*).

In addition, corruption has long plagued Tanzania's wildlife management and conservation. Tanzania ranks in the bottom third of all countries with respect to government corruption, and reports have shown inconsistent and arbitrary application of wildlife laws. (Missing the Mark, pp.16) Freedom House notes that "corruption remains a serious problem, and is pervasive in all aspects of political and commercial life, but especially in the energy and natural resources sectors." (Missing the Mark, pp.17). *See also* Declaration of Craig Packer (attached). As discussed further below, the hunting business is one of the most corrupt sectors in a country with increasing public attention on corruption. *(*Benjaminsen et al. 2013). Research by the Library of Congress cautioned, "the process of allocating and monitoring hunting concessions is said to be riddled with widespread corruption. The Minister of Natural Resources and Tourism and top Wildlife Department officials were recently fired for taking bribes in exchange for assigning hunting blocks and allowing for over a hundred live animals to be shipped abroad. Poaching is another, grave problem. Difficulties in collecting evidence and flaws in the criminal justice system make it challenging to prosecute offenders."[13]

Tanzania Disregards and Exceeds its CITES Export Quota Amid Rampant Poaching

From 2014 to present, the annual CITES export quota for the African elephant trophies from Tanzania is 200 tusks (hunting trophies from 100 animals).[14] From 2007 to 2013, the annual quota was set at 400 tusks (hunting trophies from 200 animals). From 2003 to 2006, the annual quota was set at 200 tusks (from 100 animals). From 2000 to 2002, the quota was set at 100 tusks (hunting trophies from 50 animals).[15] Despite alarming levels of poaching and decimated elephant populations, trophy hunting of elephants continues to be permitted.

Even with these very high export quotas, data from the CITES Trade Database demonstrate that Tanzania exceeded its export quota for elephant tusks in 2006 (quota = 200; actual export = 285) and 2009 (quota = 400; actual export = 445) (Table 1).

[13] Wildlife Trafficking and Poaching, January 2013, The Law Library of Congress, Global Legal Research Center, https://www.loc.gov/law/help/wildlife-poaching/index.php

[14] https://cites.org/eng/resources/quotas/export_quotas?field_party_quotas_tid=&field_full_name_tid=&field_export_quotas_year_value%5bvalue%5d%5byear%5d=2017&items_per_page=50&page=18

[15] https://cites.org/sites/default/files/common/quotas/2002/latest.pdf

Table 4. CITES Trade Database, exports of tusks and trophies from Tanzania.

App.	Taxon	Term	Unit	Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
***Loxodonta africana* trophies imported from Tanzania, 2006-2015**														
I	Loxodonta africana	trophies		TZ	66	115	138	130	101	90	87	44	43	9
II	Loxodonta africana	trophies		TZ	0	0	0	2	2	0	1	1	0	2
	TOTAL TROPHIES				**66**	**115**	**138**	**132**	**103**	**90**	**88**	**45**	**43**	**11**
	TOTAL TROPHY TUSKS*				**132**	**230**	**276**	**264**	**206**	**180**	**176**	**90**	**86**	**22**
***Loxodonta africana* tusks imported from Tanzania, 2006-2015**														
I	Loxodonta africana	tusks		TZ	153	45	62	181	138	86	42	25	37	9
II	Loxodonta africana	tusks		TZ	0	0	0	0	0	0	3	2	0	0
	TOTAL TUSKS				**153**	**45**	**62**	**181**	**138**	**86**	**45**	**27**	**37**	**9**
Totals:														
	TOTAL TROPHY TUSKS*				132	230	276	264	206	180	176	90	86	22
	TOTAL TUSKS				153	45	62	181	138	86	45	27	37	9
	GRAND TOTAL TUSKS				**285**	**275**	**338**	**445**	**344**	**266**	**221**	**117**	**123**	**31**
	CITES TUSK EXPORT QUOTA				200	400	400	400	400	400	400	400	200	200

* 2 tusks/trophy

Thus, between 2007 and 2013, when Tanzania's elephant populations were the largest source of ivory in illegal trade according to Wasser et al. (2015), Tanzania also permitted the killing of up to 200 elephants for sport and in 2009 even exceeded their own tusk export quota. This history of noncompliance with CITES export quotas is a major concern for the continued survival of elephants in Tanzania.

Questionable Management of Elephant Trophy Hunting

The government of Tanzania maintains the position that "80% of the funds used for anti-poaching in the areas managed by the Wildlife Division/Tanzania Wildlife Authority comes from trophy hunting." (2016 Letter to EU SRG. Pp.5) However, the fact remains that the worst poaching took place in southern Tanzania in Selous and Ruaha ecosystems where trophy hunting was permitted, again undermining the notion that trophy hunting provides a net benefit to elephants.

According to an International Union for Conservation of Nature ("IUCN") analysis from 2009, Africa's eleven primary big-game hunting countries only contributed an average of 0.6 percent to the national GDP.[16] Of this marginal profit, studies suggest that as little as 3-5 percent of trophy hunting revenues are actually shared with local communities.[17] Indeed, one economic report finds that Safari Club International has grossly overstated the contribution of big game hunting to eight African economies, including Tanzania, and that overall tourism in Africa dwarfs trophy hunting as a source of revenue.[18]

A 2017 study (Economists at Large 2017) that surveyed eight Eastern and Southern African countries found that trophy hunting operators and groups overstated the economic benefits and local employment derived from trophy hunting. Trophy hunting proponents claim that trophy hunting contributes $426 million dollars while in reality it is less than $132 million per year, roughly 0.78% or less of the $17 billion in overall tourism in the focused countries. In addition, trophy hunting employs in the range of 7,500 to 15,500 jobs rather than 53,000 jobs as trophy hunting proponents claim, representing roughly 0.76% or less of average direct tourism employment. With regard to the share of tourist spending from trophy hunting, on average, in Tanzania, trophy hunters' spending represent a mere 0.9 percent of the total tourist receipts.

A multitude of problems impeding Tanzania's effective management and conservation of wildlife have existed for decades. The Service' 2015 NDF noted that "as of June 2010, six out of the ten WMAs with user-rights had entered into business agreements with the private sector worth over $3.3 million, however, it appears that only a small proportion of this money has been made available to the local communities. Overall, the WMAs have had a low capacity for generating income for socio-economic development, and as such, have not provided an incentive to local communities to support or even tolerate wildlife as a potential source of renewable revenue." The

[16] IUCN, *Big Game Hunting in West Africa. What is its Contribution to Conservation?*, Programme Afrique Centrale et Occidentale (2009), https://portals.iucn.org/library/efiles/edocs/2009-074-En.pdf.
[17] Economists at Large, *The $200 Million Question: How Much Does Trophy Hunting Really Contribute to African Communities?* (2013), http://www.ifaw.org/sites/default/files/Ecolarge-2013-200m-question.pdf.
[18] Economists at Large, *The Lion's Share? On the Economic Benefits of Trophy Hunting* (2017), http://www.hsi.org/assets/pdfs/economists-at-large-trophy-hunting.pdf.

Service further noted that the new provisions in the revised Tanzania Wildlife Management Area Regulations 2012 gave WMAs with "approximately 60-65% of the total hunting revenue. Despite the improvements in administering the WMA system, there is information indicating that revenue retention by WMA's is still insufficient to finance and encourage sound management decisions within these areas."

A 2013 Evaluation Report[19] by the USAID found a litany of problems on WMAs, from governance, economic, conservation challenges to challenges in the process of establishing WMAs and challenges to understanding the impacts of WMAs on constituent villages. The report found that problems in wildlife sector governance and structural and economic management have persisted for the past decade. (USAID 2013 Report. Pp.48) For instance, the report pointed out lack of transparency and accountability among WMA stakeholders. "Villagers and even village councils do not know the details of investor contracts or payment terms, let alone when and what income will return to the WMA for distribution." (USAID 2013 Report. Pp 18.) The report found that while "the TAWIRI collects information on changes in wildlife numbers and movement patters, but there has been criticism of how this information is used, especially in relation to issuing hunting quotas. There does not appear to be a clear link between information collected by TAWIRI and decisions on what quotas are issued for different species." (USAID 2013 Report. Pp.26)

Wildlife scientists cautioned many weaknesses in how hunting revenues are distributed. (Nelson, Lindsey and Balme 2013). For instance, revenues from trophy hunting bypassed the communities and landholders. The allocation of hunting blocks give government officials the discretion to assign valuable hunting concessions, "creating conditions conducive to corruption and the use of hunting blocks for political patronage." (Nelson & Agrawal, 2008; Leader-Williams et al., 2009 as cited in Nelson, Lindsey and Balme 2013). There has been a tendency to establish unsustainably high quotas and encouragement of excessive and unselective harvest. Attempts to overhaul the bidding system for hunting concessions in the mid-1990s, which would have reduced corruption and devolved rights over wildlife management and benefits, were blocked by government officials due to lobbying by national and international trophy hunting organizations (Baldus & Cauldwell, 2004 as cited in Nelson, Lindsey and Balme 2013).

Benjaminsen et al. in their 2013 paper, published on behalf the Institute of Social Studies in The Hague, express concerns about the Tanzanian government's increasing control over incomes generating from wildlife utilization in the name of "community-based" conservation. They observe that "This process of reconsolidation of state control over wildlife management is also playing out in contests over control of the two main income-generating activities in the sector: photo safaris and sport hunting…. In addition to control over hunting profits, the management of hunting through the quota system has also been reconsolidated under state control….it seems that the hunting industry is simply too lucrative for decentralization." (Benjaminsen et al. 2013, p.10)

Intimidation of the local non-consumptive proponents by trophy hunting outfitters occurs. For instance, a hunting block in Loliondo area was controlled by Ortello Business Corporation (OBC), a company owned by the royal family of the United Arab Emirates. The local Massai communities did not want to enter or renew the contract with the company because of a series of conservation

[19] United States Agency for International Development, *Tanzania Wildlife Management Areas Evaluation* (2013), http://pdf.usaid.gov/pdf_docs/pdacy083.pdf.

related complaints against the company. For instance, resident were concerned by what they saw as indiscriminate capture and killing of animals. Yet OBC continued to operate with direct connections to and support from the central government, but without the support of villagers. "Massai complained that OBC harassed non-consumptive tour operators working in the area…More serious complaints about OBC included intimidation and threats, harassment and detention, and even torture by the OBC security forces." (Benjaminsen et al. 2013. p.13)

Despite the claim that trophy hunting revenues are used on boosting anti-poaching measures, evidence suggests that these measures did not mitigate the poaching epidemic. Selous Game Reserve is a prime example. Selous Game Reserve is split into 47 operating blocks, of which only four are for photographic tourism while the rest, 43, are assigned for sport hunting. (TAWIRI 2010, pp.14) Prior to 2005 a Revenue Retention Scheme was in operation, whereby 100% of revenue from photographic tourism, and 50% from hunting operations, was retained for management of the Game Reserve. In 1997 the Reserve earned US $2,300,000 annually and retained US $1,703,000, and by 2003 the revenue retained had increased to US $2,800,000. Following National budget reductions in 2004, the amount retained by the Reserve declined dramatically to approximately US $800,000 in 2008. (TAWIRI 2010). The drop in revenue coincides with a period of increased poaching in the Reserve and suggests that anti-poaching operations are severely underfunded. (TAWIRI 2010, pp.15).

According to Chief Warden in Selous Game Reserve during 1994 to 2008 and 2012-2015, Benson Kibonde, import bans on hunting trophies have severe impact on the level of anti-poaching activities because "85% of the Selous retention scheme fund come from hunting. If any amount of the hunting revenue is compromised, the registered success in anti-poaching efforts could be seriously jeopardized." (IUCN Briefing Paper, April 2016. pp15.) However, clearly, given the poaching statistics noted earlier, there is no "registered success" in anti-poaching efforts, driven from trophy hunting revenues, in the Selous Game Reserve.

Habitat loss and fragmentation, in addition to human growth, continue to compound the challenges to preserve the species and their habitat. A study on the Rombo area in North East Tanzania found that 75% of the land in the study area was covered by settlement and seasonal agriculture in the year 2015. The Rombo area had a continued human population increase of 30% over the past 25 years. With this rate of population increase, more agricultural land is likely to be converted to settlement and, thus, reducing elephant dispersal area. (Mmbaga et al. 2017)

A 2017 study examined the implication of upgrading conservation areas from Game Reserves to National Parks on local community livelihoods, drawing on lessons from Saadani National Park in Tanzania. Unlike game reserves where licensed human consumptive uses, such as trophy hunting, are permitted, National Parks allow only controlled non-consumptive uses, such as walking safaris, game driving and photographic tourism. The authors concluded that while there are problems and challenges to be resolved, people's livelihoods after change of status from a Game Reserve to a National Park has been more positive than negative. The study also reported that despite some problems they encounter, villagers were very positive about the national park designation because their life was reported to have improved as a result of the status change. Villagers also reported improved social infrastructure and job opportunities including expanded market for their goods. (Michael E. 2017)

There is no proof that trophy hunting of elephants in Tanzania in 2016 or beyond enhances the survival of the species. On the contrary, given the massive reduction of elephant populations due to poaching, trophy hunting has only added to the staggering loss of the animals in the country. Several reports, including a 2013 report from the U.S. Agency for International Development point out the failure of Tanzanian authorities to manage land and wildlife effectively and show little evidence that trophy hunting is contributing positively to wildlife conservation.[20]

Conclusion

Sixty percent of Tanzania's elephant population has disappeared since 2009. Tanzania is identified as a major ivory trafficking hub, with 86 to 93% of global large ivory seizures coming from concentrated areas in Tanzania in the last few years. Despite the pro-hunting claim the trophy hunting benefits conservation, the worst poaching epidemic took place in Selous Game Reserve where trophy hunting was allowed.

The current Tanzania Elephant Management Plan was drafted during the height of the poaching and ivory trafficking crisis, seven years ago. Tanzania does not have an updated Management Plan in place that reflects its current elephant population status and trends and corresponding management and conservation strategies. In addition, Tanzania's CITES National Ivory Action Plan was deemed not substantially achieved by the CITES Secretariat. The country's national export trophy quota, including quota for each ecosystem, lacks scientific basis and fails to account illegal offtake and other legal in its assessment of quota.

Thus, trophy hunting of elephants in Tanzania cannot be said to enhance the survival of the species, and issuing an import permit for elephant trophies from Tanzania would therefore violate the Endangered Species Act and FWS regulations. We likewise suggest that at this juncture trophy hunting results in a sufficient offtake of elephants that the Service cannot determine that it is not detrimental the survival of the species. If the Service does issue any positive regional findings or any elephant trophy import permits from Tanzania, HSUS, HSI, and CBD will consider seeking judicial review of such decisions. Further, this letter serves as formal opposition to any application for an import permit for a lion trophy from Tanzania and HSUS, HSI, and CBD request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[21]

Sincerely,

[20] United States Agency for International Development. *Tanzania Wildlife Management Areas Evaluation – Final Evaluation Report*. USAID. July 15, 2013. Web. < http://pdf.usaid.gov/pdf_docs/pdacy083.pdf>.

[21] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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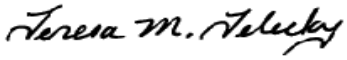

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October 5, 2017

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Re: Imports of African Lion Trophies from Tanzania Must Not Be Permitted

Dear Chief Van Norman & Chief Gnam:

Since the Endangered Species Act (ESA) listings went into effect for *Panthera leo leo*[1] and *Panthera leo melanochaita* on January 22, 2016 (80 Fed. Reg. 79999 (Dec. 23, 2015)), not a single lion trophy has been permitted to be imported from Tanzania to the U.S., a necessary reprieve after many years when American trophy hunters imported hundreds of lions trophies per year. On behalf of The Humane Society of the United States (HSUS), Humane Society International (HSI), and Center for Biological Diversity (CBD) we write to strongly urge the U.S. Fish and Wildlife Service ("FWS" or "the Service") to issue a negative enhancement finding for Tanzanian lions, as it cannot be demonstrated that trophy hunting of lions in Tanzania affirmatively benefits the conservation of the species.

Pursuant to the new regulation for *Panthera leo melanochaita* (50 C.F.R. § 17.40(r)), the Service can only issue a permit to import a lion trophy from east or southern Africa if the best available science supports a finding that trophy hunting enhances the survival of this subspecies. It is critical that FWS apply the precautionary principle and strictly scrutinize the impacts that trophy hunting

[1] HSUS, HSI, and CBD fully expect that no permits will be issued to import trophies of endangered *Panthera leo leo*, as this subspecies is on the brink of extinction and cannot sustain recreational offtake. As the U.S. Fish and Wildlife Service (FWS) acknowledged in the lion listing rule, in western and central Africa, "[m]anagement programs do not appear to be sufficient to deter unsustainable offtakes" and "experts agree that there is no level of offtake that would be sustainable for *P. l. leo* populations…" 80 Fed. Reg. at 80040.

has on African lions – indeed, as recently published in *Nature*, overutilization, including trophy hunting, is the biggest threat to biodiversity.[2]

ESA Requirements for Lion Trophy Imports

Pursuant to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with the standard that FWS established in the 4(d) Rule for *Panthera leo melanochaita*, requiring that,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of *P. l. melanochaita*:

> "(a) Biological sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.

[2] Sean L. Maxwell et al., *Biodiversity: The Ravages of Guns, Nets, and Bulldozers*, Nature Vol. 536, 143-145 (Aug. 11, 2016), *at* http://www.nature.com/news/biodiversity-the-ravages-of-guns-nets-and-bulldozers-1.20381.

(c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.

(d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Evidence is Insufficient to Support Claims that Lion Trophy Hunting in Tanzania Enhances the Survival of the Subspecies

The lion population in East Africa is estimated to range between 7,345 and 13,316 (Bauer *et al.* 2016, supplementary material, Table 7). This population accounts for between 39 and 42 percent of the total *Panthera leo* population (Id.), which may be as low as 20,000 remaining lions (Bauer *et al.* 2016). According to the 2016 IUCN assessment, well-studied lion populations in East Africa declined by as much as 59% since 1993 (Bauer *et al.* 2016, supplementary material, Table 2). In Tanzania, the lion population in four well-studied areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) is estimated to have decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer *et al.* 2016, supplementary material, Table 3). Shockingly, in Katavi, the lion population was assessed at 1,118 in 1993 but thought to be closer zero[3] in 2014 (Id.). Only one of these well-studied Tanzania populations, Serengeti, is estimated to have increased during this time, from 232 lions to 314 (*Id*.). According to a December 2015 analysis of lion conservation strategies, "Tanzania is possibly the country with most free-ranging lions in Africa, and several lion populations are contiguous with neighbouring countries. Successful lion conservation in

[3] While there may be some lions in Katavi, as claimed by anecdotal evidence from Tanzanian authorities (Benyr 2017, p. 8), the IUCN assessment reports "the value of published findings which is the value zero" actually "represents non-detection, not absence." (Bauer 2016b). *See also,* Declaration of Dr. Craig Packer (attached), which notes that Tanzania has expelled independent scientists and that sources affiliated with the hunting industry are now dictating alleged survey numbers.

Tanzania can preserve more lions than anywhere else." (Bauer *et al.* 2015). *See also* Mtui et al. 2016.

Therefore, Tanzania's lion population – which is critical to maintaining the species in the wild – has suffered a major decline in recent years and FWS must ensure that American trophy hunters do not contribute to additional decline of the population. Worryingly, a 2015 population modelling assessment led to a 37% probability that lions in East Africa will decline by a further 50% over the next two decades (Bauer *et al.* 2015).

In Tanzania, trophy hunting is prohibited only in the national parks and Ngorongoro Conservation Area (Brink *et al.* 2016, p. 2). An estimated 305,000 km^2, or 85% of protected land, is available to hunters. (Ibid) Hunting blocks are leased to hunting companies, which are then apportioned a quota for specific species for every hunting season (Ibid). As described herein, this management program is insufficient for the Service to rely on to make a finding that trophy hunting enhances the survival of lions in Tanzania.

Tanzania's wildlife management generally operates as follows:

> Management of the wildlife sector is split between management of National Parks by Tanzania National Parks (TANAPA), Forest Reserves by Forest and Beekeeping Division of the Ministry of Natural Resources and Tourism (MNRT), Ngorongoro by the Ngorongoro Conservation Area Authority (NCAA), and the rest of the areas by the Wildlife Division (WD) also of the MNRT. The key legislation allowing for wildlife management are the National Parks Ordinance of 1959, which covers wildlife within National Parks; Ngorongoro Conservation Area Ordinance of 1959; Forest Act of 2002 which covers Forest Reserves; and, the Wildlife Conservation Act of 1974. Overall legislation is now guided by the Wildlife Policy (MNRT, 2007) which confirms the government's overall right of ownership of wildlife . . . (Brink 2010, p. 6).

The following documents published online or submitted by the Tanzanian authorities to other governments (in order of more recent to oldest) represent publicly available information relevant to the Service's enhancement analysis for lion trophy imports from Tanzania:

- A Report to the EU CITES Scientific Review Group on the EU Experts Mission to Assess the Sustainability and Management of Lion Trophy Hunting in Tanzania (2016)
- Comment on ESA Status Review of African Lion. January 27, 2015. Ministry of Natural Resources and Tourism. The United Republic of Tanzania.
- The Tanzania Lion and Leopard Conservation Action Plan. February 20-22nd 2006. Tanzania Wildlife Research Institute (TAWIRI).
- Conservation Strategy for the Lion in Eastern and Southern Africa. 2006. IUCN/SSC Cat Specialist Group.
- 1995 Policy and Management Plan for Tourist Hunting.

As detailed below, these documents do not support a finding that lion trophy hunting in Tanzania enhances the survival of the subspecies.

- **The European Union's Scientific Review Group Assessment of Tanzanian Lion Trophy Hunting is Insufficient to Support an Enhancement Finding by USFWS**

In 2016, an EU-funded expert "study visit" took place in Tanzania and a report (Scientific Review Group or "SRG Report") was completed by three delegates – representing CITES authorities of the United Kingdom, Austria, and Hungary. The SRG Report recommended that the EU Scientific Review Group maintain a "positive opinion" allowing imports of Tanzanian lion trophies "in accordance with their current age-sex based restrictions and a total quota of 207 trophies, allocated in accordance with density recommendations (0.5 lions/1,000 km^2 (with the exception of Selous where 1.0/1,000 km^2))" (Benyr 2016, p. 6). This quota is unsustainable, as discussed further below.

SRG Report's recommendation for a "positive opinion" is unsubstantiated, with major gaps in the findings and proof is absent for the key claims. It would violate the Endangered Species Act and the Administrative Procedure Act for USFWS to rely on this EU position in making an enhancement finding for the import of lion trophies from Tanzania.

The findings are largely based on unpublished data, without the necessary scientific scrutiny

Many of the study's conclusions are based on unpublished reports and data presented by the Tanzanian government to the visiting delegates. Indeed the report itself acknowledges "It has not been possible to personally verify all the unpublished data provided by Tanzanian authorities during the course of the SRG field mission" (Benyr 2017, p. 3). Yet the authors state, "presented facts held up to scrutiny and did not reveal inconsistencies" (Ibid). However, only robust, unbiased, and transparent published research can hold up to scientific scrutiny. In this case, none of these unpublished findings are made available in the SRG Report, meaning it is impossible to establish their veracity or to rely on them with confidence.

The following are just a few examples of statements from the report, which are not supported with actual copies of the cited findings or other forms of evidence to prove the claims:

- "For the Selous Game Reserve, a recent survey revealed that lion densities have remained stable and even increased in some sectors since 2009 (Crosmary et al. 2016)" (Benyr 2017, p. 9).
    - The Crosmary et al. study cited is not available online nor are details of its conclusions cited in the SRG Report. Therefore, it is unclear if its findings have been peer-reviewed and thus verified.
- "A number of recent reforms of the wildlife regulations substantiate the political commitment of Tanzania to adopt best practice models and contribute to their improvement" (Benyr 2017, p. 9).
    - The SRG Report does not further explain what these recent reforms are or offer any details about them, thus not providing any support for this claim.

- "Currently, the international marketing of lion bones seems to be no serious problem in Tanzania" (Benyr 2017, p. 11).
    - The authors offer no evidence to back up this statement in the SRG Report. Therefore, on what grounds is this assumption made? A recent report from the Environmental Investigation Agency titled "The Lion's Share: South Africa's Trade Exacerbates Demand for Tiger Parts and Derivatives" cites to an April 2017 arrest in Vietnam of a suspected criminal network leader, Nguyen Mau Chien, known for trafficking of lion parts with an arrest history in Tanzania (Environmental Investigation Agency 2017, p. 8). The SRG Report too quickly dismisses lion bone trade as a low threat to Tanzania's lions.

The study lacks input from sources independent of the Tanzania authorities, including key lion biologists

The authors of the SRG Report met with numerous Tanzanian government representatives, managers of the Selous Game Reserve, other regional game officers, representatives of Wildlife Management Areas, hunting outfitters, tourism operators, and villagers, among others. The SRG Report states "[e]ssentially everyone we spoke to in Tanzania, which included representatives of all main stakeholders (even those that were critical of the governments past efforts to conserve the species), agreed that trophy hunting has a clear conservation benefit for lions" (Benyr 2017, p. 12). Yet input from additional key stakeholders is altogether missing.

Missing from this list of stakeholders are independent sources of input that do not depend on trophy hunting revenues and do not fear retribution for disagreeing with claims by the government. Indeed, in listing the African lion under the Endangered Species Act, the U.S. Fish and Wildlife Service stated that Tanzania's "transparency (in terms of trophy quality data) and the scientific objectivity of the evaluating body has been questioned." 80 Fed. Reg. at 80042.

For example, input is missing from various members of the African Lion Working Group, affiliated with the Cat Specialist Group, other than Dennis Ikanda who is a government employee (working for the Tanzania Wildlife Research Institute (TAWIRI)) and thus not an impartial voice. Further, the SRG Report questions the findings of lion experts – as in the case of the Hans Bauer et al. 2015 publication titled *Lion (Panthera leo) populations are declining rapidly across Africa, except in intensively managed areas* (Benyr 2017, p. 7) – without an opportunity for Dr. Bauer and the co-authors to explain the conclusions.

Additionally, it is well known that Dr. Craig Packer, who spent decades researching lions in Tanzania was expelled from the country after exposing corruption, especially within the lion trophy hunting industry (Packer 2015;[4] Declaration attached). Jerry Belant of Mississippi State University – who is directly affiliated with Safari Club International (SCI)[5] – is now in charge of

[4] Packer, C. Lions in the Balance: Man-Eaters, Manes and Men with Guns. University of Chicago Press (2015). ISBN 13: 978-0-226-09295-9.

[5] Dr. Belant's "research is a collaborative effort among MSU, SCI Foundation, Tanzania Wildlife Research Institute, and Tanzania National Parks, with primary funding provided by the SCI Foundation" (http://www.cfr.msstate.edu/wildlife/documents/WFA_Newsletter_summer2016.pdf). SCI Foundation is

lion population research in the Serengeti after Dr. Packer's forced removal from the project. Dr. Belant's research on dental characteristics in estimating the age of African lions is cited in the SRG Report, but Dr. Belant's relationship with SCI taints the veracity of his work, since SCI has a clear incentive to continue trophy hunting unfettered in Tanzania.

Population data provided in the SRG Report contradicts findings of top lion scientists and has not been peer-reviewed

In the discussion on "Population Size" (Benyr 2017, p. 6), the SRG document reports on a variety of unpublished surveys and population estimates. None of the drafts or final versions of these surveys are currently discoverable online and therefore presently not transparent. Determinations of trophy hunting sustainability cannot rely on data that has not undergone the process of scientific review. These unpublished and unavailable documents quoted in the SRG Report include:

- Crosmary, W.-G., D. Ikanada, F. A. Ligate, Kasanga Imani, Mkuburo Lameck, Lyamuya Richard, Ngongolo Kelvin, Sandini Pietro, and C. Philippe. 2016. The Selous Game Reserve is still a stronghold for African lions, Tanzania.
- TAWIRI Wildlife Division and TAWA. 2016. Non-detriment findings on African lion (*Panthera leo*) in the United Republic of Tanzania, including Enhancement findings June. Ministry of Natural Resources and Tourism - Wildlife Division.
- Dickman (in prep.) [Macdonald (2016) is cited as referencing Dickman, claiming "Our latest data suggest that Tanzania holds approximately 9,900 free-ranging lions in an estimated lion range of 380,000 km^2 (Dickman in prep.)."]

The recently completed Selous population survey using spoor counts is the first time a survey of this sort has ever been completed there, and therefore lacks a baseline for comparison or trend analysis purposes. Given this apparent lack of standardized methodology, it would be arbitrary and capricious to rely on this new data and such data likely does not offer a clear picture of what the anthropogenic impacts have been on the Selous population. Further, it appears that SCI funded this survey, at least in part, which undermines its impartiality.

Moreover, there is currently no population monitoring activity by independent scientists (Packer Declaration), with all data produced either by scientists employed by the government or funded by trophy hunting organizations. For example, as cited above, Dr. Belant's research in the Serengeti is funded by SCI. Further, Selous-based research by Dr. Henry Brink – an independent scientist – was also terminated and replaced by SCI-funded and government-supported researchers.

In the discussion on "Population Trends" (Benyr 2017, p. 7), the SRG Report offers a rebuttal to the published paper by Bauer et al. 2015, which cites to severe lion population declines throughout Africa and predicts dramatic declines in Tanzania. The SRG Report states "whilst this publication presents a valuable compilation of data several problems with the interpretation of the data exist which affects their assessment of trophy hunting in Tanzania" (Benyr 2017, p. 7). Unfortunately,

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the foundation arm of one of the world's largest pro-trophy hunting advocacy groups, Safari Club International.

the report fails to acknowledge responses to such criticisms offered by the authors (Bauer et al. 2016a; Bauer 2016b).

Bauer et al. 2015 predicted a 37% chance that East African lion populations (including Tanzania) would decline by one-half over two decades. To come to this conclusion, the authors explain, "We compiled all credible repeated lion surveys and present time series data for 47 lion (*Panthera leo*) populations. We used a Bayesian state space model to estimate growth rate-λ for each population and summed these into three regional sets to provide conservation-relevant estimates of trends since 1990." (Bauer et al. 2015)

The SRG Report questions the findings in Bauer et al. 2015 findings claiming "unweighted means to summarize population trends emphasizes changes in small populations" and that "extrapolation of trends beyond the information-content of the available data has led to an exaggeration of the threat for a decline," while further concluding that "these considerations include no positive effects that a previous decline might have on the population growth by increasing availability of preferred habitats and food and reducing intraspecific conflicts" (Benyr 2017, p. 7). The paper further goes on to question the findings from one of the assessment sites in Katavi, Tanzania.

The points highlighted above are similar to that of Riggio et al. 2016, to which Bauer et al. 2016a respond as follows:

- Regarding "unweighted means to summarize population trends": "Our regional population analyses include all reported time series data for both increasing and declining populations; we calculated the projected growth rate λT of T years (7), but these metrics were not intended to provide a Bayesian forecast of population sizes (8). Weighting these metrics by population size would introduce a serious bias because sites that had previously suffered the largest declines would contribute relatively little to aggregated projected growth rates." (Bauer *et al.* 2016a)
- Regarding Katavi, Tanzania: "Our paper acknowledges the imprecision inherent in the Katavi time series of ground surveys, which were recently used to report a significant decline in lion numbers from 1995 to 2010 (5). Our Bayesian analysis fully considers uncertainty resulting from observation and process errors, and our conclusions do not depend on the Katavi time series: Excluding Katavi only reduces the probability of a one-half decline in three lion generations in East Africa from 37% to 32%." (Ibid)
- General comment: "Our assessment is based on the widely accepted criteria of the Red List and is entirely consistent with similar trends described for specific sites and for Africa as a whole (e.g., references 1, 4, 5, 23, 31, 32, and 38 of ref. 9)." (Ibid)

Despite Tanzanian authorities questioning the IUCN's assessment of lions, the IUCN Cat Specialist Group and its Lead Assessor – Dr. Hans Bauer – have stood by their initial assessment, as evidenced in a letter attached to this submission. (Bauer 2016b).

The SRG Report fails to identify serious concerns with the implementation of the lion trophy age verification system in Tanzania

As described by the SRG field visit team, "Since 2011, Tanzania has signed a Memorandum of Understanding with IGF Foundation which is a French based International organization for wildlife Conservation. IFG Foundation assists the Wildlife Division and now TAWA in organizing the collection and surveillance of lion trophies" (Benyr 2017, p. 18). The document offers a lengthy description of how the IGF and its government partners age and document the trophies.

This French organization – led by Director Dr. Philippe Chardonnet[6] - is affiliated with the trophy hunting industry. One of its four key objectives is "to safeguard the world's hunting heritage in order to guarantee its sustainability for future generations."[7] Dr. Chardonnet's findings and publications have repeatedly been criticized by independent lion scientists given the obvious bias to favor continuation of lion hunting in Tanzania.

Further, as discussed in the attached Declaration from Dr. Craig Packer, whose research and findings formed the basis for the aging verification system in place today, there are significant issues with the implementation of the age-verification system in Tanzania. Specifically, Tanzania's "age-assessment efforts are secretive: only members of the Tanzanian hunting fraternity are allowed to participate. This secrecy stands in stark contrast to the more transparent age-assessment practices in Mozambique and Zimbabwe. Further, there is also no evidence of penalties for noncompliance (such as reducing quotas)." (Packer Declaration at ¶ 8). This lack of transparency and objectivity make it impossible to be confident that lion "A" was shot by client "B" on date "C," creating ample opportunity for abuse of this system. Thus, the Service cannot be sure that all of the lions killed by trophy hunters in Tanzania are killed in compliance with minimum age restrictions, especially since there is no evidence that Tanzania has facilitated robust training of hunting guides to ensure that they know how to identify a lion's age in the field.

As discussed in the attached comments submitted by HSUS, HSI, and co-petitioners regarding the USFWS lion ESA listing, removing a male lion from a pride has cascading negative impacts on the other members of that pride. "Each male replacement has profound effects on the reproduction of multiple females. Tanzania currently allows about 500 lions and 400 leopards per year to be killed for sport in an area of 300,000 km^2 (1.67 lions and 1.33 leopards/1000 km^2). The proportion of male lions removed by trophy hunters in the mid- to late 1990s was unsustainable (28% /year in some areas)." (Packer 2011).

The field study inaccurately suggests that positive conservation outcomes are primarily dependent on trophy hunting revenues, and therefore availability of lion trophies.

The SRG Report makes the following claim: ". . . the quality of the protection and all anti-poaching activities for a large part of the lion range directly depend on the income generated by hunting. This income dropped by about 30% following the import bans for lion and elephant trophies enacted by the EU and the USA" (Benyr 2017, p. 13). Further, a chart on pg. 28 continues the line of reasoning that the declining hunting industry profits – allegedly the fault of lion trophy import

[6] Dr. Philippe Chardonnet Biography, IUCN 2003 World Parks Congress. https://www.wcs-ahead.org/bios/bio_chardonnet.html.

[7] Fondation François Sommer, The International Foundation for the Management of Wildlife (IGF Foundation). 18 Apr 2016. http://www.emploi-vert.fr/societe/fondation-igf-abritee-par-la-fondation-francois-sommer.

restrictions – have or will lead to a variety of other devastating outcomes: vacant hunting blocks, reduced responsible management, decreased incentives for community wildlife management, competition from other forms of land use, increase occupation by settlers, shortage of resources, increased poaching, and decreased scientific monitoring, etc. (Benyr 2017, p. 28). The SRG Report logic therefore follows that the lifting of the import restrictions by the US and EU will mitigate these concerns.

These claims do not hold water. The issues flagged by the SRG existed long prior to the implementation of any trophy import restrictions, when hunters shot and exported hundreds of African lions annually.

According to the SRG Report "Currently, 47 out of 157 hunting bock *[sic]* are vacant in Tanzania and therefore the auctions fetch suboptimal results and demands to lower the prices for hunting licenses arise. *Even more detrimental* for the conservation of lions could be the option to hunt unsustainably and move to another plot when the game population is depleted" (Benyr 2017, p. 27) (emphasis added).

The SRG document links the vacant lots, at least in part, to the lion trophy import restrictions and a 30% profit decline (Benyr 2017, p. 28). However, reports from as far back as 2012 indicate that at that time 19% of the hunting areas were *already* financially unviable (Campbell 2012, p. 5). Using the current estimate that 305,000 km^2 of the land is available to hunters (Brink et al. 2016, p. 2), 19% would in the present day represent 57,950 km^2 of unviable land.

The reasons for the unviability must therefore lie with other factors. One such factor is absence of wildlife because the outfitters, and consequently the government, are failing to protect these areas. Another factor is that blocks are allocated at such a low price that the fees fail to cover the costs of effective management, perpetuating corruption in the system. Indeed, the SRG Report itself acknowledges the money trophy hunting generates may never actually trickle down to benefit conservation ("TAWA also has the agenda to develop tourism and under this mandate the income from sustainable wildlife management can still be diverted into projects that do not benefit conservation or even counteract this objective" (Benyr 2017, p. 13)).

With respect to community incentives, such incentives were already extremely low when lion trophy imports were at their peak, because the communities received little of the money generated by trophy hunting (with much of that revenue inuring to the personal benefit of government officials and hunting guides). (Packer Delcaration) One study found that:

> Of the district allocation, officially 60 percent was budgeted for investment in villages near the blocks. In reality, few benefits filtered to local communities (Barrow 1996: 11); probably closer to 3-5 percent of hunting revenues actually reached villages where hunting occurred (Sachedina 2003: 7). Actual expenditure included projects more convenient to the District Council than villages supporting wildlife. Hunting revenue allocations may have been driven by political considerations. For example, infrastructure investments in Ruvu Remiti and Msitu wa Tembo, densely populated villages with large voting blocs . . . (Sachedina 2008, p. 150)

The SRG Report also claims that poaching may increase as a consequences of continued lion trophy import restrictions. Yet, if one examines elephant trophy hunting in Tanzania – which was at its peak when the U.S. made the decision to suspend elephant trophy imports from Tanzania – this argument does not hold. Because of poaching, Tanzania's elephant population is estimated to have fallen by 60% between 2009 and 2014. Clearly, the measures taken by the trophy hunting industry to prevent poaching were wholly insufficient and the industry's allegations that anti-poaching efforts will improve only if lion trophy import restrictions are lifted lack merit.

The SRG Report fails to take into account the detriment trophy hunting causes to photographic tourism and therefore local communities

Tourists who care about wildlife are less likely to visit regions or places with a reputation for not caring for their wildlife. Thus, when shocking trophy hunting news stories gain global attention (e.g. video exposing egregious trophy hunting cruelty by the company Green Mile Safari in Tanzania (Green Mile Press Release, 2016;[8] Fernholz, 2016[9])), photographic tourism also pays the price. Tanzanian tourism companies must spend resources on marketing themselves to stand apart from the negative press (Buckley 2014, p. 321).

Communities also incur costs when trophy hunters kill animals that are already in decline due to habitat destructions, human-wildlife conflict, disease, etc. A study on conservancy management quoted a Tanzanian villager from Emboreet as follows:

> We're more closely allied with the photographic operators than the hunters. They are finishing off the wildlife before we've had a chance to realize a profit from it. Hunters don't recognize us; they only recognize the government… 25 percent of hunting fees goes into the hole at the district. We're supposed to get 5 percent: we don't even see that. The WD controls everything. (Sachedina 2008, p. 152)

In fact, a 2017 report revealed that for eight countries surveyed (Botswana, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe), of the $17 billion in annual tourism spending, trophy hunting adds less than $132 million or just 0.78% of that total (Murray 2017, p. 3). Tourism in these countries accounts for between 2.8% and 5.1% of gross domestic product (GDP) (Ibid). Trophy hunters contribute only an estimated 0.03 percent of GDP. Finally, non-trophy hunting tourism employs 132 times more people than trophy hunting (Ibid). Therefore, Tanzania has much more to lose – in terms of funds dedicated to conservation and communities, its economy, and jobs – from the damage trophy hunting can cause to Tanzania's tourism brand.

[8] Humane Society International. Tanzania urged to rescind hunting concession to Green Mile, a company accused of reckless, atrocious animal abuses. Press release. June 24, 2016. Available at: http://www.humanesociety.org/news/press_releases/2016/06/tanzania-hunting-green-mile-062416.html?referrer=https://www.google.com/.

[9] Fernholz, Tim. Leaked Videos of Wildlife Abuse Spark Corruption Scandal In Tanzania. Huffington Post July 01, 2016. Available at: http://www.huffingtonpost.com/entry/abusive-safari-company-tanzania_us_57769240e4b04164640fbba8.

- **Tanzania's Comments on the USFWS Status Review of the African Lion Is Inadequate to Support and Enhancement Finding by USFWS**

The most recent publicly available information from Tanzania regarding lion management and regulation of trophy hunting is the country's comment letter submitted to FWS during the ESA Status Review of African Lion (dated January 27, 2015, hereinafter ESA Comment). The submission addresses lion biology, range, and populations trends; remarks on the status review of the Africa lion; and management and monitoring of lion trophy hunting in Tanzania. However, the following analysis reveals serious gaps and questionable conclusions in the submission.

Tanzania cites to populations estimates that are now outdated and current numbers are much lower

According to the ESA Comment, the latest population estimates put the lion population in Tanzania at 16,800 individuals (ESA Comment 2015, p. 5; Mesochina *et al.* 2010). However, the latest IUCN analysis of *Panthera leo*, which post-dates these sources, estimates the total lion population in all of Eastern Africa to range between 7,345 and 13,316 lions (Bauer *et al.* 2016 supplementary materials, p. 17). Tanzania's population may therefore be even fewer than 7,345 lions because this East Africa assessment includes other East African countries like Kenya.

Further, the ESA Comment suggests that lion abundance is stable or increasing within protected areas, relying on anecdotal perceptions from "informants." (ESA Comment 2015, p. 5) The IUCN assessment directly contradicts this, stating that the lion population in four well-studied areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer *et al.* 2016, supplementary material, Table 3). The information also notes that abundance outside of protected areas is decreasing.

As far as the continental data on which Tanzania basis its lion management decisions, there are likely discrepancies between Tanzania's estimates and globally accepted lion population numbers. The ESA Comment cites to Riggio *et al.* for the estimate that the global wild African lion population is 32,000 to 35,000 lions (ESA Comment 2015, p. 14). Yet it is now clear that there are probably as few as 20,000 African lions remaining continentally (Bauer *et al.* 2016). Although Tanzanian authorities wrote the ESA Comment prior to the publication of the 2016 IUCN assessment, Tanzania's lion management cannot be said to enhance the survival of the species when it doesn't rely on the best available science and accept the latest IUCN assessment.

The ESA Comment is missing details on methodology for lion hunting quota determination, which is likely unsustainable if the authorities are using outdated population data

In the five years prior to Tanzania's 2015 submission, Tanzania sold approximately 500 lion hunting permits each year. (ESA Comment 2015, p. 7) There is no detailed explanation in the document of how the Tanzanian government determined that this extremely high quota is sustainable. This number of lions is approximately 6.8% of the *entire* estimated lion population in East Africa (500 lions is 6.8% of 7,345).

A recent study proposed that a sustainable offtake level for lions in Tanzania is ≤ .92 lions per 1000 km^2 (Brink *et al.* 2016, p. 7). This is a generous allotment because a 2011 study recommended that the Tanzania lion quota be limited to .5 lions per 1000 km^2 (Packer *et al.* 2011, p. 142) and a 2016 Zambia study confirmed a similar recommendation (Creel *et al.* 2016). With the generous .92 lion limit, the total *potentially* sustainable take of lions for each single hunting block (estimated by the Tanzanian government to span the total of 304,399.95 km^2) would amount to only approximately 280 lions. (ESA Comment 2015, p. 7) If the more precautionary .5 lion limit is used, then the total quota would amount to only approximately 152 lions.

Both suggested limits are by far lower than the 500 permits sold annually. Further, considering that management issues on each hunting block are unique and it is impossible that each 1000 km^2 will contain huntable lions and that other causes of removal such as human-lion conflict and disease must be taken into account, the quota of 500 lions cannot be sustainable.

Of the 500 permits sold annually, in the 2011/2012 hunting season 85 lions were killed, in the 2012/2013 season 51 were killed, and in the 2013/2014 season 54 were killed (ESA Comment 2015, p. 21-22).

The ESA Comment understates the value of photographic tourism to its economy and conservation

The submission from Tanzania suggests, "[t]rophy hunting, including lions, is the main source of revenues for the Wildlife Division. . ." (ESA Comment 2015, p. 7) As one example, the ESA Comment states that for the financial year 2013/2014, the revenue accrued from tourist hunting was 16.7 million and from photographic tourism only 5 million (ESA Comment 2015, p. 8). This raises questions about the way tourism revenues are allocated in Tanzania, whether they are distributed appropriately, and if sufficient tourism dollars are diverted into conservation. Tourism's overall contribution to Tanzania's GDP was a whopping 5.1% of total GDP in 2014. (TanzaniaInvest 2014)[10] The ESA Comment offers no explanation as to why so few photographic tourism dollars are channeled into the Wildlife Division.

Tanzania's comment offers inconsistent information on the distribution of funds from trophy hunting to communities

In one part of the ESA Comment, the Tanzania authorities state that Wildlife Management Authorities (WMAs) get around 60-65% of the revenue from trophy hunting, whereas in another section the claim is that 75% of the block fees are disbursed to WMAs (ESA Comment 2015, p. 7). With inconsistent facts and absence of detailed breakdown of the distribution process followed to ensure that local communities accrue sufficient financial benefits from the trophy hunting operations, it is impossible to determine whether Tanzania's trophy hunting management offers the necessary socio-economic-cultural benefits to meet ESA enhancement criteria.

The ESA Comment claims trophy hunting is critical because it is viable in remote areas, but many blocks are adjacent to protected spaces

[10] TanzaniaInvest, TanzaniaInvest is happy to announce that its Newsletter Database of registered users recently surpassed the 10,000 mark. Sep 23, 2014. http://www.tanzaniainvest.com/economy/tanzaniainvest-10000-registered-newsletter-users

ESA Comment states "[h]unting is able to generate revenues under a wider range of scenarios than ecotourism, including remote areas lacking infrastructure, attractive scenery, or high densities of viewable wildlife." (ESA Comment 2015, p. 8) Yet the 1995 draft management plan said that protected areas, like national parks where photographic tourism thrives, are "core areas providing wildlife that can be hunted in surrounding areas once it voluntarily moves one kilometre outside" (Policy and Management Plan, p. 12). Therefore, many of the hunting blocks are actually in key ecoutourism hotspots, meaning there is potential these areas are attractive to tourists and therefore could remain protected and well-funded even if hunting was not permitted there. Further, unsustainable trophy hunting that occurs in the areas adjacent to protected areas can have a detrimental impact on the viability of these parks as hunting depletes wildlife and diminishes tourism's draw.

In fact, 60% of the lion's range lies in "core protected areas" and 80% of the estimated individuals "range inside National Parks, Game Reserves, Wildlife Management Areas, etc." (ESA Comment 2015, p. 9). Therefore, lions are trophy hunted in areas that would be very attractive for photographic tourism.

Tanzania mistakenly claims that trophy hunting does not contribute to lion overutilization

The ESA Comment concludes, "Trophy hunting is highly conservative and strictly controlled and thus does not constitute [sic] to the overutilization of the population." (ESA Comment 2015, p. 12) This is not accurate, in fact a 2016 study reveals, "trophy hunting of lions is having a negative impact on populations" (Brink *et al.* 2016, p. 9; Packer *et al.* 2011; Packer *et al.* 2009; Kiffner *et al.* 2009; Loveridge *et al.* 2006). The hunting blocks that killed the greatest number of lions, likely incentivized by a system that penalizes outfitters that utilized less than 40% of the quota (see above discussion), eventually showed the steepest drop in lion hunts (Brink *et al.* 2016, p. 10). The drop may be an indicator of falling lion population numbers in those blocks. It appears the penalty system is still in place (Brink *et al.* 2016, p. 10). Further, overhunting on one property can lead to population sinks in neighboring property, as lions from the un-hunted or under-hunted properties cross into the over-hunted blocks (Brink *et al.* 2016, p. 11). See detailed discussion below.

Problematic implementation of age identification requirements

Age-based lion hunting restrictions are in effect in Tanzania since the 2012/2013 hunting season (ESA Comment 2015, p. 15). Although the Tanzanian government has provided training to the hunting industry on identification of age appropriate lions as well as related guidelines, the ESA comments do not indicate that hunters have to pass any type of examination to prove their ability to age the lions. How does the government certify that the professional hunter is prepared to follow the guidelines? Further, the training must be continuous to ensure that improved aging methodology is disseminated to all hunting blocks. The ESA Comment provides insufficient information on this type of training and its effectiveness.

- **USFWS Cannot Rely on Tanzania's 2006 Lion and Leopard Conservation Action Plan to Make an Enhancement Finding**

Following upon the recommendation in the Conservation Strategy that each range state implement the 2006 plan at the national level, Tanzania adopted the 2006 Tanzania Lion and Leopard Conservation Action Plan (hereinafter Action Plan). Adapting the same objectives outlined in Table 1 (see above), the Action Plan further details Tanzania-specific actions as well as responsible entities for each action. The plan revealed significant concerns with lion trophy hunting management in Tanzania, enforcement of age limits on hunted lions, and general governance.

The 2006 action plan did not outline a program that would amount to a net conservation benefit

According to the action plan, "Trophy hunting has traditionally been based on a quota system, but lion quotas have never been set scientifically" (Action Plan, p. 70) and "[l]ions are essentially impossible to count, so lion quotas could never be scientifically based." (Action Plan, p. 73) Further, the plan addressed the challenges of conducting population censuses for lions and presented advantages to using "age-minimum" restrictions as a solution. Therefore, any evaluation of Tanzania's lion management must determine whether or not age limits for trophy hunted lions are appropriately complied with.

In 2004, the Tanzania Hunting Operations Association adopted a six-year age minimum for lion trophy hunting,[11] yet the trophy hunting industry failed to implement this requirement with internet advertisements including "numerous photographs of trophy lions shot in 2004 and 2005 that were clearly less than 4 yrs old." (Action Plan, p. 73) Further, lions on Tanzania's hunting reserves were rarely even reaching six years of age, with many trophy hunted at just two years old. (Packer *et al.* 2009, p. 6; Trophy Hunting and Big Cat Conservation Forum 2016, Dr. Craig Packer Slides[12]) Killing lions that are this young can be disastrous, potentially causing long-term declines.

As highlighted in the Action Plan, some of the major challenges to the implementation of the age restrictions were the lack of transparency and compliance from the hunting industry, as well as absence of training on estimating lion ages for the professional hunters. (Action Plan, p. 72, 73, and 77) The plan also reflected that the hunting industry applied inconsistent trophy measurement methods and record keeping at the time the plan was written. (Action Plan, p. 91) In summary, the Action Plan recommended to counter these problems of compliance by 1) requiring training for professional hunters; 2) requiring inspection for all lion trophies prior to export; and 3) requiring that a neutral third-party auditor perform all inspections.

If Tanzania's government authorities and hunting industry never implemented these recommendations, as it appears from available evidence, then the Service cannot lawfully make an enhancement population for lion trophy imports from Tanzania.

[11] In 2010, the six-year age limit was mandated through regulations issued by the Wildlife Division of the Ministry of Natural Resources and Tourism. However, these regulations did not enter into force until the 2012/2013 hunting season (ESA Comment 2015, p. 15).

[12] National Geographic. Trophy Hunting and Big Cat Conservation Forum. August 10, 2016. Available at: https://www.nationalgeographic.org/projects/big-cats-initiative/livestream/.

The 2006 Action Plan revealed significant issues precluding effective management and governance

According to the plan, a variety of impediments exited at the time that precluded the necessary governance structure that would effectively ensure that lion trophy hunting was biologically sustainable. As cited in the plan:

> Many of the threats to lions and leopards, including those listed above, can be linked to issues to do with management. For example, indiscriminate retaliatory killing, such as poisoning, might result because the local district office has not responded sufficiently rapidly to a request for problem animal control. Another example is that the lack of a clear legal framework outside protected areas and outdated laws leaves communities with little say in the way wildlife resources are used in their areas, and little clear benefits. Whilst these are being addressed through the Wildlife Management Area (WMA) framework, few WMAs have yet received formal approval. Many aspects of inadequate management often results from a lack of resources and personnel, as well as insufficient information, such as can be gained by monitoring. (Action Plan, p. 96)

Tanzania must present sufficient information to prove that the management and governance issues raised in the 2006 Action Plan have been resolved. Notably, the 2015 Review of Lion Conservation Strategies for CMS broadly criticized implementation of all 2006 commitments, including the Tanzania Action Plan as follows:

> In contrast, our analysis has shown that the Strategies have had mixed success: implementation of the Strategies has been fragmented and partial. The partial implementation may in some instances have slowed down the declines, but the fact is that the goal has not been achieved and that decline in numbers and range of lions continues across most of Africa. Many countries and organizations have implemented lion conservation projects; these surely mitigated declines and possibly contributed to objectives on conflict mitigation and distribution of benefits, but they were not explicitly implemented within the framework of the Strategies and have not resulted in the achievement of their objectives. We note that follow-up of the implementation of the Strategies has been absent, and we consider this to be an inherent weakness of the strategic planning process as practiced a decade ago. (Bauer *et al.* 2015, p. 16)

Therefore, Bauer *et al.* 2015 confirmed that overall implementation has been partial and that while some activities have slowed lion population declines, follow-up on the implantation is absent.

- **Tanzania's 2006 Conservation Strategy for Lions in Eastern and Southern Africa Has Not Even Been Implemented**

At the Eastern and Southern African Lion Conservation Workshop held in Johannesburg in January of 2006, the attending lion range states, specialists, and other attendees developed the Eastern and Southern African Lion Conservation Strategy (hereinafter Conservation Strategy).

The plan outlined a series of critiques of existing lion management strategies that necessitated the collective regional effort, among which were concerns with trophy hunting and general lion management:

- "Improperly managed trophy hunting was also considered to be adversely affecting several lion populations" (Conservation Strategy 2006, p. 20).
- "There is a widespread lack of government resources and professional capacity to undertake lion population monitoring and management" (Conservation Strategy 2006, p. 20).
- "Trophy hunting is an important revenue generator and management tool for governments, but concerns have been raised in some areas about potentially unsustainable offtakes" (Conservation Strategy 2006, p. 20).
- "Wildlife-integrated land use, policies and planning are non-existent in many places" (Conservation Strategy 2006, p. 22).
- "Multi-lateral Environmental Agreements and International Conventions (CBD, CITES, CMS, etc.) are often poorly integrated into regional and/or national policies, and sometimes contravene the sustainable use of lions" (Conservation Strategy 2006, p. 22).
- "Illegal trade is largely due to ineffective law enforcement, which is in turn due to weak capacity and motivation within law enforcement agencies and a lack of knowledge on this trade" (Conservation Strategy 2006, p. 22).

In ranking the threats to lion survival, the Conservation Strategy actually failed to assess the detrimental impact trophy hunting may have had on lion populations throughout Eastern and Southern Africa. The strategy states that when "[t]he technical session [] ranked a set of factors according to expected impact on the viability of all lion populations in the region," it excluded trophy hunting "due to the difficulty of separating potentially negative biological impacts on lion populations from improperly managed offtakes from potentially positive socio-economic impacts on lion conservation" (Conservation Strategy 2006, p. 20). Therefore this issue was not given the attention it deserves in the drafting of the Conservation Strategy.

The following table outlines the vision, goal, and six objectives of the Conservation Strategy:

Table 1: 2006 Conservation Strategy for the Lion in Eastern and Southern Africa Vision, Goal, and Objectives.

Vision: a sustainable environment for the mutual benefit of lion populations and people in perpetuity.	
Goal: To secure, and where possible, restore sustainable lion populations throughout their present and potential range within Eastern and Southern Africa, recognizing their potential to provide substantial social, cultural, ecological and economic benefits.	
Objectives	
Management:	To ensure effective conservation management of lions, their habitats and wild prey.
Mitigation:	To minimize and, where possible, eliminate human-lion related conflicts.
Socio-economics:	To equitably distribute the costs and benefits of long-term lion management.

Policy and land-use:	To develop and implement harmonious, comprehensive legal and institutional frameworks that provide for the expansion of wildlife-integrated land-use, lion conservation and associated socio-economic benefits in current and potential lion range.
Politics:	To ensure that global policies better reflect the will and intent of regional and national sustainable use policies and practices.
Trade:	To prevent illegal trade in lions and lion products while promoting and safeguarding sustainable legal trade.

Source: Conservation Strategy 2006, p. 24-40.

At the request of the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), subsequent to the adoption of a resolution on lions at the 11th Conference of the Parties to CMS in Quito (November 2014), a group of experts evaluated this and the other regional lion conservation strategy for West and Central Africa. The experts concluded that implementation has been disjointed and incomplete (Bauer *et al.* 2015, pg. 16). The analysis also stated, "[w]e cannot evaluate to what degree these activities were implemented within the framework of the IUCN Regional Lion Conservation Strategies, nor whether or to what extent they contribute to the achievement of their objectives." (Bauer *et al.* 2015).

The May 2016 African Lion Range State Meeting (Entebbe, Uganda) further confirmed these conclusions. The range States stated, "in light of limited technical and financial resources, many Range States struggled to implement and institutionalize the Strategies at the national level" and emphasized "that the lack of resources and capacity has impeded the implementation of lion conservation activities on the ground." (Entebbe 2016, pg. 2).

It is evident that there have been significant impediments to effective implementation of the 2006 Conservation Strategy for the Lion in Eastern and Southern Africa, including Tanzania. Noting this puts into question Tanzania's ability to ensure that any type of lion trophy hunting management program meets the enhancement criteria under the U.S. Endangered Species Act.

- **Tanzania's 1995 Policy and Management Plan for Tourists Hunting Remains Unimplemented and Cannot Support an Enhancement Finding by USFWS**

The proposed 1995 Policy and Management Plan for Tourist Hunting (hereinafter Policy and Management Plan) offered recommendations to improve Tanzania's trophy hunting management. Although the 1995 Director of Wildlife approved the plan, Tanzanian authorities never implemented it (Brink *et al.* 2016, p. 12).

Draft 1995 plan did not meet ESA biological sustainability requirements

The draft plan provides that although trophy hunting is not permitted in National Parks and Ngorongoro Conservation Area, these conservation spaces are "core areas providing wildlife that can be hunted in surrounding areas once it voluntarily moves one kilometre outside" (Policy and Management Plan, p. 12). Such utilization of conservation areas is highly problematic because it may lead to long-term population declines within the protected areas, as animals from the park cross over into hunting blocks.

Another section of the proposed 1995 plan outlines the "kill" target for the quota, where it states that every land owner allocated a block must "ensure that no less than 40% of the prescribed animal quota is utilized" and requires that a penalty be paid in the case this target is not reached (Policy and Management Plan, p. 15). This type of system forces hunting block owners to ignore their own management decisions, which may including hunting fewer lions than 40% of the quota, or face a penalty.

Further, the draft plan outlines that "sustainable" quotas will be determined by the Department of Wildlife based on: "a) Available data from aerial and ground censuses; b) Data from standard questionnaires completed by wildlife and village scouts, who accompany hunting clients, on animal abundance and sightings and hunting success; c) Data from outfitters on all animals hunted, including on trophy size using the standard Safari Club measuring system, and on other biological parameters such as hunting success, body weights and measurements, and age; d) Data from village scouts living within hunting areas, where rural communities have begun to manage wildlife" (Policy and Management Plan, p. 16). However, lion populations are notoriously difficult to estimate. According to the Tanzania Lion and Leopard Conservation Action Plan, "[t]he only reliable method for counting lions is through individual recognition and intensive study . . ." (Action Plan, p. 71). It further confirms that that while the Ngorongoro Crater may be "the easiest ecosystem in the world to count lions," it has been "impossible to obtain comparable data on the Tarangire lions." (Ibid.) Therefore, the four-step plan outlined for quota determinations was unlikely to produce biologically sustainable limits.

Draft plan acknowledges that communities saw little benefit from trophy hunting of lions

First, the draft plan recognized that "to date, the rural communities on whose land tourist hunting takes place, or which border hunting blocks, have received few tangible benefits from the industry." (Policy and Management Plan, p. 4) While the plan proposes that "[t]o effect a general policy of community-based conservation throughout Tanzania, Wildlife Management Areas will be established and managed by rural communities which form Authorised Associations," it also proposes that "interim arrangements" be made for management of hunting blocks whereby "the Director will approve all quotas for, and make all arrangements . . . on behalf of the respective rural communities" and "will continue to collect fees deriving from these hunting blocks" (Policy and Management Plan, p. 18). The draft plan offered no indication on how long this interim phase would last and when the community involvement would increase.

Despite changes in the regulatory framework of Wildlife Management Areas (WMA) since 2012 – which endeavored to strengthen links between wildlife management and communities – the desired outcomes have not been achieved. In fact, the Service has already found that "the revenue retention by WMAs is insufficient to "finance and motivate sound management decisions" and WMAs are "not sufficiently effective to lift rural communities out of poverty." (FWS 2015 NDF, p. 3)

Trophy Hunting in Tanzania is Biologically Unsustainable and Contributes to Long-term Decline

The negative effects of trophy hunting on lion populations in Tanzania are well-documented. According to the latest IUCN assessment, trophy hunting ". . . may have at times contributed to population declines in Botswana, Namibia, Tanzania, Zimbabwe (Packer *et al.* 2009, 2011, 2013), Cameroon (Croes *et al.* 2011) and Zambia (Rosenblatt *et al.* 2014)" (Bauer *et al.* 2016).

Between 1996 and 2008, lion offtakes across Tanzania dropped by 50% (a strong signal of a declining population)[13], with the sharpest decrease in areas where the initial harvest was the highest (Packer *et al*. 2011, p 142). The study found that "[a]lthough each part of the country is subject to some form of anthropogenic impact from local people, the intensity of trophy hunting was the *only* significant factor in a statistical analysis of lion harvest trends" (emphasis added) (Packer *et al.* 2011, p.142). The 2014 analysis from Dolrenry *et al.* (2016) confirms that lions are significantly threatened in Tanzania despite the presence of a "strong trophy hunting sector," in part due to "overexploitation due to poor management of trophy hunting" (Dolrenry *et al.* 2016, p. 1).

Following "dramatic declines in lion harvests that resulted from over-hunting," Tanzania "has taken measures to limit lion offtakes to males that are at least 6 years of age." (CITES Periodic Review AC27 2014, p. 14) Given this threat, the CITES Animals Committee recommended in 2014 that "[g]iven the overall rarity of the species and its extreme sensitivity to habitat loss and problem animal conflict, hunting offtakes should be monitored far more closely so as to minimize the impact of international trade." (Ibid)

Most recently, Brink *et al.* (2016) assessed the Tanzanian lion trophy hunting industry, and determined that financial interests and the temptation of short-term returns have led to unsustainable offtakes of lions from hunting blocks. (Brink *et al.* 2016, p. 3) In Tanzania, some hunting blocks are managed long-term and some are subleased and used short-term. Hunting companies with short-term use blocks (including those available in Msolwa, Ilonga and Matambwe) have a lower incentive to manage the lion population with a long-term view and are documented to have the highest offtake (twice the recommended number). (Brink *et al.* 2016, p. 11) While generating the greatest income for the government, the overharvest has led to declines in annual lion offtake (i.e. a scarcity of lions) at a cost to neighboring unhunted areas from which better-managed populations cross over into the hunting areas. (Brink *et al.* 2016, p. 11)

Significant Issues with Hunting Quota Guidelines, both Historically and Under Current Practice

Tanzania lacks accurate and updated lion abundance information

Sustainable hunting quota allocation requires accurate and current estimates of abundance. Lion abundance can be difficult to monitor because "their biological traits (e.g. low density, cryptic

[13] "[P]revious researchers have suggested that hunting offtake data are a proxy for this population data, principally because hunting companies put a large amount of effort into finding lion trophies, and so any changes in the underlying population are reflected in the number of lions hunted." (Brink *et al.* 2016, p. 6)

colouration and behaviour) make them difficult to monitor and hence wildlife managers rarely have access to reliable information on population trends, and long-term information at the community level is almost completely lacking." (Durant *et al.* 2011, p. 1490) Further, because lion populations can decline very quickly and dramatically, it is recommended that estimates are "frequently up-dated." (Action Plan 2006, p. 72) In the absence of reliable data, the government must err on the side of extreme caution when determining a sustainable offtake quota, which is not the current practice.[14]

The latest Tanzania-specific lion abundance estimate is from Mésochina et al. (2010), seven years ago. January 2015 comments from the Ministry of Natural Resources and Tourism submitted to FWS rely, in part, on data from 321 "informants" in Protected Areas and in Districts (ESA Comment 2015, p. 5). This anecdotal data concludes that lion abundance is "stable or increasing within Protected Areas" and "decreasing outside Protected Areas." (Ibid). Yet the Ministry offers no information about the identity of these informants, nor about the potential basis for these conclusions, meaning there is little transparency and no opportunity for scientific review.

The International Union for Conservation of Nature (IUCN) 2016 assessment for *Panthera leo* contradicts these informant conclusions. According to inferred lion population trends based on interpolated census data from 1993 through 2014 in 47 monitored lion subpopulations, the populations of all but one Protected Area have significantly declined.

Table 1: IUCN 2016 *Panthera leo* Assessment: Supplementary Information (Population Trends)

Sample Tanzania Subpopulation	Estd. Lions (1993)	Est. Lions (2014)	Percent Change
Ngorongoro Crater	61	55	-10%
Katavi*	1,118	0	-100%
Matambwe	124	98	-21%
Serengeti	232	314	+35%
Tarangire	252	141	-44%
Total	**1,787**	**608**	**-66%**

*In Katavi National Park, "[l]ions are extant but at a density so low as not to be detected" and its "population decline remains uncontested." (Bauer *et al.* 2016)

As Table 1 demonstrates, the monitored subpopulations of Ngorongoro Crater, Katavi, Matambwe, and Tarangire, are estimated to have fallen by 10%, 100%, 21%, and 44% respectively between 1993 and 2014. Therefore, it is unclear how the informants were able to determine that populations in Protected Areas are "stable or increasing," when that directly opposes the IUCN findings. Many questions remain unanswered about this conclusion. What was the methodology used to estimate the current population? Were the findings initially made for a smaller segment and then

[14] We further note that Tanzania is in category 3 for national legislation implementing CITES and generally believed to not meet the requirements for implementing CITES. (Available at: https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-22-A3-R1.pdf).

extrapolated to the entire subpopulation site? What is the period of time for which the populations were found to be "stable or increasing"?

Populations outside Protected Areas are poorly monitored and therefore it is impossible to assess the accuracy of the informant conclusion that lion populations outside Protected Areas are decreasing. All of this brings into question the ability of the Tanzania government to monitor trends in populations appropriately and to base lion quotas on best available science. As stated previously, the 2006 Action Plan cites that "lion quotas have *never* been set scientifically" (emphasis added) (Action Plan 2006, p. 70).

The Ministry's submission to FWS explains that the Tanzanian government launched a national large carnivore survey in 2014, predominantly focused on spoor count methodology (ESA Comment 2015, p. 25-26). The Wildlife Division and TAWIRI are carrying out the survey. The findings of this survey are not discoverable online. Regardless, experts suggest that "consistent, rigorous large-scale surveys" must be conducted by independent agencies – neither the Wildlife Division or TAWIRI constitute independent agencies and the findings of this survey may be unreliable (Bauer *et al.* 2015).

Hunting quotas exceed estimated sustainable offtake levels

Hunting quotas are determined by "the Quota Allocation Advisory Committee comprised of wildlife conservation experts from TAWIRI, the University of Dar es Salaam, Sokoine University of Agriculture, University of Dodoma, the College of African Wildlife Management and the Wildlife Division (which is the CITES Management Authority)." (ESA Comment 2015, p. 7) However, it is not clear what role anecdotal population details and input from informants plays in the determinations made by this Committee and whether this determination is available for scrutiny by conservation experts.

Historically, a large percentage of the hunting blocks received quotas that far exceeded estimated sustainable offtake. For example, Caro *et al.* (2009) estimated that a sustainable hunting quota for Tanzania lions is 5.1% of a hunting block's population, or 4.6% if one accounts for incidental take of juvenile males. (Caro *et al.* 2009, p. 919) The same study further concluded that 20, or nearly half, of the 43 Selous Game Reserve hunting blocks leased to hunting safari companies between 1988 and 1997 received quotas that *by far* exceeded the 4.6% offtake (at times representing as much as 10% or 20.5% of block's population). (Caro *et al.* 2009, p. 926-928) Although the actual offtake in that period seldom met the full quota, this demonstrated that some hunting blocks received excessively generous quotas that were not scientifically sound. Note that the Tanzanian government has since designated an additional 14 hunting blocks since 2002. (Brink *et al.* 2016, p. 4)

Further, subsequent recommended sustainable offtakes for lion trophy hunting were .5 lions per 1000 km^2 (Packer *et al.* 2011, p. 142) and $\leq$ .92 lions per 1000 km^2 (Brink *et al.* 2016, p. 7). If the more precautionary .5 lion limit is used, then the total quota would amount to only 152 lions annually for the 304,399.95 km^2 of hunting blocks. With the more generous .92 limit, the total would be 280 lions annually. Both estimates are far below the excessively high 500 lion hunting permits sold by Tanzania each year (ESA Comment 2015, p. 7).

Quotas serve as a target, not a limit, thus incentivizing unsustainable offtake

Dr. Craig Packer is one of the world's foremost lion experts who studied the species in Tanzania since 1978 before the government suddenly withdrew his research permit in 2014, in response to his comments raising concerns about the sustainability of lion trophy hunting and Tanzania's corruption (Packer 2015). In August of 2016, Dr. Packer spoke at the World Lion Day event hosted by National Geographic and commented thus on the issue of lion quotas:

> "You and I might think of quotas as a limit of how many you are allowed to shoot – but to them [in Tanzania] it was a production target. You got to maintain your quotas, and if you didn't shoot enough lions, the government would take away your hunting block and give it to somebody else who promised to shoot more lions. So the only way they could maintain those high quotas, those production targets, was to keep shooting and shooting and shooting all the way down to those younger age classes." (Trophy Hunting and Big Cat Conservation Forum 2016)

In fact, as of 2004, outfitters were obligated to "utilise the wildlife on quota to generate revenue not less than 40% of the value of the total quota allocated" and if the outfitter failed he or she was "required to make a top-up payment to the Wildlife Division to meet the 40% minimum." (Baldus and Cauldwell 2004, p. 6). This is still the case (Brink *et al.* 2016, p. 10) Therefore, even if hunting companies make the management decision that meeting 40% of the quota is not the best approach for their property or the property does not have a sufficient number of lions that fit the age requirements, there is a contrary incentive to overhunt and kill below the age limit.

Further, according to Brink *et al.* (2016), because higher lion offtake leads to higher income for the government, this also creates an incentive to grow the quota beyond sustainable levels, which ultimately lead to declines in lion populations (as evidenced by decreasing offtakes). The study explains:

> [T]he trophy fees for lion are higher than for other animals ($4900/lion in 2009) and this creates pressure for setting higher quotas, as increasing the number of lion on quota greatly increases government income. This leads to higher lion hunting offtakes and then declines in offtake. Thus, the blocks with the greatest declines in lion trophy hunting from 1996–2008 were the same blocks that provided the government with the most income per km^2 from 1996–2003. (Brink *et al.* 2016, p. 10)

Tanzania has not Taken All Necessary Steps to Eliminate Corruption in the Implementation of Trophy-hunting

According to the 2016 Corruption Perception Index (CPI) ranking from Transparency International, Tanzania ranks as 116 out of 176, placing it in the lower 32% of all countries assessed.[15] As detailed in Dr. Craig Packer's attached declaration, corruption is rampant in the

[15] https://www.transparency.org/news/feature/corruption_perceptions_index_2016

trophy hunting industry in Tanzania, and the country has suppressed and expelled independent scientists who publish data that contradicts the country's claims that trophy hunting is sustainable.

According to the Ministry of Natural Resources and Tourism "Hunting companies are allocated hunting blocks for tenure of five (5) years subject to annual review of company's performance. The process of allocating hunting blocks for the 2013 to 2018 [sic] was concluded in 2011" (ESA Comment 2015, p. 7) Described as a "closed-tender system" or a "process of selling a product by inviting a specific group of potential buyers to provide a written offer by a specified date" (80 Fed. Reg. at 80022), allocation of Tanzania's hunting blocks is fraught with corruption. At the 2016 World Lion Day event hosted by the National Geographic, Dr. Packer made the following statement about hunting block allocation:

> "Well in Tanzania, they have about 300,000 km^2 of hunting blocks – that's a huge huge estate for hunting – but it only generates about $15 million a year in hunting revenues, which is $50 per kilometer squared per year. And you need to have about $2,000 per square kilometer, so that's how far the shortfall is from sport hunting. So then you can ask, well wait a minute, you got all this land, you're making such a big deal about it, how come the revenues are so incredibly low? Well they're low because who gets the hunting blocks are the result of a patronage system. *So it's current and recent elected officials who get the blocks.* They are getting the money themselves, its not going to the government and hence it's not back into anti-poaching. It's corrupt insiders - and these are really corrupt people who have these hunting blocks - and because they're corrupt, they don't really care about conservation for the most part; there is no re-investment. And this has shown up very dramatically in Tanzania because in the last dozen years or so, one-third of the hunting blocks have been de-gazetted because they didn't raise any money; there is no wildlife left. So there is nothing. So they've failed to conserve a vast portion of the land that is in their domain" (emphasis added) (Trophy Hunting and Big Cat Conservation Forum).

In 2012, then Minister of Natural Resources and Tourism, Ambassador Khamis Kagasheki, issued a warning to trophy hunters against paying off elected officials to side step hunting rules and procedures (Kimati 2012).[16] Ambassador Kagasheki made the following comments before the Tanzania Safari Outfitters Association (TASOA):

> "You have a lot of cash, that much I know. Some of you have become sources of bad influence to government officials. Please stop bribing them and let them perform their duties professionally. As a result, some of you have their requests attended quickly while others have to wait for so long. This is not proper. It is my duty to prove to President Jakaya Kikwete and the people of Tanzania that I deserve the trust they have put on me. How come an individual is found in possession of more than eight hunting blocks under different names? This is unacceptable and the legislation on hunting blocks allocation is bad and must be revisited." (Kimati 2012)

[16] Kimati, B. (2012). Tanzania: Kagasheki Warns Corrupt Hunters. Tanzania Daily News (Dar es Salaam). Available at: http://allafrica.com/stories/201209060195.html.

The distribution of power and decision-making has also come under harsh criticism, as expressed in the following commentary from "Breakthrough Attorneys"[17], a Tanzanian law firm:

> The Law and its regulations have vested a lot of discretional powers on the Minister and the Director of Wildlife. These powers open a *leeway for abuse of power and corrupt practices*. The Minister personally, has wide powers which include; declaring blocks, granting and cancelling allocations, approve transfers and so forth. The Director on the other hand has powers on issuing licenses, permits, hunting block certificate of grant, setting standards of trophies for each hunting company etc. Breakthrough Attorneys' lawyers having been in the forefront during the 2013 – 2018 tenure grants and its aftermath, opines that most of the existing hunting blocks' disputes (which are more than 20) could have been avoided if the discretional powers of these key executives were thinned. A lot of failed bidders claimed foul play and that the allocation decision were uninformed and one sided. A number of cases are still pending in the High Court of Tanzania and most with injunctive writs invoked to completely.

There is no evidence that the issue of corruption in the trophy hunting industry in Tanzania has abated. For example, as recent as June 2016, The Humane Society of the United States and Humane Society International strongly urged the Tanzanian government to rescind its decision to grant a hunting concession to Green Mile Company Limited, an operator expelled from Tanzania in 2014 for appalling and abusive trophy hunting of wildlife. (Green Mile Press Release, 2016; Fernholz, 2016). Green Mile was inexplicably awarded exclusive hunting rights in the Lake Natron Game Control Area even though in 2014 they were clearly in contempt of the norms of proper wildlife management in Tanzania, as well as civil conduct.

Notably, one of the top elephant conservationists in Tanzania - Wayne Lotter - was recently murdered.[18] He was a key figure fighting international ivory-trafficking networks and his death demonstrates that criminal networks and corruption in Tanzania are at odds with species conservation.

Conclusion

As the home to potentially 39-42 percent of the remaining African lions, it is critical that lions thrive in Tanzania (Bauer et al. 2016). The lion population in four well-studied Tanzanian areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer et al. 2016, supplementary material, Table 3), during which time American trophy hunters imported hundreds of lion trophies from Tanzania.

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[17] Breakthrough Attorneys. 28 New Hunting Block in Tanzania Available to Foreign and Domestic Investors, Analysis and Clarifications by Breakthrough Attorneys. July 10, 2015, http://www.tanzaniainvest.com/law/28-new-hunting-block-in-tanzania-available-to-foreign-and-domestic-investors-analysis-and-clarifications

[18] Tremblay, Sophie. Leading elephant conservationist shot dead in Tanzania. The Guardian. Aug. 17, 2017. Available at: https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania.

Lions face significant threats including human-lion conflict, habitat destruction, and unsustainable trophy hunting. The presence of one of the strongest trophy hunting sectors in Africa has not prevented and, in fact, is demonstrated to have contributed to the falling lion numbers.

There are significant issues in Tanzania's lion management system, including: a) excessively high and unsustainable lion hunting quotas that are far beyond recommended levels; b) issues with implementation of the six-year lion age-limit requirement; c) lack of recognition that trophy hunting has and continues to contribute to long-term lion population declines; d) reliance on lion population data that does not represent the best available science; e) understating the value of photographic tourism, especially when contrasted with the limited contribution from trophy hunting; f) inconsistent information on distribution of revenue from trophy hunting to local communities; and g) general management and governance issues, including documented corruption in the hunting block allocation process and more.

Therefore, trophy hunting of lions in Tanzania cannot be said to enhance the survival of the species, and issuing an import permit for lion trophies from Tanzania would therefore violate the Endangered Species Act and FWS regulations. Indeed, the Service has already found that Tanzania is not sustainably managing elephant trophy hunting, and we encourage the Service to apply the same level of scrutiny to Tanzania's mismanagement of lion trophy hunting. If FWS issues any lion trophy import permits from Tanzania, HSUS, HSI, and CBD will consider seeking judicial review of that decision. Further, this letter serves as formal opposition to any application for an import permit for a lion trophy from Tanzania and HSUS, HSI, and CBD request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[19]

Sincerely,

Anna Frostic
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The Humane Society of the United States

Teresa M. Telecky, Ph.D.
Director, Wildlife Department
Humane Society International

[19] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

Tanya Sanerib
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Center for Biological Diversity

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Annex III

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Case Study: Zambia

Zambia has a checkered recent history on elephant and lion trophy hunting. After having a hunting ban that was in place for over 20 years, elephant hunting was reintroduced in 2005.[1] Elephant trophy hunting continued in the intervening 13 years until January 2013, when the Minister of Tourism and Arts "suspended the tender process for hunting concessions and cancelled all hunting licenses for the foreseeable future."[2] The decision was said to have been based on "corruption and malpractices between the hunting companies and various government departments."[3] The Minister also "fired the Director-General of the Zambian Wildlife Authority (ZAWA), Edwin Matokwani, as well as a number of other officials, and has instigated an in-depth criminal investigation of ZAWA and other wildlife bodies."[4]

Just before the 2013 ban on elephant trophy hunting was announced, scientists had raised concerns about the management of trophy hunting in Zambia's Game Management Areas (GMAs, where trophy hunting occurs). Researchers found that there was uncontrolled human immigration and open access to wildlife; ZAWA retained most of the income derived from trophy hunting with little going to people living in GMAs and, even then, it benefited only affluent community members; scouts employed in anti-poaching in GMAs were poorly and irregularly paid, insufficiently trained and equipped, and inadequate in number; ZAWA was poorly funded and had increased hunting quotas to unsustainable levels in GMAs in order to raise money, established trophy quotas arbitrarily, and did not monitor wildlife populations or

[1] https://blog.nationalgeographic.org/2014/09/16/zambias-hunting-bans-shedding-light-on-a-complicated-history/
[2] https://africageographic.com/blog/fingers-off-the-trigger-zambia-cancels-all-trophy-hunting-licences/
[3] *Ibid.*
[4] *Ibid.*

trophies; and hunting concession agreements were not effectively enforced and unscrupulous concession operators were not adequately punished.[5]

The short-lived ban halted both elephant and lion trophy hunting in 2013 and 2014. Elephant hunting resumed in 2015[6] and lion hunting resumed during the 2016/2017 hunting season.[7] Elephants in Zambia are subject not only to trophy hunting but also poaching and ivory trafficking which are of ongoing concern. According to Zambia's Elephant Policy, the country had roughly 200,000 elephants in 1972, which dropped to 18,000 elephants in the mid to late-1980s.[8]

The Great Elephant Census (GEC),[9] conducted in 2014, counted 21,758 live elephants in Zambia; this means that over the past four decades, Zambia's elephant population declined by 89% but almost all of the decline occurred before 1990, and the population has remained somewhat stable for the past three decades. Indeed, the GEC found a "carcass ratio" of 3% (the number of dead elephants divided by the sum of live + dead elephants; a carcass ratio above 8% indicates mortality is exceeding births and the population may be in dceline), indicating that the country's population is currently stable.[10] However, Sioma Ngwezi National Park was found to have an 85% carcass ratio. Indeed, the GEC report used Zambia as an example to illustrate the point that just because elephant numbers in a country may appear to be stable at the national level, it does not mean all areas in the country are consistent with the national trend. The authors provided an example: "in Zambia, elephant populations in the West Zambezi ecosystem plummeted from 900 in 2004 to 48 in 2015, but populations in the Kafue ecosystem grew by 55% to 6,700 over the same time period.".

Pursuant to the ESA, 16 U.S.C. § 1538, and implementing regulations, 50 C.F.R. §§ 17.40(e), 17.40(r), before the Service can authorize the import of an African elephant trophy it

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[5] Lindsey, P.A., Nyirenda, V.R., Barnes, J.I., Becker, M.S., McRogg, R., Tambling, C.J., … & s'Sas-Rolfes, M. (2014). Underperformance of African Protected Area Networks and the Case for New Conservation Models: Insights from Zambia. *PloS one*, 9(5), e94109.

[6] U.S. Fish and Wildlife Service. Enhancement Finding for African Elephants Taken as Sport-hunted Trophies in Zambia On or After January 1, 2016 and On or Before December 31, 2018. Dated November 7, 2017.

[7] https://www.theguardian.com/world/2015/may/19/zambia-to-lift-ban-hunting-lions-leopards-big-cats

[8] Zambian National Policy and Action Plan on Elephant Management, 2003 at 2.

[9] Chase MJ, Schlossberg S, Griffin CR, Bouché PJC, Djene SW, Elkan PW, Ferreira S, Grossman F, Kohi EM, Landen K, Omondi P, Peltier A, Selier SAJ, Sutcliffe R. 2016. Continent-wide survey reveals massive decline in African savannah elephants. PeerJ 4:e2354 https://doi.org/10.7717/peerj.2354

[10] Country-by-Country Findings. https://static1.squarespace.com/static/5304f39be4b0c1e749b456be/t/57c71f5fcd0f68b39c3f4bfa/1472667487326/GEC+Results+Country+by+Country+Findings+Fact+Sheet_FINAL_8+26+2016.pdf

must be able to make a finding that the take of the animal enhances the survival of the species. The African elephant 4(d) rule was recently amended, 50 C.F.R. § 17.40(e), requiring every import of an African elephant trophy to comply with ESA permitting requirements, FWS regulations provide that "[n]o more than two African elephant sport-hunted trophies [can be] imported by any hunter in a calendar year." 50 C.F.R. § 17.40(e)(6)(E). Strict scrutiny of elephant trophy imports is especially imperative given that the Service has found that uplisting to endangered may be warranted. 81 Fed. Reg. 14,058 (March 16, 2016) (elephant 90-day finding).

Elephant trophy imports from Zambia also require import permits issued by the importing country, and export permits issued by the exporting country, under Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The African elephant population of Zambia is listed on CITES Appendix I which requires both importing and exporting countries to make a finding that import/export of a sport-hunted elephant trophy is not be detrimental to the survival of the species. Zambia has proposed to transfer its elephant population from CITES Appendix I to II, a proposal that will be considered at the upcoming meeting of the Parties in August 2019.[11]

Zambia's 2017 CITES export quota for elephant trophies is 160 tusks or 80 animals;[12] no export quotas were established for 2018 and 2019. Zambia has stayed below this quota for the last ten years according to data reported to CITES. That is not to say that elephant trophy hunting is having no effect on the population. A study done in part of the Kavango Zambezi Transfrontier Conservation Area, which includes southwest Zambia, looking at elephant trophy hunting found that "the trophy size of African elephant declined significantly" between 2004 and 2015 despite the age of the trophy hunted animals not changing (Muposhi et al 2016),[13] possibly indicating that all of the larger tusked individuals have been eliminated by trophy hunters and/or poachers who both favor elephants with larger tusks.

[11] https://cites.org/sites/default/files/eng/cop/18/prop/020119_d/E-CoP18-Prop_draft-Loxodonta-africana-Zambia.pdf
[12] CITES National Export Quotas, Zambia 2017.
[13] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164429

Zambia does not have an up-to-date elephant management plan. Zambia's 2005 National Strategy for Elephant Management in Zambia[14] [15] expired in 2012.[16] The Strategy dates from a time when elephant hunting was banned domestically in Zambia and therefore does not provide helpful criteria for regulating elephant hunting. A 2014 audit found that Area Management Plans were lacking, animals surveys were not performed routinely, "undesirable activities" were on-going in the GMAs to the detriment of wildlife, and that action was needed to reduce the decline of wildlife in Zambia.[17] We understand that Zambian authorities have reported to the U.S. that only a few GMAs don't have management plans: "Only Munyamadzi, Sandwe and West Petauke In the Luangwa ecosystem, and Rufunsa GMA In Lower Zambezi do not have General Management Plans at present."

Despite lacking an extant elephant management plan, and given that 2005 plan that expired in 2012 did not address elephant trophy hunting (which was illegal in Zambia when the plan was written), the FWS nonetheless determined in September 2017 that "importation of sport-hunted trophies of African elephants taken in Zambia in the calendar years 2016 and 2017, will be for purposes that are not detrimental to the survival of the species."[18] Two months later, in November 2017, the USFWS announced it "is able to make a determination that the killing of the trophy animal in Zambia, on or after January 1, 2016, and on or before December 31, 2018, will enhance the survival of the African elephant."[19] Ironically, the November announcement explains that, in making the enhancement finding, "We evaluate whether a country has a valid national or regional management plan and if the country has the resources and political will to enact the plan. If there is a plan, what government entities implement the plan and how often is it

[14] https://cites.org/sites/default/files/eng/cop/18/prop/020119_d/E-CoP18-Prop_draft-Loxodonta-africana-Zambia.pdf , p. 11.
[15] Zambian National Policy and Action Plan on Elephant Management, 2003. Available at: https://cmsdata.iucn.org/downloads/zambia_elephant_policy_2003.pdf
[16] U.S. Fish and Wildlife Service. 2017. General Advice on Importation of Sport-hunted Trophies of African Elephants taken in Zambia in the Calendar Years 2016 and 2017. Dated September 12, 2017, p. 8.
[17] Available at: http://www.ago.gov.zm/reports/Special/2014/OAG%20Management%20of%20Wildlife%20Jan%202014%20Print.pdf (last visited November 10, 2017). A November 2008 presentation to CBD by Zambian officials indicated Zambia had completed its portion of the KAZA TFCA (https://www.cbd.int/doc/meetings/pa/ewsipals-01/other/ewsipals-01-presentation-18-en.pdf). Thus, it is possible that one such plan has been prepared but we were unable to locate it on-line.
[18] U.S. Fish and Wildlife Service. 2017a. General Advice on Importation of Sport-hunted Trophies of African Elephants taken in Zambia in the Calendar Years 2016 and 2017. Dated September 12, 2017.
[19] U.S. Fish and Wildlife Service. 2017b. Enhancement Finding for African Elephants Taken as Sport-hunted Trophies in Zambia On or After January 1, 2016 and On or Before December 31, 2018. Dated November 7, 2017.

reviewed and updated? Does the plan have clear, achievable objectives? Are the objectives measurable and are they being achieved? Is there an adaptive management approach within the plan so that enacting agencies can quickly respond to changing environmental or social issues?"[20] Nonetheless, the absence of a valid plan, much less evidence of its implementation, did not deter the USFWS from making a positive enhancement finding.

Regarding lions, the most recent country-wide estimate is from Riggio et al. (2013) which estimated a total of 1,064 lions in Zambia in five populations: Luangwa (574), Kafue (386), Nsumbu and Sioma Ngwezi (<50 each), and Liuwa Plains (4).[21] Earlier estimates of the African lion population in Zambia ranged from 1,500 and 3,199 in 2002.[22] In 2006, the IUCN estimated between 800 to 1,980 lions.[23] Thus the lion population in Zambia appears to be declining. In 2013, Lindsey reported that hunters considered lions to be declining in Game Management Areas, where hunting occurs.[24]

Rosenblatt et al. (2014) studied population size, trends, survival rate and age–sex structure from Zambia's South Luangwa lion population from 2008 to 2012, just prior to cessation of hunting in 2013.[25] They documented a declining population, low recruitment, low sub-adult and adult male survival, depletion of adult males, and an aging adult female population.

Creel et al. (2016:2348) identified three issues with trophy hunting in Zambia.[26] First, despite the continued presence of lions in GMAs, this may be due not to adequate populations in GMAs but the "vacuum effect" or the movement of lions from the national park into the GMAs filling the void left by hunting. Second, the average age of lions hunted in Zambia was below the

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[20] *Ibid*, p. 3.
[21] Riggio J, Jacobson A, Dollar L, Bauer H, Becker M, Dickman A, et al. The size of savannah Africa: A lion's (Panthera leo) view. Biodivers Conserv. 2013;22: 17–35. https://link.springer.com/article/10.1007%2Fs10531-012-0381-4 Supplementary Material 1.
[22] UNEP, Review of Panthera Leo in Tanzania and Zambia at 17 (citing C. Stuart and T. Stuart, pers. comm. in Bauer and Van Der Merwe, 2004 and Chardonnet, 2002).
[23] UNEP, Review of Panthera Leo in Tanzania and Zambia at 17 (citing IUCN SSC Cat Specialist Group 2006a. Conservation strategy for the lion in eastern and southern Africa. IUCN Regional Office for Southern Africa).
[24] UNEP, Review of Panthera Leo in Tanzania and Zambia at 17 (citing Lindsey et al., 2013).
[25] Rosenblatt E, Becker MS, Creel S, Droge E, Mweetwa T, Schuette PA, et al. Detecting declines of apex carnivores and evaluating their causes: An example with Zambian lions. Biol Conserv. 2014; 180: 176± 186. https://doi.org/10.1016/j.biocon.2014.10.006
[26] Creel, S., M'soka, J., Dröge, E., Rosenblatt, E., Becker, M. S., Matandiko, W., & Simpamba, T. (2016). Assessing the sustainability of African lion trophy hunting, with recommendations for policy. Ecological Applications, 26(7), 2347-2357. _

recommended minimum age of 6 years. Third, harvest rates in Zambia were well above the recommended harvest rate of 1 lion/1,000 km^2 for occupied habitat. The authors explained, "The results suggest that: (1) age restriction is an important element of sustainable hunting for lions, (2) a minimum age of seven or eight is necessary to yield a reasonably low risk of extirpation even in the near future, and (3) age restrictions must be combined with other regulations to assure sustainability." (Creel et al. 2016: 2353).

Mweetwa et al. (2018) studied lions in Zambia's South Luangwa National Park and the adjacent Lupande and Lumimba GMAs for five years before the trophy hunting ban and three years during the ban (which for lions started in 2013 ended in 2016).[27] Their study results provided strong evidence that it was lion trophy hunting in the GMAs outside of the National Park that caused lion population decline and skewed demography observed in the lion population in the National Park. Their study provided further evidence of the "vacuum effect" of trophy hunting in areas bordering national parks, whereby male lions move from inside the park to fill vacancies caused by trophy hunting outside of the park. Sadly, there is no evidence that with the renewal of lion trophy hunting in Zambia in 2016, the lessons provided by these studies have been heeded by authorities.

Zambia has a Conservation Strategy and Action Plan for the African Lion which dates from 2009.[28] Unfortunately, despite its title, the thirteen-page Plan does not include a Lion Action Plan but merely calls for the development of such plans for each GMA.[29] The document instead lays out a general plan for gathering information, calls for scientific research, identifies the need to reduce human-lion conflict but, on the whole, does not provide mechanisms for any actual lion conservation. For example, the Strategy identifies the need to gather empirical data to be able to establish sound trophy quotas and lays out a process to be undertaken over three years to try to gather this data.[30] As this example illustrates, while the lion plan is a good first step, without follow through Zambia effectively lacks the information and on-the-ground plans to

[27] Mweetwa T, Christianson D, Becker M, Creel S, Rosenblatt E, Merkle J, et al. (2018) Quantifying lion (Panthera leo) demographic response following a three-year moratorium on trophy hunting. PLoS ONE 13(5):e0197030.https://doi.org/10.1371/journal.pone.0197030
[28] Zambia's Conservation Strategy and Action Plan for the African Lion. 2009. http://www.catsg.org/fileadmin/filesharing/3.Conservation_Center/3.4._Strategies___Action_Plans/African_lion/Zambia_Wildlife_Authority_2009_Conservation_strategy_and_action_plan_for_the_lion_in_Zambia.pdf
[29] Zambian Conservation Strategy for Lions at 1.
[30] *Id.* at 6, 8.

protect lions. As discussed above for elephants, we have been unable to locate any completed plans for GMAs in Zambia.

At the Eastern and Southern African Lion Conservation Workshop held in Johannesburg in January of 2006, the attending lion range states, specialists, and other attendees developed the Eastern and Southern African Lion Conservation Strategy.[31] The Conservation Strategy actually failed to assess the detrimental impact trophy hunting may have had on lion populations throughout Eastern and Southern Africa. The strategy states that when "[t]he technical session [] ranked a set of factors according to expected impact on the viability of all lion populations in the region," it excluded trophy hunting "due to the difficulty of separating potentially negative biological impacts on lion populations from improperly managed offtakes from potentially positive socio-economic impacts on lion conservation" (Conservation Strategy 2006, p. 20). At the request of the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), subsequent to the adoption of a resolution on lions at the 11th Conference of the Parties to CMS in Quito (November 2014), a group of experts evaluated this and the other regional lion conservation strategy for West and Central Africa. The experts concluded that implementation has been disjointed and incomplete (Bauer et al. 2015: 16).[32]

The analysis also stated, "[w]e cannot evaluate to what degree these activities were implemented within the framework of the IUCN Regional Lion Conservation Strategies, nor whether or to what extent they contribute to the achievement of their objectives." (Bauer et al. 2015). The May 2016 African Lion Range State Meeting (Entebbe, Uganda) further confirmed these conclusions. The range States stated, "in light of limited technical and financial resources, many Range States struggled to implement and institutionalize the Strategies at the national level" and emphasized "that the lack of resources and capacity has impeded the implementation of lion conservation activities on the ground." (Entebbe 2016: 2).[33] It is evident that there have been significant impediments to effective implementation of the 2006 Conservation Strategy for the Lion in Eastern and Southern Africa.

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31 https://www.cms.int/sites/default/files/document/IUCN_CatSG_2006_East_and_South_Africa_Lion_Conservation_Strategy.pdf

32 Bauer, H., Chapron, G., Nowell, K., Henschel, P., Funston, P., Hunter, L. T., Macdonald, D.W. & Packer, C. 2015. Lion (Panthera leo) populations are declining rapidly across Africa, except in intensively managed areas. Proceedings of the National Academy of Sciences, 112(48), 14894-14899.

33 https://cites.org/sites/default/files/eng/news/pr/2016/African_Lion_Meeting_Outcomes.pdf

As with the African elephant, pursuant to the ESA, 16 U.S.C. § 1538, and implementing regulations, 50 C.F.R. §§ 17.40(e), 17.40(r), before the Service can authorize the import of an African lion trophy it must be able to make a finding that the take of the animal enhances the survival of the species. pursuant to the ESA, 16 U.S.C. § 1538, and implementing regulations, 50 C.F.R. §§ 17.40(e), 17.40(r), before the Service can authorize the import of an African lion trophy it must be able to make a finding that the take of the animal enhances the survival of the species. The accompanying 4(d) rule (50 C.F.R. § 17.40(r)) requires ESA permits for any activities prohibited by Section 9. In addition, the African lion is listed on CITES Appendix II which requires the exporting country to issue a CITES export permit after making a finding that the export will not be detrimental to the survival of the species in the wild.

In 2017, Zambia's CITES reported export quota for the African lion is 24 wild taken animals.[34] No CITES export has been established for 2018 or 2019. The 24-lion export quota appears to be substantially smaller than the number of lion trophies Zambia reported to CITES that it had exported in 2012 (the year before the ban), which was 73.[35] Since the lion hunting ban was lifted, the number of lion trophies exported from Zambia is 5 in 2016 and 10 in 2017.[36]

In May 2015, Zambia's Ministry of Tourism and Arts published Enhancement and Non Detriment Findings for African Lion Sport Hunting in Zambia.[37] This document concluded that the lion populations in Luangwa and Kafue were stable and potentially increasing in Luangwa following the hunting ban. The document provided no population trends for the Lower Zambezi ecosystem. The document states that the 24-lion quota is the "lowest hunting quota that the country has had in the last 10 years."[38] For example, the 2012 quota was 69.[39]

The document states that "Guidelines for Hunting Lion" were considered at a stakeholders meeting in April 2016 and that they are being finalized in consultation with stakeholders. The Guidelines include: "utilization must be based on scientific principles: use area size and lion density, population status trends and prey availability;" "hunted lions must be from a minimum age of 5 years;" and "use adaptive approaches in managing lion. This may include

[34] CITES National Export Quotas, Zambia 2017.
[35] Search of CITES Trade Database, https://trade.cites.org/en/cites_trade/ , searched 12 July 2019.
[36] *Ibid*.
[37] Zambia's Ministry of Tourism and Arts published Enhancement and Non Detriment Findings for African Lion Sport Hunting in Zambia. May 2016.
[38] *Ibid*, p. 22.
[39] *Ibid*, p. 21

varying quotas according to lion population status in a particular hunting area."[40] However, the document contradicts itself by stating that lions above 4-years old but below 5 years old, may be exported.[41] The document also "recommends": "no hunting of female lions;" "no hunting of any lion born or held in captivity"; "no use of pre-recorded sounds in lion hunting"; "no lion hunting on fenced game ranges;" "lion will only be hunted from Prime and Secondary areas and Open Game Ranches known to be rich in lion and prey;" and "establish a central place for trophy measurements of hunted lions for exports."[42] It is unknown if the guidelines were finalized or to what extent they are legally binding at the present time.

On October 18, 2017, the USFWS published a document stating that it "has determined that permits for the importation of sport-hunted trophies of wild lions (*Panthera leo melanochaita*), which are threatened under the ESA, taken in Zambia during the 2016, 2017, and 2018 calendar years meet the enhancement criteria under the Service's regulations at 50 CFR 17.32."[43] The USFWS made this finding, in part, based on the extremely thin so-called Conservation Strategy and Action Plan for the African Lion which, as noted above, does not actually contain a plan. The USFWS finding does not contain reference to the aforementioned scientific studies that demonstrated the harm caused by poorly regulated lion trophy hunting in Zambia. (The study by Mweetwa et al. (2018), demonstrating the conservation value of the three-year lion hunting moratorium had not yet been published). The USFWS acknowledges that the guidelines are not legally binding. The USFWS acknowledges that Zambia will allow the export of lions that are older than four years but younger than five, even though hunting of lions under the age of five "may not be sustainable".[44] The USFWS also acknowledges that Creel et al. (2016) recommended that the minimum age of trophy hunted lions in Zambia should be 7-8 years old.[45] Nonetheless, despite these significant shortcomings, the USFWS found that imports of lion trophies from Zambia would enhance the survival of the species.

In conclusion, the CECIL Act's provision that would prohibit lion and elephant trophies from importation to the U.S. is well justified.

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[40] *Ibid*, p. 24.
[41] Ibid, p. 25.
[42] *Ibid*, pp 24-25.
[43] U.S. Fish and Wildlife Service. 2017. Enhancement for Lions Taken as Sport-hunted Trophies in Zambia – 2016, 2017, and 2018 Calendar Years. Memo dated October 18, 2017.
[44] *Ibid*, p. 22.
[45] *Ibid*, p. 17.

Annex IV

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Case Study through Comments: Letters to the U.S. Fish and Wildlife Service
Zimbabwe

1) Re: Imports of African Elephant Trophies from Zimbabwe Should Not Be Permitted; October 6, 2017 (17 pages)

2) Re: Imports of African Lion Trophies from Zimbabwe; November 20, 2017 (45 pages)

Attached below.

October 6, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Rosemarie Gnam, Ph.D.
Chief, Division of Scientific Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Imports of African Elephant Trophies from Zimbabwe Should Not Be Permitted

Dear Chief Van Norman and Chief Gnam:

The Humane Society of the United States (HSUS), Humane Society International (HSI), and the Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service (FWS or "the Service") to continue prohibiting the import of African elephant trophies from Zimbabwe. As detailed herein, recent evidence demonstrates that elephants in Zimbabwe are threatened with extinction from poaching and habitat loss and Zimbabwe cannot ensure that recreational offtake of elephants is sustainable. Therefore, the Service cannot lawfully make an enhancement finding under the Endangered Species Act (ESA) for imports of elephant trophies from Zimbabwe.

ESA Requirements for Elephant Trophy Imports

Since the African elephant special rule amendment (50 C.F.R. § 17.40(e)) went into effect in June 2016, every import of an African elephant trophy is required to comply with ESA permitting requirements. Pursuant to the ESA (16 U.S.C. § 1538) and implementing regulations (50 C.F.R. § 17.40(e)), before the Service can authorize the import of an African elephant trophy it must be able to make a finding that the take of the animal enhances the survival of the species. According to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened

Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with FWS that the IUCN provides relevant standards for determining whether elephant trophy hunting meets this conservation goal. *See* 81 Fed. Reg. 36388, 36394 (June 6, 2016). We strongly encourage FWS to conduct this enhancement analysis consistent with how the Service conducts its analysis for determining whether African lion hunting meets the enhancement standard. 80 Fed. Reg. 79999, 80045 (Dec. 23, 2015). Specifically,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival[], the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of African elephants, as it does for African lions:

> "(a) Biological Sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.
>
> (d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting

programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Further, FWS regulations provide that "No more than two African elephant sport-hunted trophies [can be] imported by any hunter in a calendar year." 50 C.F.R. § 17.40(e)(6)(E).

Strict scrutiny of elephant trophy imports is especially imperative, given that the Service has found that uplisting the species to endangered may be warranted. 81 Fed. Reg. 14058 (March 16, 2016).

There Is No Evidence that Elephant Trophy Hunting in Zimbabwe Enhances the Survival of the Subspecies

Since 2014, the Service has been unable to make the requisite finding that hunting African elephants in Zimbabwe enhances the survival of the species. *See* 79 Fed. Reg. 44,459 (July 31, 2014); 80 Fed. Reg. 42524 (July 17, 2015). Numerous problems with Zimbabwe's elephant management remain unresolved to date: the lack of an elephant management plan; lack of sufficient data on population numbers and trends on which to base management decisions; weak implementation and enforcement; lack of evidence that legal offtake is biologically sustainable, taking into account illegal offtake; lack of information about how money from trophy hunting by U.S. hunters is distributed within Zimbabwe; and lack of a national mechanism, such as government support, to sustain elephant conservation efforts in the country. (USFWS 2014 Enhancement Finding; USFWS 2015 Enhancement Finding). Thus, the Service cannot lawfully make an enhancement finding (or non-detriment finding) for trophy imports from this population for calendar year 2016 or beyond, as detailed herein.

Lack of an elephant management plan

In the 2015 finding, the Service stated, "Zimbabwe's current elephant management plan consists of two primary documents drafted in 1996 and 1997. Although the documents provide a well-developed list of goals and objectives, there is no information on whether these goals and objectives have been met or could be met. This is supported by statements from ZPWMA that the plans are outdated and need to be revised." (USFWS 2015 Enhancement Finding, p. 17)

Subsequent to the 2015 finding, in January 2016, a new Zimbabwe Elephant Management Plan (2015–2020)[1] (hereinafter, the Plan) was signed by relevant Zimbabwean authorities. In addition to a long-term vision and targets at the national level, the Plan includes five key components (protection and law enforcement; biological monitoring and management; social, economic and cultural framework; building conservation capacity; and coordination, collaboration and program management), each with a strategic objective and outputs, as well as key activities, key performance indicators, means of verification, time frames, and responsibility. The Plan includes terms of reference for key committees and staff required to implement the Plan (National Elephant Management Committee, Regional Elephant Management Committees, and the National Elephant Manager). In addition, an Elephant Action Plan was developed for each of the four main regional populations (Northwest Matabeleland (a.k.a. Hwange area), Sebungwe, mid-Zambezi Valley, and South East Lowveld (a.k.a. Gonarezhou area). Finally, and importantly, the Plan notes that the cost of implementing the Plan will be at least $12 million per annum in operational budget alone.

While the highly ambitious new Plan is an improvement over the old plans, there is no publicly available evidence that the Plan is being substantially implemented. Certainly, as noted in the plan itself, without the required $12 million per annum in funding, it is unlikely to be implemented. As the Plan indicates: "Implementing the action plan will also require more human and financial resources than are currently available for the conservation and management of elephant in Zimbabwe" (Plan, p. 32).

The mere presence of a new elephant management plan, in and of itself, surely was not the Service's intended goal. Lack of implementation of the Plan, and lack of funding to undertake the actions in the Plan, means that the Service's conclusion about the previous old Plans (that "although the documents provide a well-developed list of goals and objectives, there is no information on whether these goals and objectives have been met or could be met") remains valid.

Lack of sufficient data on population numbers and trends on which to base management decisions

The Service's 2015 finding noted that preliminary findings from the Pan African Elephant Arial Survey, a.k.a. the Great Elephant Census, indicated that Zimbabwe's elephant population had declined by 6% since 2001, and that poaching had significantly increased. The Service noted the need for evidence that this information has been incorporated into management activities in a scientifically sound manner.

[1] http://www.zamsoc.org/wp-content/uploads/2016/04/ZIMBABWE-ELEPHANT-MANAGEMENT-PLAN-APPROVED-FINAL-1.pdf

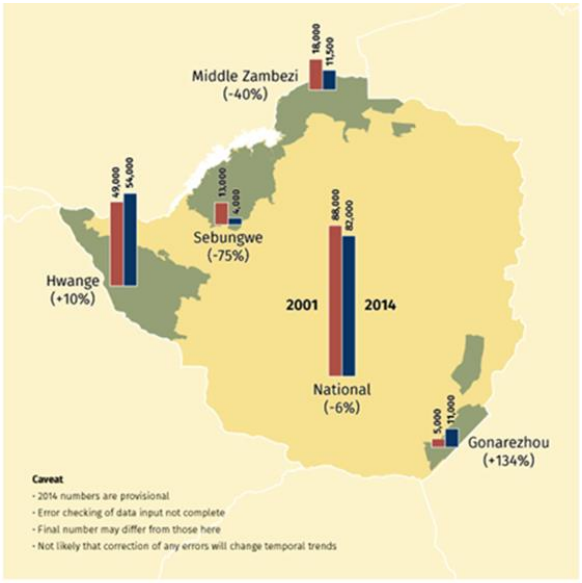

Figure 1. Zimbabwe's national elephant statistics, 2014. From The Zambezi Society Bulletin, February 2015 (http://us10.campaign-archive2.com/?u=f4943277ce971cb1c9028d068&id=50589e3c06).

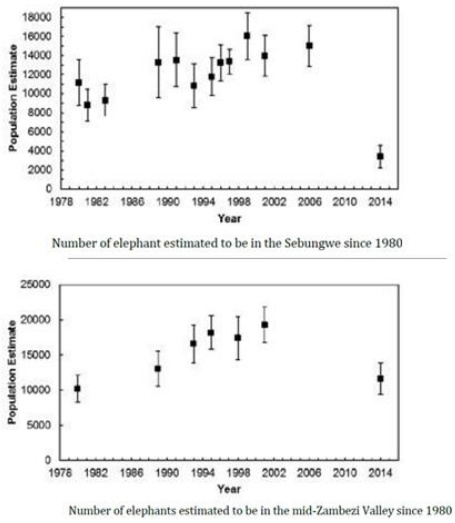

Figure 2. Number of elephants estimated to be in the Sebungwe and mid-Zambezi populations from 1980 to 2014. Source: Zimbabwe Elephant Management Plan (2015–2020), Figures 4 and 5.

Indeed, the Great Elephant Census[2] estimated that Zimbabwe's elephant population was 82,304 ±4,382 with a "carcass ratio" of 8%, meaning the survey recorded one dead elephant for every eight live elephants. The Census found that Zimbabwe's elephant population had declined by 6% overall since 2001, and that there were serious population declines in two of the four main Zimbabwe elephant populations (Figure 1). In Sebungwe, the elephant population decreased by 75%, from about 11,000 to 4,000. And in Middle Zambezi, the population decreased by 40%, from about 18,000 to 11,500. Regarding the other two Zimbabwe elephant populations, the Census found that Hwange's population had increased by 10% from about 49,000 to 54,000, and the population of Gonarezhou had increased by 134% from about 5,000 to 11,000.

While the new Zimbabwe Elephant Management Plan (2015–2020) does not reference the 6% overall elephant population decline in Zimbabwe, it does acknowledge the recent and dramatic elephant population decreases in Sebungwe (Plan, p. 7) and mid-Zambezi (Plan, p. 8) (see Figure 2).

Nevertheless, elephant trophy hunting is still occurring in both Sebungwe and mid-Zambezi,[3] calling into question whether or not the scientific evidence of significant elephant population declines in these areas have been taken into account in setting hunting quotas.

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[2] Chase MJ, Schlossberg S, Griffin CR, Bouché PJC, Djene SW, Elkan PW, Ferreira S, Grossman F, Kohi EM, Landen K, Omondi P, Peltier A, Selier SAJ, Sutcliffe R. (2016) Continent-wide survey reveals massive decline in African savannah elephants. PeerJ 4:e2354 https://doi.org/10.7717/peerj.2354; https://static1.squarespace.com/static/5304f39be4b0c1e749b456be/t/57c71f5fcd0f68b39c3f4bfa/1472667487326/GEC+Results+Country+by+Country+Findings+Fact+Sheet_FINAL_8+26+2016.pdf; http://www.greatelephantcensus.com/final-report.

[3] ZPWMA, *Sebungwe Elephant Management Workshop* (2015), http://www.zamsoc.org/wp-content/uploads/2016/04/Sebungwe_Elephant_Mgmt_Proceedings_29May_Compressed.pdf; https://www.bookyourhunt.com/elephant-hunting-in-zimbabwe

In Sebungwe, hunting blocks in both Chirisa and Chete Safari Areas, were auctioned in 2015 (ZPWMA 2015a, ZPWMA 2015b), with four male elephants on offer in each Area, plus two tuskless elephants in Chirisa. Hunting company Sitatunga Zimbabwe currently offers elephant hunts in Chirisa stating, "Average bull size being in the region of 40 – 45 pounds a side, occasionally 50 lbs can be achieved."[4] Elephant hunting is also curently offered in the Gokwe rural area in Sebungwe: "Elephant hunts in these areas for trophy bulls will produce ivory from around 30-35 pounds per side upwards; tuskless elephant hunting is very good in this area."[5]

There are five Safari Areas in the mid-Zambezi area: Sapi, Chewore, Hurungwe, Dande, and Doma.[6] Together, Mana Pools National Park, and Sapi and Chewore Safari Areas are a World Heritage Site. The 40th meeting of the World Heritage Committee, held 24-26 October 2016, adopted Decision 40 COM 7B.84,[7] which included:

> "4. Notes with significant concern that the 2014 national aerial survey of key wildlife species has revealed a decline in the Zambezi Valley populations of elephants and other mammals which are key attributes of the Outstanding Universal Value (OUV) of the property, and that the threat of poaching is currently too high to consider a feasibility study for a possible reintroduction programme of black rhinoceros;
>
> 5. Notes the development of an anti-poaching strategy for the property and a broader elephant management plan for the Zambezi Valley, and also requests the State Party to ensure that they are fully resourced and effectively implemented so as to restore and maintain the property's OUV;
>
> 6. ***Regrets that the State Party has not been able to complete the new management plan for the property due to lack of funds*** and encourages it to apply for International Assistance to support this work;" **(emphasis added)**

The 2016 Report on the Monitoring of Illegal Killing of Elephants (MIKE) to CITES COP17 noted that the percentage of illegal killing of elephants or "PIKE also increased substantially in . . . Chewore (Zimbabwe; by 69%, from 0.17 to 0.29)."[8] Therefore, it is clear that Zimbabwe has not completed the new management plan for the mid-Zambezi area. Given the lack of funding to complete a new management plan, it seems unlikely that even if such a plan were prepared, it would be fully resourced and effectively implemented.

Nonetheless, elephant trophy hunting is continuing in the Safari Areas in the mid-Zambezi, calling into question whether or not the significant elephant population decline in this area has been taken into account in setting hunting quotas. Charlton McCallum Safaris took numerous

[4] https://www.bookyourhunt.com/Tour/8709
[5] http://www.zingelasafaris.com/zimbabwe/area/
[6] http://whc.unesco.org/en/list/302/
[7] World Heritage Convention, Decision 40 COM 7B.84, *Mana Pools National Park, Sapi and Chewore Safari Areas (Zimbabwe)* (2016), http://whc.unesco.org/en/decisions/6749
[8] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

clients on elephant hunts in the Dande Safari Area of the mid-Zambezi in 2017.[9] In March 2016, the Zimbabwe Parks and Wildlife Management Authority auctioned off hunting blocks that included elephants in Sapi, that included four male elephants and one tuskless elephant.[10] In April 2015, a professional hunter was killed while guiding a client on an elephant hunt in Chewore.[11]

Furthermore, despite the significant elephant population declines in the Sebungwe and mid-Zambezi areas, and the 6% population decline overall, all of which have been publicly known since 2014, Zimbabwe has made no change since 2004 to its voluntary African elephant export quota established under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This export quota stands at 1000 tusks from 500 animals,[12] exported as trophies (as export for commercial purposes is not allowed).

Therefore, the Service's concern, as stated in the 2015 finding, that information from the Great Elephant Census of 2014 has been incorporated into management activities in a scientifically sound manner, remains valid.

Weak implementation and enforcement

The Service's 2015 finding notes that, while strong laws and regulatory mechanisms for the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) and its programs have been established, lack of funding for ZPWMA from the government means they are inadequately implemented and enforced. According to a letter received by the Service from ZPWMA in December 2014, the annual operating budget for ZPWMA is "in excess of US$28 million," yet, with the exception of a few projects, ZPWMA is "funded solely from trophy hunting conducted on state and private lands" (USFWS 2015 Enhancement Finding, p. 9). In the 2015 finding, the Service laments that they lack information about the amount of money generated by elephant trophy hunting specifically, how these funds are distributed, and how these funds enable ZPWMA to enforce and implement laws and regulations.

According to the 2016 report on the Elephant Trade Information System (ETIS) at CITES CoP17 Doc. 57.6 (Rev. 1),[13] "Zimbabwe is the country that pulls the rule of law score down, indicating far greater governance challenges exist in that country" (*id.*, p. 16). The World Justice Project (WJP) Rule of Law Index 2016 ranked Zimbabwe at 108 out of 113 countries and jurisdictions, meaning that Zimbabwe has the sixth worst rule of law.[14] According to WJP, "Effective rule of law reduces corruption, combats poverty and disease, and protects people from injustices large

[9] http://www.cmsafaris.com/zimbabwe-dande-hunt-trophy-gallery/gallery.htm
[10] http://www.desiredauctioneers.co.zw/downloads/ParksSapi.pdf
[11] https://africageographic.com/blog/hunter-killed-bull-elephant-musth/
[12] https://cites.org/eng/resources/quotas/export_quotas?field_party_quotas_tid=&field_full_name_tid=&field_export_quotas_year_value%5Bvalue%5D%5Byear%5D=2017&items_per_page=50
[13] CITES, Report on the Elephant Trade Information System (ETIS), CoP17 Doc. 57.6 (Rev. 1) (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf
[14] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf

and small. It is the foundation for communities of peace, opportunity, and equity—underpinning development, accountable government, and respect for fundamental rights."[15]

The ETIS report also found that Zimbabwe had the tenth largest ivory market of any country in the analysis, and stated that there is "increasing evidence of direct Chinese involvement in Africa-based ivory processing operations" in Zimbabwe "with production (primarily bangles, name seals and chopsticks) being shipped to Asia using courier companies as well as individuals who sometimes carry contraband on their bodies using purposefully built clothing" (ETIS p. 20).

Indeed, instead of effectively implementing and enforcing wildlife laws and regulations, ZPWMA personnel have been implicated in the illegal ivory trade. In 2015, three ZPWMA staff members were arrested for involvement in the theft of ivory from a government stockpile held at Hwange National Park.[16] The arrests came after a shipment of 62 tusks on its way to China was seized at the international airport in Harare. Serial numbers on the tusks were traced to the Hwange government stockpile. An alleged Chinese smuggler, who claimed he represented the Chinese government, had obtained export permit signed by the most senior of the three ZPWMA people arrested. All three were released from custody, the senior ZPWMA person after paying a $600 bail; none appeared in court again. Allegedly, the investigation was stopped after senior ZPWMA officials in Harare intervened in order to cover the involvement of other ZPWMA officials in the smuggling. The investigation seems to implicate senior parks and Ministry of Environment, Water and Climate officials. Allegedly, the ZPWMA trio had been exporting ivory from the stockpile since 2012. They had the assistance of ZPWMA security personnel and police units who guarded the trucks carrying the ivory over the 880 km from Hwange to the airport.

Corrupt government officials allegedly have been involved in both poaching of elephants and illegal export of ivory tusks, and involvement in a transnational syndicate.[17] Edson Chidziya, the former Director General, Zimbabwe Parks and Wildlife Management Authority, and one-time regional representative for Africa on the Animals Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),[18] was fired in May 2017 for his alleged involvement in the disappearance of rhino horns worth $3 million two years before.[19]

Of further concern is that the ZPWMA operates without a board which, as noted by Mupfiga and Chirimumimba (2015),[20] creates "a leadership vacuum and also legal constraints for the validation of policy decisions and approval or authorization of programmes" and it is "worrying for State entities to operate without boards for long periods because management are then left to

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[15] *Id.*

[16] https://oxpeckers.org/2016/04/how-to-steal-an-ivory-stockpile/

[17] http://globaljournalist.org/2017/02/zimbabwe-journalist-fights-charges-poaching-report/

[18] https://cites.org/sites/default/files/eng/com/ac/22/E22-05-01.pdf

[19] http://www.thezimbabwean.co/2017/05/zim-wildlife-boss-fired-3m-rhino-horn-goes-missing-report/

[20] Mupfiga, P. and Chirimumimba, M., 2015. Challenges to the implementation of IT Governace in Zimbabwean Parastatals. The International Journal of Engineering and Science 14(12): 1-6. ISSN (e): 2319 – 1813. https://www.researchgate.net/profile/Paul_Mupfiga/publication/286871326_Challenges_to_the_Implementation_of_IT_Governance_in_Zimbabwean_Parastatals/links/566eb41108aea0892c52a40d/Challenges-to-the-Implementation-of-IT-Governance-in-Zimbabwean-Parastatals.pdf

operate without accountability, a situation which may compromise the efficiency and effectiveness of an entity due mainly to the absence of an effective oversight function" (p. 4).

The report on Monitoring the Illegal Killing of Elephants (MIKE) to CITES COP17 further flagged several Zimbabwe monitoring sites for capacity building indicating the need for support to improve patrolling, managing, and monitoring at Mana Pools, Sapi and Chewore World Heritage Site.[21]

Thus, the concern stated in the Service's 2015 finding, that Zimbabwe's wildlife laws and regulatory mechanisms are inadequately implemented and enforced, remains valid.

Furthermore, on the subject of law enforcement, the 2015 finding states that the Service has been told by safari outfitters and hunting guides that the presence of U.S. trophy hunters, and their outfitters and guides, are the major deterrent to poaching in Zimbabwe and that, therefore, such hunting enhances the survival of the species. However, recent data demonstrates that this claim is invalid. For example, between 2006 and 2014, elephant poaching increased substantially in both the Chirisa and Chete Safari Areas where elephant hunting occurs, while elephant densities decreased (Figure 3). Moreover, we agree with the Service's 2015 finding that, even if true, this assertion would do nothing to reduce poaching in places where hunting does not occur, such as National Parks, which have experienced substantial elephant poaching.

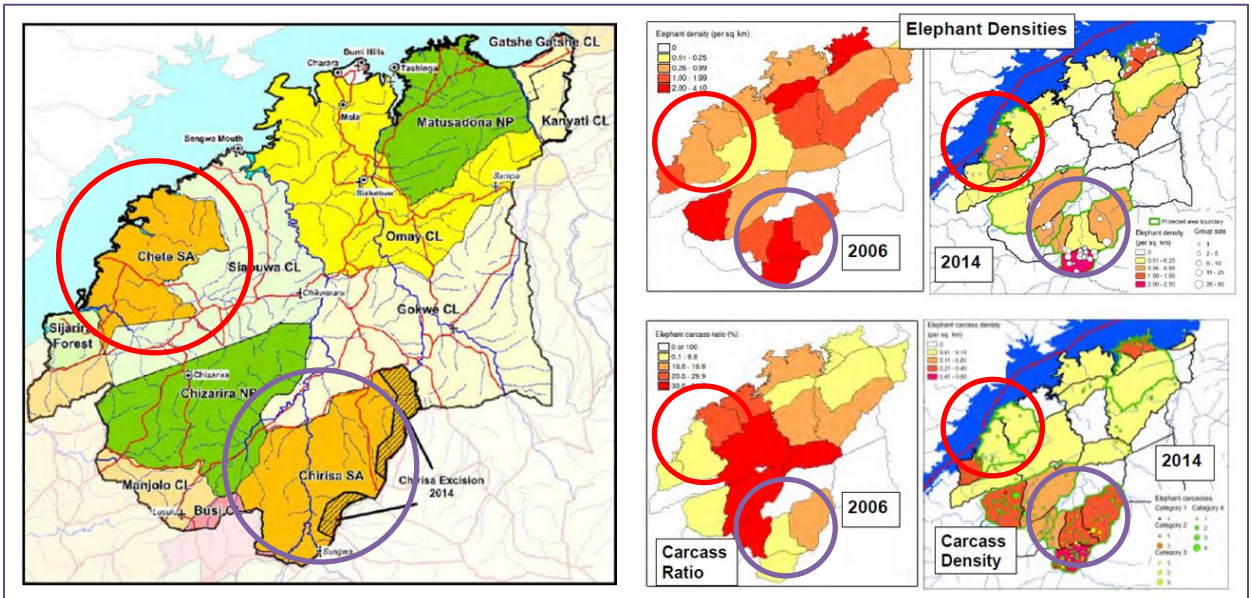


Figure 3: Current land classification of the Sebungwe and survey data. From: Sebungwe Elephant Management Proceedings, p. 10 and 11.

Lack of evidence that legal offtake and quotas are biologically sustainable

The Service's 2015 finding expressed the concern that there is no way to know if legal offtakes are biologically sustainable given that, at that time, there were no up-to-date population

[21] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

estimates, no information on the number of elephants legally taken each year, and no credible information on other sources of elephant mortality (such as legal "cropping", natural mortality, accidents, poaching, problem animal control and "management offtake").

The scientific basis for the establishment of elephant hunting and export quotas in Zimbabwe, in light of the recent and significant declines noted above, remains unknown.

Supposedly, quota setting for wildlife in Zimbabwe is a consultative process involving workshops with wildlife farmers, hunters, local authorities, tour operators and photographers and a scientific review that looks at poaching, trophy quality and size, natural mortality, and problem animal control in surrounding communities.[22] However, the reality is something quite different.

A 2016 paper by Muposhi et al.[23] presented the results of a study on the impact of trophy hunting on large herbivores, including elephants, in the Matetsi Safari Area near Hwange National Park. They found that trophy tusk sizes of hunted African elephants declined significantly from 2004-2015 possibly indicating, according the researchers, that elephant trophy hunting in the area is not sustainable. Furthermore, the authors found that, despite the existence since 2014 of data on elephant populations generated from the Great Elephant Census, quotas "may have been based on previous experiences and individual opinions and not based on scientific principles" (Muposhi p. 15). On the general topic of quota-setting in the area, the authors stated, "There seems to be over-reliance on questionable and subjective personal opinions in the quota setting process which in actual sense is supposed to be based on scientific evidence and ecological principles" (Muposhi p. 12). Finally, the authors note the obvious conflict of interest that exists when the ZPWMA, which relies on trophy hunting as income for its operations, is also in charge of setting quotas, posing the question "who will police the regulator" (Muposhi p. 15), noting that it may cause problems when "economic benefits to take precedence over regulatory policy framework" (Muposhi p. 15). In other words, the scientific component of quota setting is lacking.

Selier et al. (2014)[24] found that elephant hunting in the Greater Mapungubwe Transfrontier Conservation Area, which includes Botswana, South Africa and Zimbabwe, was unsustainable and predicted that "trophy bulls will disappear from the population in less than 10 years."

Politics and corruption also play roles in trophy hunting in Zimbabwe. A 2012 news article explained how officials from Zimbabwe's ruling party since 1980 sought to cash in on trophy

[22] http://www.chronicle.co.zw/elephants-hunting-quota-set-at-500/

[23] Muposhi, V. et al., 2016. Trophy Hunting and Sustainability: Temporal Dynamics in Trophy Quality and Harvesting Patterns of Wild Herbivores in a Tropical Semi-Arid Savanna Ecosystem. PLoS One 11(10). http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0164429&type=printable

[24] Selier, S.A.J., Page, B.R., Vanak, A.T. and Slotow, R., 2014. Sustainability of elephant hunting across international borders in southern Africa: A case study of the greater Mapungubwe Transfrontier Conservation Area. The Journal of Wildlife Management, 78(1), pp.122-132. https://www.researchgate.net/publication/259539652_Sustainability_of_Elephant_Hunting_Across_International_Borders_in_Southern_Africa_A_Case_Study_of_the_Greater_Mapungubwe_Transfrontier_Conservation_Area.

hunting by taking over hunting concessions.[25] A 2015 news article quoted Mary-Jane Ncube of a Zimbabwe NGO that monitors corruption, Transparency in Zimbabwe, as stating "In the area of conservation, I think it [the government] has behaved like a predatory state, going after big investments, giving them to cronies, family, and really not having any concern for communities that are dependent on that land …"[26] Furthermore, she was quoted as saying, "National Parks was the authority in charge of concessions and licensing, but because of the corruption … concessions and licenses are now given according to who you are and who you can pay the highest dollar to." A June 2017 news article described how the Tsholotsho Rural District Council sold permits to a safari hunting company, Lodzi Hunters, to hunt 50 elephants in order to get money to fund the construction of a football stadium. This reportedly came about after Higher and Tertiary Education, Science and Technology Development Minister Professor Jonathan Moyo, who is the MP for the area, made a deal with then Minister of Water, Climate and Environment, Saviour Kasukuwere, who then issued the hunting quota of 50 to the Council. Of relevance, according to Transparency International, in 2016 Zimbabwe was the 22nd most corrupt country, ranking 154 of 176.[27]

Regarding poaching, as noted earlier, it is evident from the Great Elephant Census of 2014 that Sebungwe lost at least 7,000 elephants between 2001 and 2014, and mid-Zambezi lost 6,500 over the same period. (Chase et al. 2016). And the MIKE report to COP17 documented a 69% increase in PIKE (from 0.17 to 0.29) in Chewore.[28] This is roughly equivalent to 13,500 elephants over a 13-year period or 1,350 per year just in these two populations alone. Yet, according to information provided to the Service by ZPWMA, as cited in the 2015 finding, poaching on a national basis averaged only 190 per year from 2009 to 2013; and according to information provided to the Service by safari operators, as noted in the 2015 finding, about 160 elephants are killed by trophy hunters annually. Clearly, there is a large and unexplained discrepancy between these figures that underscores the lack of credible information on all sources and quantity of elephant mortality, without which there is no way to ascertain if legal offtakes are biologically sustainable.

Elephant poaching has continued in Zimbabwe in the three years following the Great Elephant Census of 2014. In October 2015, 22 and possibly as many as 78 elephants were poisoned with cyanide in Hwange National Park, and their tusks removed.[29] Reportedly, 159 elephants were poached in Zimbabwe in 2016.[30] In June 2017 it was reported that ten elephants, including a mother and her young calf, were poisoned and tusks removed in Hwange National Park and in the state forestry land outside the northern part of the Park.[31]

[25] https://mg.co.za/article/2012-09-07-00-big-bucks-trigger-zimbabwe-scramble
[26] https://mg.co.za/article/2015-10-22-hunters-feed-corrupt-zim-officials
[27] https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table
[28] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf
[29] http://www.cnn.com/2015/10/27/africa/zimbabwe-elephant-poaching/
[30] http://www.zbc.co.zw/2017/06/15/elephant-poaching-cases-on-the-decline/
[31] https://www.theguardian.com/environment/2017/jun/20/ten-more-elephants-poisoned-by-poachers-in-zimbabwe

Therefore, the Service's concern, as expressed in the 2015 finding, that there is no way to know if legal offtakes are biologically sustainable, given no credible information on other sources of elephant mortality, remains valid.

Lack of information about how money from trophy hunting by U.S. hunters is distributed within Zimbabwe

The Service's 2015 finding stated: "While CAMPFIRE [Communal Areas Management Programme for Indigenous Resources, a Zimbabwe community-based natural resource management program] has provided conservation benefits in the past and improved tolerance of wildlife in rural communities, the program has more recently come under criticism relating to excessive retention of generated funds by district councils, resulting in diminished benefits to communities. Sport-hunting may be an important tool that gives these communities a stake in sustainable management of the elephant as a natural and economic resource and offsets the costs of conflict with wildlife. However, without current information on how funds are utilized and the basis for hunting off-takes, the Service is unable to confirm whether revenue generated through sport-hunting actually provides an incentive to local communities to conserve elephants." (USFWS 2015 Enhancement Finding)

Indeed, Harrison et al. (2014)[32] provided a recent analysis of the CAMPFIRE program. The theory behind CAMPFIRE is to empower community members at a village level to control wildlife and its revenue, and to thus create an economic incentive for communities to conserve wildlife. But, according to Harrison et al., this is not actually happening. According to Harrison et al., although CAMPFIRE had a reputation of success in its early days, over time this perception eroded and by the late 1990s it was criticized for lack of participation, lack of empowerment and lack of participation of local communities in management of natural resources. The main problem with the way that CAMPFIRE was designed is that it established the rural district council, which represents numerous local communities, as the 'local' body in charge of natural resource management, rather than the local communities themselves. Harrison et al. state, "Failure to provide benefits to the local communities and to successfully devolve management are just two of the many common criticisms" (p. 8). Among these criticisms is "insufficient action to tackling problems of elite-capture of resources and wildlife-based tourist revenues within RDCs" (Harrison et al. p. 9).

Harrison et al. (2014) studied the CAMPFIRE program in the Binga district, which is part of Sebungwe, and the Chiredzi district, which is part of Gonarhezou; as noted previously, the elephant populations of both Sebungwe and Gonarhezou have experienced dramatic elephant population declines in recent years. The authors found that CAMPFIRE failed as a governance system for community involvement and empowerment and that the "community-based" terminology is merely rhetoric. They warn that new "community-based" natural resource management projects need to "be aware of the disconnect between the local citizens (as their key stakeholders) and what the RDC may believe and be happy to approve" (Harrison et al. p. 30).

[32] Harrison, E., Stringer, L., and A. Dougill. 2014. The importance of the sub-district level for community-based natural resource management in rural Zimbabwe. Centre for Climate Change Economics and Policy Working Paper No. 183, Sustainability Research Institute Paper No. 69. https://pdfs.semanticscholar.org/1e0e/b71b4b6ce9429abca5ad41738f24978ba915.pdf

They conclude "The lack of understanding and attention paid to the sub-district governance system for natural resource management has meant that project implementation has negatively affected the system as a whole, including the people within it, as well as the project outcomes" (Harrison et al. p. 31). They said, "CAMPFIRE has continued to try and operate in a system it increasingly did not understand and thus its structures did not map appropriately onto those operating at the sub-district level. As a partial result of this, the programme has largely collapsed in many parts of the country" … "including in the four case study villages. The benefits experienced by the communities involved over the projects' lifespans have been negligible" (Harrison et al. p. 32).

Two news reports by Debra Patta looked at local perspectives in Zimbabwe on the claim that trophy hunting benefits local communities. One news report quoted Emmanual Fundira, who heads Safari Operators Association of Zimbabwe as saying that although part of the hunting fees paid by trophy hunters is supposed to go to conservation and community projects, in fact it rarely does.[33] In another article, Fundira stated, "If you talk to communities today and say 'Campfire' they don't want to hear [it]. They say Campfire is not benefitting them at all and that in itself is a disaster."[34] The article also quoted a CAMPFIRE rural district council CEO named Phindile Ncube as saying that his community earned $158,000 in a year for infrastructure and "feeding schemes." However, the article quoted a villager named Edward Ngwenya who said he hadn't received anything from the RDC. This was confirmed in another report which said that, while money from trophy hunting is promised to poor communities, they are only getting poorer.[35] Another news article quoted a local chief, Victor Nekatambe, commenting on the fact that local rural district councils manage CAMFIRE and that communities do not receive funding: "They are getting nothing, absolutely nothing."[36]

Therefore, the Service's concerns about CAMPFIRE and the lack of evidence to confirm that revenue generated through elephant sport-hunting actually provides an incentive to local communities to conserve elephants, remains valid.

Lack of a national mechanism, such as government support, to sustain elephant conservation efforts in the country

The Service's 2015 finding expressed concern that, without a national mechanism, such as government support, elephant conservation efforts in Zimbabwe could not be sustained.

As noted above, according to the ZPWMA, the annual operating budget for ZPWMA is in excess of US$28 million and the new Zimbabwe Elephant Management Plan (2015–2020) states that the cost of implementing the Plan will be at least US$12 million per annum in operational budget alone. Yet, the government of Zimbabwe provides no financial support to the ZPWMA, and indeed, according to ZPWMA itself "no amount is budgeted for conservation in the national

[33] http://www.cbsnews.com/news/zimbabwe-corruption-trophy-hunting-cecil-lion-conservation/
[34] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/
[35] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/
[36] *Id.*

budget,"[37] leading to inadequate enforcement and implementation of laws and regulatory mechanisms. Lack of government funding also leaves the ZPWMA to rely on trophy hunting, even when unsustainable, to pay its bills.

Lack of funding for ZPWMA has limited anti-poaching efforts and this has had negative effect on elephant conservation. Mana Pools National Park and neighboring safari areas, which are located in the mid-Zambezi area, is one of the areas hardest hit by poaching, as noted above. At a 2015 workshop held by ZPWMA to develop an anti-poaching strategy for the Park,[38] the Area Manager for the Park, Marvellous Mbikiyana, was quoted in a workshop report as having stated, "While the ideal staffing level for rangers is 110 for the Park, 75 have been approved, and only 38 are on site. Of the 38 on site, only 13 are deployable at any one time, due to a number of other commitments, such as driving duties, serving in the front office, and so on." The workshop report noted that the effectiveness of enforcement was negatively affected by low manpower.[39]

Therefore, the Service's concern that there is a lack of a national mechanism to sustain elephant conservation efforts in Zimbabwe, remains valid.

Conclusion

As the home to one of the largest remaining populations of African elephants, it is critical that elephants thrive in Zimbabwe; unfortunately, elephants in Zimbabwe face significant threats including human conflict, habitat destruction, and unsustainable trophy hunting. For the aforementioned reasons, concerns expressed about elephant management in Zimbabwe contained in the Service's 2015 finding remain valid today, and the Service's finding that the import of trophies from elephants hunted in Zimbabwe will not enhance the survival of the species, remains valid. The presence of one of the strongest trophy hunting sectors in Africa has not prevented and, in fact, is demonstrated to have contributed to decreases in the elephant population.

Therefore, trophy hunting of elephants in Zimbabwe cannot be said to enhance the survival of the species, and issuing an import permit for elephant trophies from Zimbabwe would therefore violate the Endangered Species Act and FWS regulations. If FWS issues any elephant trophy import permits from Zimbabwe, HSUS, HSI, and CBD will consider seeking judicial review of that decision. Further, this letter serves as formal opposition to any application for an import permit for a elephant trophy from Zimbabwe and HSUS, HSI, and CBD request that FWS

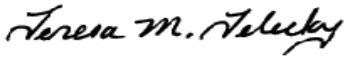
[37] http://www.zimparks.org/index.php/mc/279-zimbabwe-parks-and-widlife-management-authority-zimparks-successfully-exports-35-african-elephants-to-china

[38] ZPWMA, Workshop to Develop an Anti-Poaching Strategy for Mana Pools National Park and Neighbouring Safari Areas (2015), http://www.zamsoc.org/wp-content/uploads/2016/04/MPNP-Anti-Poaching-Workshop-Summary-Report-15-April-2015.pdf

[39] Similarly, the MIKE report to COP 17 noted a lack of data managers with the associated MIKE sites in Zimbabwe. Table 2 https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[40]

Sincerely,



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[40] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African elephant activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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November 20, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Re: Imports of African Lion Trophies from Zimbabwe

Dear Chief Van Norman:

On October 11, 2017, the U.S. Fish and Wildlife Service ("FWS" or "the Service") issued a positive enhancement finding for African lion trophies from Zimbabwe. That finding is not based on the best available science and the conclusions made in the finding are not supported by the information relied on by the agency. On behalf of The Humane Society of the United States ("HSUS"), Humane Society International ("HSI"), and Humane Society Legislative Fund ("HSLF"), we write to strongly urge the U.S. Fish and Wildlife Service ("FWS" or "the Service") to rescind the enhancement finding for Zimbabwean lions, as it cannot be demonstrated that trophy hunting of lions in Zimbabwe affirmatively benefits the conservation of the species. Issuing any import permits for lion trophies from Zimbabwe in reliance on this finding would violate the Endangered Species Act ("ESA").

ESA Requirements for Lion Trophy Imports

The Endangered Species Act (ESA) listings for *Panthera leo leo*[1] and *Panthera leo melanochaita* went into effect on January 22, 2016 (80 Fed. Reg. 79999 (Dec. 23, 2015)). Pursuant to the Section 4(d) regulation for *Panthera leo melanochaita* (50 C.F.R. § 17.40(r)), the Service can only issue a permit to import a lion trophy from east or southern Africa if the best available science supports a finding that trophy hunting enhances the survival of this subspecies. Pursuant to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for

[1] HSUS, HSI, and HSLF fully expect that no permits will be issued to import trophies of endangered *Panthera leo leo*, as this subspecies is on the brink of extinction and cannot sustain recreational offtake. As the U.S. Fish and Wildlife Service (FWS) acknowledged in the lion listing rule, in western and central Africa, "[m]anagement programs do not appear to be sufficient to deter unsustainable offtakes" and "experts agree that there is no level of offtake that would be sustainable for *P. l. leo* populations…" 80 Fed. Reg. 79999, 80040 (Dec. 23, 2015).

activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect"). It is critical that FWS apply the precautionary principle and strictly scrutinize the impacts that trophy hunting has on African lions – indeed, as recently published in *Nature*, overutilization, including trophy hunting, is the biggest threat to biodiversity.[2]

HSUS, HSI, and HSLF agree with the standard that FWS established in the 4(d) Rule for *Panthera leo melanochaita*, requiring that,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and HSLF also agree that FWS must consider the following factors when making an enhancement finding for importation of hunting trophies of *P. l. melanochaita*:

> "(a) Biological sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted

[2] Sean L. Maxwell et al., *Biodiversity: The Ravages of Guns, Nets, and Bulldozers*, Nature Vol. 536, 143-145 (Aug. 11, 2016), *at* http://www.nature.com/news/biodiversity-the-ravages-of-guns-nets-and-bulldozers-1.20381.

by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.

(d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Evidence is Insufficient to Support Claims that Lion Trophy Hunting in Zimbabwe Enhances the Survival of the Subspecies

(1) Unfenced lion populations in Zimbabwe have declined over the past decade and today fewer than 300 truly wild adult male lions remain in the country

As acknowledged in the Service's October 2017 enhancement finding (USFWS 2017), it is critical that lion management, quotas, and assessments should be based on sound science and it is "vital" to have data on population numbers and trends. Specifically, the finding states that: "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service examines the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies)" (p. 3, emphasis added); hunting should be based on "appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available" (p. 4, emphasis added); and "to manage any population to ensure an appropriate population level and determine whether sport hunting is having

a positive effect, it is vital to have sufficient data on population numbers and population trends on which to base management decisions" (p. 9, emphasis added).

The Zimbabwe enhancement and non-detriment finding document (ZPWMA 2016) provides a table with "estimated minimum" population sizes by subpopulation, and gives a total estimated minimum population size in Zimbabwe of 1,917 lions (p. 6) (Figure 1, below). The source of the data is said to have been "compiled from a variety of reports" (p. 6). As ZPWMA did not provide the source of the data contained in the table, or the methodology employed to obtain the estimates, or the year in which the data were collected, the data cannot be considered by the Service to be objective, well-documented or to be made using the best science available. Later in the Zimbabwe document it is stated that population estimates are determined through "carnivore spoor surveys, systematic lion collaring and call-up surveys" and also "patrol reports, field observations by ZPWMA rangers and other sightings by tour operators and tourists" and in Safari Areas, "resident safari operators, including those operating in CAMPFIRE areas" (p. 15). While the "carnivore spoor surveys, systematic lion collaring and call-up surveys" may be made using the best science available (although the document itself does not make that clear), the other sources of population estimates listed are not. Random, unplanned sightings by patrols, rangers, tour operators and tourists cannot meaningfully contribute to population estimates.

REGION	AREA	AREA (km²)	Estimated Number of Lions	Percentage
Western	Hwange NP	14,900	559	38%
	Matetsi Units 1-5	1,934	59	
	Matetsi Units 6-7 and Zambezi NP	1,585	67	
	Kazuma Pan NP	313	20	
	Kazuma Forest	240		
	Panda Masuie Forest	355		
	Matetsi ECA	1,556	15	
	Ngamo and Sikumi Forest	1,386	6	
	Gwaai Conservancy	927	22	
	Hwange Communal Land	392	2	
	Tsholotsho buffer adjacent HNP	1,275	7	
Subtotal		**24,863**	**737**	
Central	Chizarira NP	1,948	31	4%
	Chirisa SA	1,713		
	Omay	1,865	10	
	Matusadona NP	1,427	31	
Subtotal		**6,953**	**72**	
Northern	Chewore North and South	1,648	45	11%
	Dande	1,155	21	
	Hurungwe (Nyakasanga and Rifa)	1,709	32	
	Charara/Mukuti	1,692	20	
	Mana Pools	1,287	94	
Subtotal		**7,491**	**212**	
Southern	Gonarezhou National Park	5,053	125	48%
	Malilangwe	400	37	
	Bubye Valley Conservancy	3,440	450	
	Save	3,442	284	
Subtotal		**12,335**	**896**	
Overall Total		**51,642**	**1,917**	

Figure 1. Enhancement and Non-Detrimental Findings for Panthera leo in Zimbabwe (ZPWMA 2016, Table 2, p. 6)

The ZPWMA (2016) national lion population size estimate of 1,917 is much higher than other published estimates, including studies cited in the Service's 2015 final rule listing lions under the ESA. Bauer and Van Der Merwe (2004) estimated a national population size of 987; Chardonnet (2002) estimated 1,686; and Bauer et al. (2016, IUCN Red List assessment) estimated 703 in five well-studied populations (Bubye, Gonarezhou, Hwange, Malilangwe, and Save Valley) in 2014.

ZPWMA (2016) provides information indicating that several of the population estimates come from scientific studies that used appropriate methodologies; these are populations of Gonarezhou National Park, Save Valley Conservancy, Bubye Valley Conservancy, Mana Pools National Park,

Hwange National Park, Zambezi National Park, Units 6 and 7 of the Matetsi Safari Area, and Chizarira National Park and Chirisa / Sengwa Safari Area.

Assuming the population estimates for these areas given in the table are accurate, when added together they total 1,610 which is 307 (16%) fewer lions than the 1,917 estimate. As there appears to be no scientific basis for the existence of these 307 lions, the Service cannot consider the number to be objective, well-documented or to have been made using the best science available. Therefore, it is arbitrary and capricious for the Service to conclude that the national population of lions in Zimbabwe is any greater than 1,610. According to Loveridge et al. (2007), "Almost all lion populations show a bias towards females and have an adult population sex ratio of 1:2;" given this, there are, at most, 536 adult male lions in all of Zimbabwe.

Most of Zimbabwe's lion population sizes have decreased in the past decade (Table 1). The only exceptions are those in Save Valley Conservancy and Bubye Valley Conservancy, which are fenced and have increased, and Hwange, which has stayed the same. Comparing the population sizes estimated by Chardonnet (2002) to those estimated by ZPWMA (2016), there is a 32% decrease in Gonarezhou, an 81% decrease in Mana Pools, and a 55% decrease in Zambezi National Park and Units 6 and 7 of the Matetsi Safari Area. Comparing the Chizarira National Park and Chirisa / Sengwa Safari Area population size estimated by Bauer and Van der Merwe (2004) to that estimated by ZPWMA (2016), there is a 69% decrease; this decrease is acknowledged in Zimbabwe's "enhancement and non-detriment" finding (ZPWMA 2016), but was not acknowledged by USFWS (2017). USFWS (2017) did not acknowledge any lion population decreases in Zimbabwe, contrary to the information before the agency at the time of its finding.

Table 1: Zimbabwe lion population size trends.

Population	Chardonnet 2002	Bauer and Van Der Merwe 2004	ZPWMA 2016	Trend
Gonarezhou National Park	183	130	125	32% decrease
Save Valley Conservancy		-	284	100% increase
Bubye Valley Conservancy	-	-	450	100% increase
Mana Pools National Park	495	97	94	81% decrease
Hwange National Park	543	120	559	same
Zambezi National Park and Units 6 and 7 of the Matetsi Safari Area	150	85	67	55.5% decrease
Chizarira National Park and Chirisa / Sengwa Safari Area	-	100	31	69% decrease

Returning to Bubye Valley Conservancy and Save Valley Conservancy, as noted in ZPWMA (2016), these are fenced areas that were formerly used for cattle, where the owners decided to pursue a new business model based on raising wildlife to sell them to trophy hunters. Both Conservancies are multi-million dollar a year businesses that plow revenue back into the management of the Conservancies; this is not surprising, as these are businesses that must take necessary measures to ensure that their investment is protected. These lion populations started with the introduction of a small number of lions and the populations have grown exponentially. As noted above, this contrasts starkly with the populations in the National Parks which are mostly decreasing.

The contribution of fenced lion populations to the conservation status of lions is highly questionable, particularly when they are not part of a metapopulation management program that mimics, to the extent possible, natural genetic exhange. Indeed, according to Bauer et al. (2015), "Fenced reserves in Kenya and southern Africa are very effective, but these reserves include many small populations that require metapopulation management, euthanasia, and contraception and only make limited contributions to ecosystem functionality and conservation outcomes" (p. 14897). Instead of implementing the management protocols noted by Bauer et al. (2015), these conservancies have allowed the lion population density to increase to abnormal levels, presumably in order to be able to sell more lions to hunters. The population density in Save Valley Conservancy is 11.7 lions/100km² and that of Bubye Valley Conservancy is 19 lions/ 100km^2, which is much higher than the average population density estimate of 9.6 lions/100km² for some other lion populations (Kruger, Hwange, Selous and Serengeti) (du Preez et al. 2015). This high lion density negatively impacts other species, not only their prey species, but also competitors such as leopard, cheetah, and wild dog (du Preez et al. 2015). It is also likely that the lions on these conservancies are highly inbred as they started from a small number of lions. And while the Conservancies reportedly provide benefits to people in the local communities (including meat, jobs, schools, and community projects), since the lions are fenced in, this does not offset livestock loss to Conservancy lions and make people more tolerant of lions; thus, the management of these lion populations cannot be said to benefit the conservation of the species.

The Service has committed to using the IUCN Species Survival Commission (SSC) Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incenties when making enhancement findings. The first of these principles is "biological sustainability" including that "it should not alter natural selection and ecological function of the hunted species or any other species that share the habitat" and "the hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity." (USFWS enhancement finding, p. 4). Clearly, Bubye Valley Conservancy and Save Valley Conservancy have violated these principles. Accordingly, the Service must conclude that lion hunting on these Conservancies is not enhancing the survival of the species, contrary to the positive finding it made in October 2017.

With regard to Hwange National Park, Loveridge et al. (2016) estimated to the total number of lions to be approximately 120 in 2012 (Figure 2F). By comparison, Zimbabwe estimates the current population to be "over 550" (ZPWMA 2016, p. 18). It would seem impossible for the Hwange lion population to have nearly quadrupled in four years. Even the lion population at Bubye Valley Conservancy only doubled over a four year period between 2008 and 2012 (du Preez et al. 2016, Figure 7). The document from Zimbabwe does not provide any details on the source of the "over 550" figure. If the true population size is much lower, it would mean that the population has decreased as compared to the population figure of Chardonnet (2002).

In summary, although the current national lion population size estimate, based on studies that use appropriate scientific methodology, is similar to that in 2002 (Chardonnet 2002), wild lion populations in Zimbabwe have decreased over approximately the past decade, while two fenced populations have increased over this time. Truly wild (not fenced in) lions in Zimbabwe number only 876 and, given a typical female:male ratio of 2:1, this means there are only 292 truly wild male lions in Zimbabwe, far less lions that assumed in the Service's enhancement finding.

(2) Zimbabwe's lion hunting quotas are not science-based, and age restrictions are poorly implemented and do not apply to all lion hunting areas in the country

Another one of the IUCN Species Survival Commission (SSC) Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incenties principles is "Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed" (USFWS 2017, p. 4, emphasis added).

According to ZPWMA (2016), a new system for quota setting, the "points system for adaptively managing lion quotas", commenced in 2015 (ZPWMA 2016, p. 37). This new system, based on a study that modelled the impact of age-based lion hunting restrictions on a Tanzania lion population (Whitman et al. 2004), aims to ensure that only male lions five years of age and older are hunted. The system "rewards operators with increased quotas if they hunt animals of six years and older, but it does not penalize them if they hunt animals of five years. Neither are they penalised if they do not shoot a lion that they have on quota, however, the quotas will be reduced if they hunt animals younger than five years or if they failed to complete hunt returns" (ZPWMA, p. 40).

However, there are several major flaws with this quota setting system.

First, as pointed out by Loveridge et al. (2007), who studied lions and lion hunting in Hwange National Park, because male lions in Zimbabwe mature later than their counterparts in Tanzania, the 5 year age limit is not appropriate there. The authors said, "Measures of maturity of males in HNP (mane size, testicle size) suggest that lions in this population reach physical maturity at around 6–7 years old. These data accord with those from Kruger National Park, South Africa, showing that testicle weight, seminiferous tubule diameter, body weight and size peak between 5

and 9 years (Smuts et al., 1978b) and mean age of pride males was 6.5 (range 5–9) years (Smuts, 1978). It appears that male lions in southern Africa mature later than conspecifics in East Africa (Tanzania), where male lions reach maturity at 4 years (West and Packer, 2002; Whitman et al., 2004). If an age threshold is used to determine harvests of male lions then the 6 year minimum that Whitman et al. (2004) suggest may need to be reviewed and adjusted to take into account what is apparently later maturation of males in southern Africa. Off-take of males aged between 7 and 8 years might be more appropriate" (p. 553).

Second, the starting point for establishing quotas under this new system was the previously existing quotas (ZPWMA 2016, p. 37); however, the scientific basis for the previously existing quotas is not provided by ZPWMA (2016). ZPWMA states, "Zimbabwe implements an adaptive quota setting quota system that uses inputs from monitoring data and input from a variety of stakeholders including ZPWMA field and research staff, local communities, hunting operators, and independent biologists. Quotas are set based on population estimates or trend analyses, monitoring data, hunt return data, research work and indices as may be reflected in various reports by field personnel" (ZPWMA 2016, p. 56). It seems from this statement that some science may inform the setting of quotas but this does not mean the final outcome is science-based. Indeed, the Service concedes in its finding that quotas are not science based in some situations: "In CAMPFIRE areas, incidences of human-lion conflict are also taken into consideration where survey information is not readily available, when determining quotas for those areas (ZPWMA 2014). The quota setting process involves all stakeholders, including the ZPWMA, landowners, safari operators, and CAMPFIRE managers and their representatives. During the annual quota-setting workshop, presentations are made by the proponents who then make proposals for quotas. Where it is felt that not enough information has been presented, however, a precautionary quota will still be issued (ZPWMA 2014). The Service is not aware of how precautionary quotas are treated after they are issued, or if there is a protocol for obtaining necessary information when a precautionary quota is put in place" (USFWS 2017, p. 13).

Third, quotas do not take into account all forms of lion mortality including retaliatory killing and snaring. Indeed, the number of lions killed as a result of human-lion conflict exceeds the number killed by trophy hunters: ZPWMA states, "The exact number of lions killed in this way is difficult to assess, but may number over 50/year" (ZPWMA 2016, p. 44). Loveridge et al. (2007), who studied lion mortality in Hwange 1999-2004, found that, in addition to hunting, the population "also experienced mortality from other anthropogenic sources, including illegal snaring and killing. Lions are often inadvertently caught in snares set for other wildlife. While this only accounted for 11.8% of all mortality of [62] marked animals, we know of at least seven additional unmarked lions killed in snares during the study. It is possible that this source of mortality is under-represented as this is difficult to measure because evidence of illegal killing is often concealed. Conflict mortality needs to be taken into account when setting hunting quotas, as this mortality is additive and it is possible that even conservative hunting off-takes coupled with high levels of illegal killing could make a population vulnerable to decline" (p. 555). ZPWMA (2016) states that

21 lions were killed illegally 2013-2015, although this is likely an underestimate because the full scope of illegal activities are usually not known to government authorities.

Another form of lion mortality that may not be adequately accounted for in the quota setting process is official Problem Animal Control. Groom et al. (2014), who studied lions in Gonarhezou, said "Another important cause of lion mortality in Gonarezhou was the destruction of lions considered to be problem animals. Problem animal control incidences are poorly recorded and the responsibility is often handed over to hunting operators, with apparently little record-keeping (RJG, pers. obs.). However, we acquired records of at least 18 lions being shot as problem animals between 1993 and 2009 around the southern half of Gonarezhou. In many cases the sex of the lion killed was not recorded but at least five of them were females and one was a cub. This is likely to affect the population negatively, as regular removal of even small numbers of reproductive females can expose a population to decline (Van Vuuren et al., 2005). Moreover, as reproductive success is closely related to pride size, and prides of three or more adult females are significantly more successful at rearing cubs than smaller prides (Packer et al., 1988), removal of adult females may result in lower cub survival. Since 2009 there has been virtually no lethal problem animal control for lions around Gonarezhou, although lions are still reported to be killing livestock and there is evidence that communities poison them. Exact figures are unknown but presumed to be higher than recorded" (p. 6).

Fourth, CAMPFIRE areas are exempt from age-based quotas. ZPWMA (2016) states "the CAMPFIRE areas in which lions occur are currently exempted from the age restrictions. This approach was adopted as a means of ensuring that impoverished communities obtain the opportunity to benefit from the presence of lions, recognising the potential negative impacts the species has on the livelihoods of livestock farmers" (p. 41). This exemption is acknowledged by the Service (USFWS 2017, p. 14) but later in the document the Service arbitrarily states, "The adaptive quota management system for lion hunting based on the ages of lions hunted has been accepted and embraced by all stakeholders" (USFWS 2017, p. 17). The Service downplays the importance of this exemption by stating, "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas; if so, the Service is not aware if sport hunters are exempted from the age restriction in this case, and how this exemption in CAMPFIRE areas is taken into consideration when setting quotas for other portions of the country" (p. 14). It is unclear why the Service would think that American trophy hunters would not be exempt from the age restrictions if they hunted lions in CAMPFIRE areas, and it is unreasonable for the Service to make an enhancement finding based on such a presumption.

As to the question of whether American trophy hunters hunt lions in CAMPFIRE areas, the Service repeatedly argues later in the document that American hunters do hunt lions in CAMPFIRE areas and that this is an important source of income. For example, the Service states, "Across all CAMPFIRE districts, from 2010 to 2015, there was a total quota of 140 lions, with actual offtake equaling 45 animals. During this same period, U.S. trophy hunters apparently accounted for 51% of Zimbabwe's trophy hunting clients; trophy fees represented 74% of CAMPFIRE income, of

which lions play a small role" (USFWS 2017, p. 17). Using these figures, it can be hypothesized that of the approximately eight lions killed annually from 2010-2015, four were killed by Americans. The fact that Zimbabwe is willing to forgo age-restrictions for lions hunted in CAMPFIRE areas, means that hunting in these areas is potentially detrimental to the lion populations therein because younger lions will be killed. Consequently, it would violate the Endangered Species Act for the Service to issue import permits for lions killed in CAMPFIRE areas based on the October 2017 finding and without evidence that they were at least five years old when killed.

Fifth, the age restrictions are poorly implemented. According to du Preez et al. (2016), in 2015, 16% of lions hunted were under 5 years of age; this means that, of the 49 lions hunted that year (ZPWMA 2016, p. 38), seven were under age. Furthermore, the implementation of the restrictions varied between the three main lion-hunting areas in 2015: In Zambezi Valley, about 50% of lions hunted were less than 5 years old, compared to about 20% in Lowveld and about 5% in Matland North (Du Preez et al. 2016, Table 6, p. 11); thus, certain areas of the country is more prone to violating the age restrictions. Hunting of lions under the age of 5 is detrimental of lion populations. Consequently, the Service cannot lawfully issue import permits for lions from Zimbabwe hunted in areas that are prone to violating the age restrictions.

In summary, although the current national lion population size estimate, based on scientific surveys, is similar to that in 2002 (Chardonnet 2002), wild lion populations in Zimbabwe have decreased over approximately the past decade, while two fenced populations have increased over this time. Truly wild (not fenced in) lions in Zimbabwe number only 876 and, given a typical female:male ratio of 2:1, this means there are only 292 truly wild male lions in Zimbabwe. Given that the 2016 hunting quota was 81 male lions (ZPWMA 2016, p. 38), and subtracting the 15 lion quota for Bubye (du Preez et al. 2016, p. 13) and 10 lion quota for Save (du Preez et al. 2016, p. 18), the 56 wild lions remaining on quota represent 19 percent of the wild male population. This exceeds the recommendation of Loveridge et al. (2007, p. 556) that quotas should be reduced "to realistic levels (no more than 10% of adult males) based on robust population estimates would ease excessive off-takes of male lions." Therefore, the Service's positive enhancement finding is not in accordance with law and import permits cannot lawfully be issued pursuant to this finding.

(3) Zimbabwe's 11-year-old lion management plan still has not been substantially implemented

The Service states, "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. I. melanochaita*, the Service examines the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies)" (USFWS 2017, p. 2)

The Service further states, "When evaluating whether the importation of a trophy of *P. I. melanochaita* would be authorized pursuant to 50 CFR 17.32, in accordance with our threatened species issuance criteria, we will examine how a country's management program for lions addresses the three main threats that have led to the decline of the subspecies: habitat loss, loss of prey base, and human-lion conflict. When examining a management program and whether trophies taken as part of that program meet the issuance criteria, we study a number of factors. Some of the factors we consider include whether the program is based on sound scientific information and identifies mechanisms that would arrest the loss of habitat or increase available habitat (i.e., by establishing protected areas and ensuring adequate protection from human encroachment). We consider whether the management program actively addresses the loss of the lion's prey base by addressing poaching or unsustainable offtake within the country. A component of a management plan from which trophy imports would meet the issuance criteria would be whether there are government incentives in place that encourage habitat protection by private landowners and communities and incentives to local communities to reduce the incursion of livestock into protected areas or to actively manage livestock to reduce conflicts with lions. We examine if the hunting component of the management program supports all of these efforts by looking at whether hunting concessions/tracts are managed to ensure the long-term survival of the lion, its prey base, and habitat" (USFWS 2017, p. 5).

Finally, the Services states, "Management programs for *P. I. melanochaita* are expected to address, but are not limited to, evaluating population levels and trends; the biological needs of the species; quotas; management practices; legal protection; local community involvement; and use of hunting fees for conservation. In evaluating these factors, we will work closely with the range countries and interested parties to obtain the information. By allowing entry into the United States of *P. I. melanochaita* trophies from range countries that have science-based management programs, we anticipate that other range countries would be encouraged to adopt and financially support the sustainable management of lions that benefits both the species and local communities. In addition to addressing the biological needs of the subspecies, a scientifically based management program would provide economic incentives for local communities to protect and expand *P. I. melanochaita* habitat" (USFWS 2017, p. 5).

The Service has previously stated, "We evaluate whether a country has a valid national or regional management plan and if the country has the resources and political will to enact the plan. If there is a plan, what government entities implement the plan and how often is it reviewed and updated? Does the plan have clear, achievable objectives? Are the objectives measurable and are they being achieved? Is there an adaptive management approach within the plan so that enacting agencies can quickly respond to changing environmental or social issues?" (USFWS 2015, p. 1-2).

The Service concedes that the most recent lion management plan for Zimbabwe is the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe (USFWS 2017). The plan aims to: ensure the persistence of key lion populations and other important populations including those of doubtful viability; reduce human and livestock loss; and optimize wildlife

conservation-related net benefits to local communities. The plan contains seven objectives, each with several targets; each target has activities to be conducted to achieve the target. If fully implemented, the plan could address the three main threats that have led to the decline of the subspecies: habitat loss, loss of prey base, and human-lion conflict. However, data in the Service's possession reveals that the plan has not been fully implemented.

ZPWMA (2016) provided an update on implementation of the plan (Table 2, below). According to the information provided by ZPWMA (2016), after eleven years, none of the seven identified outputs in the plan have been completed. Of the 24 identified targets in the plan, only one, Target 1.4 (develop and implement a national lion captive breeding management policy), is completed, but this is irrelevant to the Service's finding regarding enhancement based on hunting of wild lions in Zimbabwe. Of the 108 activities in the plan, evidence presented by ZPWMA (2016) indicates that only 26 have been completed. Therefore, Zimbabwe has not made substantial progress on implementation of the plan over the past eleven years and it is arbitrary and capricious for the Service to issue an enhancement finding based on this outdated plan.

Instead of conducting a thorough analysis of whether or not the plan has been implemented over the past eleven years, using the information provided by ZPWMA (2016) – as we have in Table 2 below – the Service instead examined implementation of only three outputs which the Service states "are most relevant to determining if the implementation of the strategy enhances the propagation or survival of the species, as required by the ESA for the issuance of import permits" (USFWS 2017, p. 10); these are Output 1 (lion populations, their habitats and wild prey effectively conserved and managed in collaboration with local stakeholders), Output 3 (human-lion related conflicts minimized and, where possible, eliminated), and Output 4 (the costs and benefits of long-term lion management equitably distributed). However, even the Service's analysis of these outputs is flawed.

For each Output, the Service (USFWS 2017) copied and pasted information provided by ZPWMA (2016) about the output's targets with no analysis. Furthermore, the Service failed to analyze whether or not the activities in plan to meet the targets had been undertaken or completed. Our analysis of Outputs 1, 3 and 4 (Table 2) indicate that these outputs have not been completed. Specifically, for Output 1, only one of the six targets have been completed (on captive breeding management), and only 12 of 28 activities have been completed (and six of these relate to captive lions). Yet, the Service finds that "ZPWMA is actively working toward meeting the target areas for this output" (USFWS 2017, p. 11). For Output 3, none of the six targets have been completed, and only 2 of 21 activities have been completed. Yet, the Service finds that "information submitted in the ZPWMA update suggests that they have met one target, and are in the process of implementing the remaining two" (USFWS 2017, p. 11). For Output 4, three of the four targets have not been completed and the remaining target has been partially completed, and only 3 of 18 activities have been completed. Yet, the Service finds that "ZPWMA has made progress toward this output's targets" (USFWS 2017, p. 11).

In summary, the information provided by ZPWMA and adopted without independent analysis by the Service, clearly demonstrates a lack of progress toward meeting the stated targets and undertaking the stated activities in the plan. Without such evidence, principally this is a plan on paper only, and it is entirely arbitrary and capricious for the Service to have made a positive enhancement finding based on this information.

Table 2. Implementation status of the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe.			
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Output 1. Lion Management - Lion populations, their habitats and wild prey effectively conserved and managed in collaboration with local stakeholders			
Target 1.1 Establish a baseline survey and monitoring programme for identified lion populations and their range inside and outside the Parks & Wildlife Estate	Baseline surveys have been completed for the Parks Estate using monitoring protocols for key variables (populations, habitats, prey). Selected surveys undertaken of areas outside National Parks in conservancies and some communal land and forest areas.	Not completed.	1) Undertake baseline surveys, and where necessary, identify populations outside Parks & Wildlife Estate. Not completed (only partially completed). 2) Design, develop and set up simple but robust monitoring protocols for key variables (populations, habitats, prey). No details provided to substantiate this has been concluded. 3) Set up systems for carrying out collaborative surveys and monitoring across boundaries with shared lion populations (National Park, Safari Area, Forest Area, Communal Land, Large/Small Scale Commercial Farming and/or International). No information provided.
Target 1.2 Maintain and strengthen capacity for lion conservation, management, monitoring and research	Carnivore research programmes undertaken by NGOs (Mana, Matusadona, Gonarezhou, Zambezi and Hwange NPs,	Not completed.	1) Undertake training needs assessment. No information provided. 2) Identify and secure funding resources. No information provided.

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within PWMA and amongst other key stakeholders	Matetsi, Chirisa SA) and research institutions (Bubye and Save Conservancies) in various parts of the country. Personnel trained in data collection and capture, management, lion aging and analysis.		3) Provide training and capacity strengthening within PWMA and amongst other key stakeholders e.g. RDCs. No information provided. 4) Train personnel in data capture, management and analysis. No details provided to substantiate this has been concluded.
Target 1.3 Identify and implement best management standards and practice for all trophy hunted lion populations, ensuring their viability and sustainable, equitable and adaptively managed trophy quotas	Quota setting methodology reviewed and annual quotas and offtakes analysed considering population changes, trophy quality and levels of PAC over time. Trophy hunting database in place and in process of being refined to provide cost-effective system for collation, entry, analysis, reporting and feedback to key stakeholders in the wildlife industry (ZPWMA, RDCs, SOAZ, ZPHGA, conservation NGOs, Researchers etc.). System of fixed and optional quotas reviewed and age- based	Not completed.	1) Implement Quota Setting Methodology rigorously and consistently across all hunting areas. No information provided to address rigorousness or consistency across all hunting areas. 2) Review and analyse annual quotas and offtakes to ensure these are adaptive and responsive to population changes, trophy quality and levels of PAC over time. Insufficient details provided to substantiate this has been concluded.. 3) Allocate quotas at a scale reflective of lion ecological and biological functionality which invariably differs

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	criteria for male trophy animals in place and functioning.		across different land unit sizes or land uses. No information provided. 4) Refine and update the hunt return form [TR2] and the trophy hunting database and review annually thereafter. Annual review, and TR2 not addressed in information provided. 5) Ensure centralised database and cost-effective system for data collection from hunting areas and subsequent collation, entry, analysis, reporting and feedback to key stakeholders in the wildlife industry (PWMA, RDCs, SOAZ, conservation NGOs, Researchers etc). Apparently in progress. 6) Replicate Matetsi Safari Area hunt data collection system in all Parks and non-Parks hunting areas and train PWMA, RDC and other relevant field staff to gather and collate hunting data as per the Matetsi system. No information provided.

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			7) Train PWMA, RDC and other relevant field staff in the Quota Setting Methodology. No information provided. 8) Review system of fixed and optional quotas (and auctioned hunts) to improve incentives to hunt trophy male lion only, including quota-based incentives/disincentives. Reportedly completed. 9) Review trophy fees to maximise benefit and generate additional revenue. No information provided. 10) Review and put in place criteria for age-based identification of male trophy animals. Reportedly completed.
Target 1.4 Develop and implement a national lion captive breeding management policy	Policy in place.	Reportedly completed; policy is available.	1) Identify captive breeding enterprises and establish purpose 2) Consult with stakeholders including breeders, ZNSPCA, IUCN Captive Breeding Specialist Group, and others e.g. Tikki Hywood Trust (THT) 3) Establish destination and role of captive bred lions upon reaching maturity

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			4) Relate captive bred lions to existing captive breeding policies for crocodiles, ostriches and operations for other captive bred wild species, e.g. Lion & Cheetah Park, Chipangali 5) Review existing policies and/or guidelines 6) Appoint Working Group to develop captive lion breeding policy as appropriate or necessary e.g. WWF-SARPO, NSPCA, THT, Captive Breeders, Wildlife Veterinary Unit.
Target 1.5 Develop and implement co-management frameworks for wildlife management	Collaborative national lion action plans to co-management lion populations in place for NW Matabeleland and SE Lowveld, including three conservancies (Bubye Valley, Save and Malilangwe).	Not completed.	1) Develop a national lion action plan that articulates collaborative co-management of lion populations amongst different land categories and users in the four major wildlife areas of the country: NW Matabeleland, Sebungwe Region, Zambezi Valley and SE Lowveld. Partially completed. 2) Ensure adoption and implementation of co-managements plans by stakeholders

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			including conservancies. No information provided. 3) Develop and implement participatory monitoring of implementation of plans. No information provided.
Target 1.6 The geographic distribution range of the lion population expanded	Conservancies and neighbouring communities are working together to maintain existing geographic distribution of lion populations. Zimbabwe proactive in the KAZA and GLTFCA programmes.	Not completed. Information provided relates to maintaining existing geographic distribution, rather than expanding the distribution.	1) Conservancies and neighbouring communities to work together and incorporate neighbouring communal lands into conservancies where possible. Reportedly completed, but lack of details makes it impossible to evaluate. 2) TFCAs to develop programmes to increase jointly managed lion populations. No information provided on all programs.
Output 2. Lion Research - Information for effective and adaptive lion conservation management generated			
Target 2.1 Initiate targeted research on lion ecology, management and mitigation of conflict	Extensive research programmes focussing on lion ecology and biology undertaken in Hwange, Bubye, Save, Malilangwe, Matusadona, Chizarira and Chirisa. ZPWMA have cooperated with NGOs, such as Panthera, to	Not completed.	1) Identify gaps in knowledge of lion ecology and biology that require research. No information provided. 2) Identify areas where collaborative (including cross boundary/border) research is required. No information provided.

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	develop cost-effective age determination methods for lions. Key threats to lion populations, with focus on human-lion conflict, snaring and poisoning, undertaken and continually monitored.		3) Standardise methodology where collaborative research is required. No information provided. 4) Develop cost-effective age determination methods for lions. Reportedly completed. 5) Identify population ecology research questions in key lion populations. No information provided. 6) Explore predator-prey relationships. No information provided. 7) Identify socio-ecological research needs. No information provided. 8) Assess the impact of key threats to lion populations in Zimbabwe at present, with particular focus on human-lion conflict, snaring (both direct mortality of lions in snares and depletion of prey populations), and the sustainability of hunting quotas. Reportedly completed.

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Output 3. Mitigation - Human-lion related conflicts minimized and, where possible, eliminated			
Target 3.1 Develop and establish databases on lion/human conflict	Data on Problem Animal Control (PAC) reports on lion related problems collated.	Not completed.	1) Collect PAC (Problem Animal Control) reports on lion related problems. Reportedly completed, although whether this is national or more limited in scope is not clear. 2) Analyse reports & produce evaluation matrix. No information provided. 3) Produce report with recommendations on appropriate PAC monitoring system, e.g. MOMS Oriented Monitoring Systems). No information provided. 4) Undertake community training on MOMS. No information provided.
Target 3.2 Identify and implement methods to reduce and mitigate livestock losses and lion attacks on humans	Approaches to mitigate livestock losses and lion attacks on humans being tested and implemented in Hwange. Methods to mitigate lion attacks on livestock being implemented as appropriate at selected sites (e.g. Tsholotsho).	Not completed.	1) Undertake participatory planning on how to mitigate livestock losses and lion attacks on humans. No information provided. 2) Undertake field work to identify weakness in livestock husbandry in relation to mitigation. No information provided. 3) Review literature, capitalise on experiences and lessons learned

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			elsewhere, e.g. Namibia, and undertake community leadership exchange visits. No information provided. 4) Examine and design appropriate farmer-based compensation schemes, e.g. HACSIS, Namibia. No information provided. 5) Provide training on lion mitigation methods. Limited efforts underway in a few places, according to information provided. 6) Implement mitigation methods as appropriate at selected sites. Reportedly completed.
Target 3.3 Trained and properly staffed PAC Units established to conduct rapid response, restrained and precisely targeted problem animal control	PAC Units at ZPWMA field station and/or RDC levels partially established.	Not completed.	1) Undertake needs assessment and capacity for managing PAC Units at PWMA field station and/or RDC levels. No information provided. 2) Define the role and responsibility of Units. No information provided. 3) Train and equip Units. No information provided. 4) Training and capacity building for PAC to be delegated to the responsible

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			appropriate authority (RDC) and sub-district levels. No information provided. 5) Collaborative and effective PAC techniques developed and implemented within 5 years. No information provided.
Target 3.4 Incidents of human-lion conflict reduced by at least 30% in 5 years while also reducing retaliatory killing	Specific awareness and education package on lion conservation and management developed and implemented in Matusadona, Hwange and Gonarezhou regions.	Not completed. Answer does not address target percent reduction or timeline.	1) Specific awareness and education package on lion conservation and management developed and implemented within 5 years. Partially implemented, according to information provided. 2) Mechanisms developed with the livestock sector to reduce livestock predation by lions by at least 35% from the current level within 5 years. No information provided.
Target 3.5 Number of lions killed through indiscriminate killings reduced by at least 30% in 5 years after baseline established.		Not completed. Target missing from ZPWMA (2016).	1) Country specific awareness and education package on lion conservation and management developed and implemented within 5 years. No information provided. 2) Develop incentives for communities to use legal PAC in identified 3 hotspots within 5 years. No information provided.

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Target 3.6 Incidences of lion attacks on humans reduced by at least 30% from the current levels in 5 years		Not completed. Target missing from ZPWMA (2016).	1) Develop and implement collaborative and effective PAC techniques. No information provided. 2) Develop appropriate educational and awareness programmes to promote avoidance of potentially lethal encounters between humans and lions. No information provided.
Output 4. Socio- Economic - The costs and benefits of long-term lion management equitably distributed			
Target 4.1 Complete an inventory of stakeholders directly affected by lion conservation	Stakeholder groups (e.g. local communities, CAMPFIRE RDC representatives, commercial safari hunting operators (SOAZ, ZPHGA), tourism operators (ZATSO) identified. Financial impacts of lion conservation and extent and magnitude of socio-economic impacts on each stakeholder group completed.	Partially completed.	1) Identify stakeholder groups (e.g. local communities, CAMPFIRE RDC representatives, commercial safari hunting operators (SOAZ, ZPH&GA), tourism operators ZATSO) at the appropriate scale. Reportedly completed. 2) Identify the financial impacts of lion conservation on each stakeholder group. Reportedly completed. 3) Determine extent and magnitude of socio-economic impacts on each stakeholder group. Reportedly completed.

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			4) Prioritise groups for intervention based on extent and magnitude of socio-economic impacts. No information provided.
Target 4.2 Deliver appropriate training and capacity building to prioritised stakeholders	Representative stakeholder groups in some regions identified (Hwange, Matusadona, Gonarezhou). Limited training undertaken. Implement adaptive programme across four wildlife regions	Not completed.	1. Identify representative stakeholders groups per wildlife region. Partially completed according to information provided. 2. Identify training needs in consultation with identified stakeholders. No information provided. 3. Develop training materials and implement training programmes. No information provided. 4. Review effectiveness of training material and programme in consultation with identified stakeholders. No information provided. 5. Implement adaptive programme across 4 wildlife regions. No information provided.
Target 4.3 Agree and implement collaboratively	In progress. Hwange NP Management Plan approved.	Not completed.	1) Consult identified stakeholders. No information provided.

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developed area-specific lion management plans with identified stakeholder groups in each wildlife region within 5 years			2) Determine the scope and scale of the key activities of the management plan. No information provided, although reportedly a management plan for one area, Hwange NP, is approved. 3) Identify and integrate 'best practices', making provisions for: • Ownership issues • Zoning for wildlife • Mutually binding agreement • Verifiable compliance • Suitable wildlife utilization plan (e.g. tourism, trophy hunting) • Income flows and cost distribution (including rainy-day funds to anticipate uncertainties in tourist revenues) • Appropriate husbandry techniques • Conflict-mitigation measures • Regulation of human immigration • Adequate wildlife and conflict monitoring • Annual environmental audits No information provided.

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		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
			4) Implement management plan. No information provided. 5) Review plan annually and amend where necessary. No information provided.
Target 4.4 Implement transparent mechanisms to equitably distribute lion-related/generated income to identified stakeholders (groups and/or communities)	Scale of income generated from lion conservation reviewed and use of funds to encourage protection of lion populations reach local stakeholders undertaken (see CAMPFIRE generated revenues)	Not completed.	1) Identify income generated from lion conservation (see CAMPFIRE generated revenues). No detailed information provided. 2) Ensure that benefits of protecting lion populations reach local stakeholders. No information provided. Zimbabwe document does not provide enough details to evaluate if this activity occurred and its scope (national or local). 3) Distribute generated income according to intensity of lion impact (Apply CAMPFIRE Producer Community/Ward principles). No information provided. 4) Provide appropriate incentives, e.g. implementation of mitigation measures

Table 2. Implementation status of the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe.			
Outputs and Targets	**Information Provided in ZPWMA (2016) Regarding Target Completion**	**Analysis of Progress on Completing Targets and Activities** (underscored text)	
		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
			and/or local re-location of people in high-conflict areas to low-conflict areas. No information provided. 5) Provide appropriate incentives e.g. participatory land use planning, to discourage immigration into lion and other wildlife range. No information provided.
Output 5. Regulations - Effective regulation of consumptive lion utilisation ensured			
Target 5.1 Implement approved policy and practice at national and local levels regarding problem animal control (PAC) of lions within 2 years	Current policy and practice regarding problem animal control of lion reviewed, at national and local levels. PAC offtakes reconciled with trophy hunting quota offtake to ensure that the overall offtake (i.e. total quota) is sustainable.	Not completed. ZPWMA (2016) did not address timeline in target.	1) Review, and revise where necessary, current policy and practice at national and local levels regarding problem animal control of lions (PAC). Reportedly completed. 2) Identify key responsibilities of the Appropriate Authority (AA), i.e. the land occupier in respect of problem animal control of lions, given the vulnerable status of lions and recent changes in land tenure. No information provided. 3) Incorporate PAC offtakes with trophy hunting quota offtake to ensure that the

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		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
			overall offtake (i.e. total quota) is sustainable. Reportedly completed, but lack of details makes it impossible to analyze. 4) Determine need for regulation of PAC, including the provision of incentives/disincentives. No information provided. 5) Establish database for lion PAC (see Targets 1.5 & 3.1 above). Reportedly completed. 6) Ensure PAC policy and practice conforms to the appropriate scale of lion ecological functionality, temporally and spatially, and that this is recognised as an AA responsibility with respect to hunting and PAC offtakes. No information provided.
Output 6. Communication, Awareness and Information Dissemination			
Target 6.1 To carry out awareness programmes in 50% of the districts in	Awareness programmes initiated at a national level, with professional hunters, communities and NGO community. Awareness	Not completed. ZPWMA (2016) did not address percentage and	1) Identify target groups that need awareness. Reportedly completed.

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Zimbabwe within the next three 3 years	campaigns being carried out by the Extension and Interpretation Unit in all the regions.	timelines in the target.	2) Identify awareness needs for different target groups e.g. hunters, politicians, farmers. No information provided. 3) Develop and package awareness materials for different target groups, e.g. multi-media tools, TV, internet, radio. No information provided. 4) Implement awareness programmes. Information provided indicates that awareness programs have been 'initiated,' but no information is provided on whether this reached 50% of districts in three years, as per the target. 5) Create feedback mechanisms for target groups. No information provided. 6) Provide extension, information and interpretative services to surrounding communities. Reportedly completed.
Target 6.2 Create lion conservation and management information units within one year	Databases established at some key research centres using dedicated external research programmes (e.g. WILDCRU).	Not completed. ZPWMA (2016) did not address target of	1) Facilitate flow of information from various sources. No information provided.

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Outputs and Targets	**Information Provided in ZPWMA (2016) Regarding Target Completion**	**Analysis of Progress on Completing Targets and Activities** (underscored text)	
		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
		establishing lion conservation and management units in one year.	2) Document and process information from various sources. No information provided. 3) Create information database. Reportedly completed. 4) Use Mushandike Natural Resources College as a training centre. No information provided. 5) Define personnel needs and resource requirements. No information provided. 6) Training, M&E, Research. No information provided.
Output 7. Regional and Trans-Boundary Collaboration			
Target 7.1 Undertake an inventory of national strategies for lion management	Done.	Not completed. Reportedly "done"; however, no information is provided on activities for this target.	1) Make a presentation at the AWCF Meeting in November 2006. Reportedly completed, but outcome not reported. 2) Develop a budgeted proposal seeking funds to undertake the inventory. No information provided. 3) Appoint 1/. a consultant or 2/. design questionnaire or 3/. use TFCA Conservation Committee or a combination of 2 & 3. No information provided.

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		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
Target 7.2 Encourage the development of national lion conservation strategies where these are missing &/ or incomplete	National lion conservation strategies discussed at AWCF (meeting held under auspices of KAZA).	Not completed. ZPWMA (2016) did not report on outcome of activities for this target.	1) Seek consensus from the AWCF for the development & implementation of national lion conservation strategies. No information provided on outcome. 2) Contact counterparts before the AWCF Meeting. No information provided. 3) Present national lion strategies where applicable and/or available. No information provided on whether presentations were made. 4) Obtain support from neighbouring countries for the development of national lion conservation strategies. No information provided. 5) Persuade neighbours to develop national lion conservation strategies. No information provided.
Target 7.3 Develop an integrated and harmonised lion management strategy for Transfrontier Conservation Areas (TFCAs)	Lion conservation strategies for SADC discussed at AWCF meeting held under auspices of KAZA.	Not completed. ZPWMA (2016) did not report on activities for this target.	1) Within 2-3 years (medium term) develop the SADC strategy for lion conservation and management. No information provided; no information on outcome or whether time-frame in activity was met.

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		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
			2) Develop appropriate framework: − Develop National strategies − Seek consensus through AWCF Incorporate into TFCA Treaties − Develop SADC strategy No information provided on outcome of discussions held at meetings.
Target 7.4 Implement lion conservation strategy and management plan	Strategy under review.	Not completed. ZPWMA (2016) did not report on activities for this target.	1) Incorporate strategy into TFCA Conservation Committee workplans [& other stakeholder workplans]. No information provided. 2) Seek funding as required. No information provided. 3) Carry out half-yearly compliance reviews. No information provided. 4) Report back annually to all stakeholders especially those not involved in implementation. No information provided.

(4) ZPWMA lacks funding to enforce existing laws

As noted by the Service, "only revenues generated through sport-hunting conducted on state and private lands are used to finance ZPWMA; to our knowledge, no other government funding is provided, and only limited outside funding from NGOs or other governments appears to be available" (USFWS 2015, p. 8). ZPWMA (2016) confirmed this remains the case, and stated that it is unable to generate adequate revenue to cover both the capital and operating requirements (p. 26). In 2015, ZPWMA incurred a loss of US$5.4 million including depreciation (ZPWMA 2016, p. 26). The Service has expressed concerns about "the ability of ZPWMA to generate sufficient funds to support adequately their stated mission" and "if Zimbabwe has adequate resources to enforce existing laws and regulations" (USFWS 2015, p. 10-11). According to ZPWMA itself "no amount is budgeted for conservation in the national budget,"[3] leading to inadequate enforcement and implementation of laws and regulatory mechanisms. Lack of government funding also leaves the ZPWMA to rely on trophy hunting, even when unsustainable, to pay its bills, creating an inherent conflict of interest for the wildlife management agency. Therefore, the Service's concern – expressed in its 2015 finding concluding that Zimbabwe does not sustainably manage its elephant populations – that there is a lack of a national mechanism to sustain wildlife conservation efforts in Zimbabwe (USFWS 2015) remains valid.

ZPWMA (2016) noted that enforcement efforts have been hampered by lack of funding:

- "The current remuneration levels have remained low with the lowest paid worker receiving a gross salary of $375 per month. The last salary increase of 23% was in January, 2014. A comparison with other Parastatals within the same parent ministry, shows that the Authority has the lowest salary scales" (p. 20).
- "Only 70% of the Authority's vehicle fleet are in "sound condition" and, of three aircraft owned by the Authority, only one is in operation (p. 20).
- At the end of 2015, there were only 67% of rangers in post (1,448 out of 2,146), and only 1,004 of these were deployable for anti-poaching operations (p. 20).
- "Commercial wildlife poaching involving both local and foreign nationals continues to plague Zimbabwe, especially with respect to elephant and rhino located in the Zambezi Valley, Sebungwe, North-West Matabeleland, South-East Lowveld" (p. 21) "Note that 21 lions were killed illegal between 2013 – 2015, with 6 animals killed through snaring in the area adjacent to Hwange National Park in 2015." (p. 21).

In its October 2017 finding, the Service acknowledged the lower number of rangers in post, but ignored these other enforcement problems (USFWS 2017, p. 7).

[3] http://zimparks.org/zimbabwe-parks-and-widlife-management-authority-zimparks-successfully-exports-35-african-elephants-to-china/ (viewed 5 October 2017)

Lack of funding for ZPWMA has limited anti-poaching efforts and this has had negative effect on wildlife conservation. Mana Pools National Park and neighboring safari areas, which are located in the mid-Zambezi area, is one of the areas hardest hit by poaching. At a 2015 workshop held by ZPWMA to develop an anti-poaching strategy for the Park,[4] the Area Manager for the Park, Marvellous Mbikiyana, was quoted in a workshop report as having stated, "While the ideal staffing level for rangers is 110 for the Park, 75 have been approved, and only 38 are on site. Of the 38 on site, only 13 are deployable at any one time, due to a number of other commitments, such as driving duties, serving in the front office, and so on." The workshop report noted that the effectiveness of enforcement was negatively affected by low manpower.

Furthermore, according to the 2016 report on the Elephant Trade Information System (ETIS) at CITES CoP17 Doc. 57.6 (Rev. 1),[5] "Zimbabwe is the country that pulls the rule of law score down, indicating far greater governance challenges exist in that country" (p. 16). The World Justice Project (WJP) Rule of Law Index 2016 ranked Zimbabwe at 108 out of 113 countries and jurisdictions, meaning that Zimbabwe has the sixth worst rule of law.[6] According to WJP, "Effective rule of law reduces corruption, combats poverty and disease, and protects people from injustices large and small. It is the foundation for communities of peace, opportunity, and equity—underpinning development, accountable government, and respect for fundamental rights."[7]

Indeed, instead of effectively implementing and enforcing wildlife laws and regulations, ZPWMA personnel have been implicated in the illegal wildlife trade. In 2015, three ZPWMA staff members were arrested for involvement in the theft of ivory from a government stockpile held at Hwange National Park.[8] The arrests came after a shipment of 62 tusks on its way to China was seized at the international airport in Harare. Serial numbers on the tusks were traced to the Hwange government stockpile. An alleged Chinese smuggler, who claimed he represented the Chinese government, had obtained export permit signed by the most senior of the three ZPWMA people arrested. All three were released from custody, the senior ZPWMA person after paying a $600 bail; none appeared in court again. Allegedly, the investigation was stopped after senior ZPWMA officials in Harare intervened in order to cover the involvement of other ZPWMA officials in the smuggling. The investigation seemed implicate senior parks and Ministry of Environment, Water and Climate officials. Allegedly, the ZPWMA trio had been exporting ivory from the stockpile since 2012.

[4] http://www.zamsoc.org/wp-content/uploads/2016/04/MPNP-Anti-Poaching-Workshop-Summary-Report-15-April-2015.pdf
[5] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf (viewed 5 October 2017)
[6] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf (viewed 5 October 2017)
[7] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf (viewed 5 October 2017)
[8] https://oxpeckers.org/2016/04/how-to-steal-an-ivory-stockpile/ (viewed 5 October 2017)

They had the assistance of ZPWMA security personnel and police units who guarded the trucks carrying the ivory over the 880 km from Hwange to the airport.

Corrupt government officials allegedly have been involved in both poaching of elephants and illegal export of ivory tusks, and involvement in a transnational syndicate.[9] Edson Chidziya, the former Director General, Zimbabwe Parks and Wildlife Management Authority, and one-time regional representative for Africa on the Animals Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),[10] and who has supported Safari Club International's lawsuit against the U.S. Department of the Interior regarding the prohibition of elephant trophies from Zimbabwe,[11] was fired in May 2017 for his alleged involvement in the disappearance of rhino horns worth $3 million two years before.[12]

Of further concern is that the ZPWMA operates without a board which, as noted by Mupfiga and Chirimumimba (2015), creates "a leadership vacuum and also legal constraints for the validation of policy decisions and approval or authorization of programmes" and it is "worrying for State entities to operate without boards for long periods because management are then left to operate without accountability, a situation which may compromise the efficiency and effectiveness of an entity due mainly to the absence of an effective oversight function" (p. 4).

Politics and corruption also play roles in trophy hunting in Zimbabwe. A 2012 news article explained how officials from Zimbabwe's ruling party since 1980 sought to cash in on trophy hunting by taking over hunting concessions.[13] A 2015 news article quoted Mary-Jane Ncube of a Zimbabwe NGO that monitors corruption, Transparency in Zimbabwe, as stating "In the area of conservation, I think it [the government] has behaved like a predatory state, going after big investments, giving them to cronies, family, and really not having any concern for communities that are dependent on that land …"[14] Furthermore, she was quoted as saying, "National Parks was the authority in charge of concessions and licensing, but because of the corruption … concessions and licenses are now given according to who you are and who you can pay the highest dollar to." A June 2017 news article described how the Tsholotsho Rural District Council sold permits to a safari hunting company, Lodzi Hunters, to hunt 50 elephants in order to get money to fund the construction of a football stadium. This reportedly came about after Higher and Tertiary Education, Science and Technology Development Minister Professor Jonathan Moyo, who is the MP for the

[9] http://globaljournalist.org/2017/02/zimbabwe-journalist-fights-charges-poaching-report/ (viewed 10 August 2017)
[10] https://cites.org/sites/default/files/eng/com/ac/22/E22-05-01.pdf (viewed 5 October 2017)
[11] https://www.courtlistener.com/docket/4212662/safari-club-international-v-jewell/ (viewed 5 October 2017)
[12] http://www.thezimbabwean.co/2017/05/zim-wildlife-boss-fired-3m-rhino-horn-goes-missing-report/ (viewed 5 October 2017)
[13] https://mg.co.za/article/2012-09-07-00-big-bucks-trigger-zimbabwe-scramble (viewed 5 October 2017)
[14] https://mg.co.za/article/2015-10-22-hunters-feed-corrupt-zim-officials (viewed 5 October 2017)

area, made a deal with then Minister of Water, Climate and Environment, Saviour Kasukuwere, who then issued the hunting quota of 50 to the Council. Of relevance, according to Transparency International, in 2016 Zimbabwe was the 22nd most corrupt country, ranking 154 of 176.[15]

Thus, the Service's concern – expressed in its negative enhancement finding for Zimbabwe elephants in 2015 – that Zimbabwe's wildlife laws and regulatory mechanisms are inadequately implemented and enforced (USFWS 2015) remains valid.

(5) There is no evidence that revenue from lion hunting enhances the survival of lions

The Service states "Hunting, if properly conducted and well managed, can generate significant economic benefits that may contribute to the conservation of lions. In looking at whether we are able to authorize the import of a trophy under the issuance criteria of 50 CFR 17.32, we will examine if the trophy hunting provides financial assistance to the wildlife department to carry out elements of the management program and if there is a compensation scheme or other incentives to benefit local communities that may be impacted by lion predation" (USFWS 2017, p. 5). It is clear from this statement that no amount of economic benefit from hunting will offset the detrimental effect on lion populations of unsustainable, poorly managed trophy hunting. Thus, any economic benefit from hunting alone is not sufficient evidence that hunting is enhancing the survival of lions.

As noted previously, Zimbabwe's wild lion populations have declined since 2002 and fewer than 300 truly wild (not fenced in) male lions remain; Zimbabwe's lion hunting quotas are not science-based and age restrictions are poorly implemented; Zimbabwe's lion management plan has not been substantially implemented after eleven years; and the ZPWMA does not receive funding from the Zimbabwe government and consequently has insufficient funds to enforce existing laws. Given this situation, lion hunting in Zimbabwe clearly is not properly conducted or well managed and it is irrelevant that there is economic benefit from such unsustainable hunting.

Yet, the Service ignores the poor management of lion trophy hunting in Zimbabwe and states, "While, over the years, ZPWMA has failed to generate adequate revenue for its operations, U.S. sport hunters play a large role in the hunting industry of Zimbabwe. The Service anticipates that by granting the importation of sport-hunted lion trophies, there would be an increase in funds provided to Zimbabwe's conservation initiatives through this program by U.S. sport hunters" (USFWS 2017, p. 19).

As noted above, the Service states that it will examine "if there is a compensation scheme or other incentives to benefit local communities that may be impacted by lion predation" (USFWS 2017, p. 5). The Service explains, "we recognize that in many parts of the world, wildlife exists outside

[15] https://www.transparency.org/news/feature/corruption_perceptions_index_2016 (viewed 5 October 2017)

of protected areas and must share the same habitat and compete with humans living in these areas for space and resources" and "if communities that share these resources with wildlife do not perceive any benefits from the presence of wildlife, they may be less willing to tolerate the wildlife. However, under certain circumstances, trophy hunting can address this problem by making wildlife more valuable to the local communities anti encourage community support for managing and conserving the hunted species, as well as other species." Further, "A component of a management plan from which trophy imports would meet the issuance criteria would be whether there are government incentives in place that encourage habitat protection by private landowners and communities and incentives to local communities to reduce the incursion of livestock into protected areas or to actively manage livestock to reduce conflicts with lions" (USFWS 2017, p. 5). The Service states, "Co-existence of lions and people is promoted through giving value to lions, through tourism and hunting in CAMPFIRE areas" (USFWS 2017, p. 8).

First, the evidence before the Service demonstrates that the government of Zimbabwe is not actively mitigating human-lion conflict. Although one of the Outputs of Zimbabwe's lion management plan is "Mitigation - Human-lion related conflicts minimized and, where possible, eliminated," and this includes the target of "Incidents of human-lion conflict reduced by at least 30% in 5 years while also reducing retaliatory killing," this output and target have not been met. In its analysis of this output and target, the Service copies and pastes information from ZPWMA's (2016) that "approaches to mitigate livestock losses and lion attacks on humans are in the process of being tested and implemented in Hwange and methods to mitigate lion attacks on livestock are being implemented as appropriate at selected sites (e.g. Tsholotshe)" (USFWS 2017, p. 11; and ZPWMA 2016, p. 12). Further, the Service states, "Additionally, to mitigate human-lion conflict, the "Long Shields Guardian Programme" was initiated whereby communities are notified of movements of collared lions into their areas via cell phone, and then have the opportunity to take appropriate action, such as moving cattle. In 2013 alone, 1,850 warnings were passed to the "Long Shields"" (USFWS 2017, p. 12).

However, as explained in ZPWMA (2016), human-lion conflict mitigation being conducted in the country is limited to an Oxford University WildCru Lion Research project in the Hwange area, which includes the aforementioned Long Shields Guardian Programme and efforts to improve livestock husbandry to avoid lion attacks; this is not a government program and it is not implemented in all lion areas in Zimbabwe. The program is limited to the Hwange area and is the only such program noted in ZPWMA (2016) despite their acknowledgement that "The main source of illegal killing of lions is a result of Human-Lion conflict" (ZPWMA 2016, p. 44). Indeed, as noted previously, the number of lions killed as a result of human-lion conflict exceeds the number killed by trophy hunters. ZPWMA states, "The exact number of lions killed in this way is difficult to assess, but may number over 50/year" (ZPWMA 2016, p. 44); this compares to 49 lions trophy hunted in 2015, and 33 in 2016 (ZPWMA 2016, p. 38).

It must also be noted that the government of Zimbabwe does not compensate farmers for livestock lost to lions. According to a May 2017 news article by Jeffrey Moyo,[16] "Villagers in this Southern African nation say despite the threat the lions pose to their livestock, national parks and wildlife authorities here are doing nothing to help them, as stray lions roam freely, and it takes park officials too much time to round them up. "Our lives are in danger. We can't kill the lions even if we see them attacking our livestock because the law doesn't let us; if you do it they put you in jail," said Ezra Ncube, 37, a local villager. "But if our cows are eaten by lions, no one goes to jail and nobody even bothers to compensate us, yet the lions stray from parks and some private safaris."

One human-lion conflict mitigation effort conducted by a foreign university research team is not evidence that the government of Zimbabwe is making a serious effort to address human-lion conflict.

Second, there is no evidence that there is flow of money from American lion trophy hunting in CAMPFIRE areas. According to ZPWMA (2016), "The potential and real loss of habitat and the fragmentation of range and conflicts with people in the absence of effective incentive mechanisms to maintain such habitat is probably the second greatest threat to lions after retaliatory killings" and "integrating income from lions into rural economies, and demonstrating that lions contribute to the welfare and development of people is regarded as one strategy to mitigate against this" (ZPWMA 2016, p. 44). ZPWMA states that 2010-2015, eight lions were hunted on CAMPFIRE land per year on average, and this generated US$ 40,000 per year (ZPWMA 2016, p. 31). Although it is stated that American hunters contribute 51% of all revenue generated by hunting in CAMPFIRE areas (not lion hunting specifically) (ZPWMA 2016, p. 31), the Service admits "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas" (USFWS 2017, p. 14). Consequently, the Service cannot reasonably conclude that U.S. hunter revenue is contributing to lions or their habitat on CAMPFIRE land.

Third, there is no evidence that financial flow from lion hunting in CAMPFIRE areas has increased people's tolerance of lions and has resulted in enhancement of the survival of lions. ZPWMA asserts that "The involvement and empowerment of rural people in natural resource management through the CAMPFIRE programme that strives to provide economic and financial incentives through sustainable use, is one of the main driving forces behind changes in attitudes towards wildlife in communities where lion-livestock conflicts occur" (ZPWMA 2016, p. 44). The Service similarly claims, citing to ZPWMA, that "co-existence of lions and people is promoted through giving value to lions, through tourism and hunting in CAMPFIRE areas" (USFWS 2017, p. 8). The Service further claims that "the participation of communities in CAMPFIRE has heralded a reversal in wildlife declines on private land. When the benefits of CAMPFIRE were extended to RDCs, it further aided in the equitable distribution of benefits from trophy hunting to local communities, which incentivizes them to conserve the African lion" (USFWS 2017, p. 15).

[16] http://aa.com.tr/en/africa/stray-zimbabwe-lions-pit-villagers-vs-conservationists/818598

Harrison et al. (2014) provided a recent analysis of the CAMPFIRE program. The theory behind CAMPFIRE is to empower community members at a village level to control wildlife and its revenue, and to thus create an economic incentive for communities to conserve wildlife. But, according to Harrison et al., this is not actually happening. According to Harrison et al., although CAMPFIRE had a reputation of success in its early days, over time this perception eroded and by the late 1990s it was criticized for lack of participation, lack of empowerment and lack of participation of local communities in management of natural resources. The main problem with the way that CAMPFIRE was designed is that it established the rural district council, which represents numerous local communities, as the 'local' body in charge of natural resource management, rather than the local communities themselves. Harrison et al. state, "Failure to provide benefits to the local communities and to successfully devolve management are just two of the many common criticisms" (p. 8). Among these criticisms is "insufficient action to tackling problems of elite-capture of resources and wildlife-based tourist revenues within RDCs" (p. 9).

Harrison et al. (2014) studied the CAMPFIRE program in the Binga district, which is part of Sebungwe, and the Chiredzi district, which is part of Gonarhezou; as noted previously, the elephant populations of both Sebungwe and Gonarhezou have experienced dramatic elephant population declines in recent years. The authors found that CAMPFIRE failed as a governance system for community involvement and empowerment and that the "community-based" terminology is merely rhetoric. They warn that new "community-based" natural resource management projects need to "be aware of the disconnect between the local citizens (as their key stakeholders) and what the RDC may believe and be happy to approve" (p. 30). They conclude "The lack of understanding and attention paid to the sub-district governance system for natural resource management has meant that project implementation has negatively affected the system as a whole, including the people within it, as well as the project outcomes" (p. 31). They said, "CAMPFIRE has continued to try and operate in a system it increasingly did not understand and thus its structures did not map appropriately onto those operating at the sub-district level. As a partial result of this, the programme has largely collapsed in many parts of the country" … "including in the four case study villages. The benefits experienced by the communities involved over the projects' lifespans have been negligible" (p. 32).

Two news reports by Debra Patta looked at local perspectives in Zimbabwe on the claim that trophy hunting benefits local communities. One news report quoted Emmanual Fundira, who heads Safari Operators Association of Zimbabwe as saying that although part of the hunting fees paid by trophy hunters is supposed to go to conservation and community projects, in fact it rarely does.[17] In another article, Fundira stated, "If you talk to communities today and say 'Campfire' they don't

[17] http://www.cbsnews.com/news/zimbabwe-corruption-trophy-hunting-cecil-lion-conservation/ (viewed 9 August 2017)

want to hear. They say Campfire is not benefitting them at all and that in itself is a disaster."[18] The article also quoted a CAMPFIRE rural district council CEO named Phindile Ncube as saying that his community earned $158,000 in a year for infrastructure and "feeding schemes." However, the article quoted a villager named Edward Ngwenya who said he hadn't received anything from the RDC. This was confirmed in another report which said that, while money from trophy hunting is promised to poor communities, they are only getting poorer.[19] Another news article quoted a local chief, Victor Nekatambe, commenting on the fact that local rural district councils manage CAMFIRE and that communities do not receive funding: "They are getting nothing, absolutely nothing."[20]

Indeed, most wildlife poachers are from local communities that are receiving financial benefits from trophy hunting. Gandiwa et al. (2014) studied law enforcement in Gonarezhou NP by interviewing law enforcement staff from Feb-May 2011. They found "Nearly all respondents (95%; n = 40) reported that most poachers were residents of villages adjacent to GNP (≤ 20 km); whereas about 5 % (n = 2) reported that only the commercial poachers were those living far away from GNP (> 20 km)" (p. 122-123). The Service ignored these readily available sources of pertinent information in making its October 2017 enhancement finding.

Therefore, it is erroneous for the Service to conclude that revenue generated through trophy hunting of lions actually provides an incentive to local communities to conserve lions. Simply, lion hunting revenue cannot be found to enhance the survival of lions when lion hunting is being poorly managed in Zimbabwe.

Conclusion

The Service's enhancement finding for lions taken as hunting trophies in Zimbabwe during 2016, 2017 and 2018 is the result of a lack of critical analysis of information contained in documents submitted to the Service by the government of Zimbabwe and others (and the Service failed to solicit comment from knowledgeable stakeholders, contrary to its assertion in the October 2017 finding). The Service repeatedly cites to information contained in ZPWMA (2016) and du Preez et al. (2016), often copying and pasting the text from these documents in the finding, although the original documents lack evidence to support the claims made. As a result, the finding is the product of a lack of scientific rigor, in violation of the Endangered Species Act.

[18] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)
[19] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)
[20] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)

Further, there are numerous, inexplicable internal inconsistencies in the Service's finding. For example, the Service concludes that "Based on the information available to the Service, the funds generated by hunting trophies contribute to the ZPWMA's ability to manage the country's lion populations as well as the success of CAMPFIRE" (p. 16, emphasis added); but earlier in the finding, the Service states, "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas" (p. 14). Thus, the facts found by the agency do not match the conclusions drawn and the finding is therefore arbitrary and capricious.

Numerous recent studies in the Service's possession have demonstrated that Zimbabwe has poorly managed lion trophy hunting. For ecample, Groom et al. (2014) found that unsustainably high trophy hunting quotas in the concessions, mostly CAMPFIRE areas, around Gonarezhou in 2009-2010 caused the population to collapse; and, similarly, Loveridge et al. (2016) provided quantitative evidence that uncontrolled trophy hunting of lions in areas around Hwange National Park in 2000-2012 was a cause of population decline. Thus, information provided to the Service from Zimbabwe must be subject to scrutiny and carefully examined for veracity, but the Service failed to do so in issuing its finding.

An objective analysis of this information must lead to conclusions that:

- Unfenced lion populations in Zimbabwe have declined over the past decade and today fewer than 300 truly wild adult male lions remain in the country.
- Zimbabwe's lion hunting quotas are not science-based, and age restrictions are poorly implemented and do not apply to all lion hunting areas in the country.
- Zimbabwe's 11-year-old lion management plan still has not been substantially implemented.
- ZPWMA lacks funding to enforce existing laws.
- There is no evidence that revenue from American lion hunting enhances the survival of lions.

For these reasons, we strongly urge the Service to rescind its determination that the import of lions taken in Zimbabwe in 2016, 2017 and 2018 would meet the issuance criteria under 50 C.F.R. § 17.32. Issuing any import permits for lion trophies from Zimbabwe pursuant to this finding would violate the Endangered Species Act and FWS regulations. This letter serves as formal opposition to any application for an import permit for a lion trophy from Zimbabwe and HSUS, HSI, and HSLF request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[21]

[21] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary

Respectfully,

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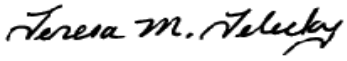

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for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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Annex V

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Case Study: USFWS permitting of Black Rhinos in Namibia

While USFWS' mandate under the ESA is to protect the listed species, the agency continues to approve imports of trophies of critically endangered black rhinos from Namibia. The agency's 2015 authorization of black rhino trophy imports from Namibia created a dangerous precedent that has resulted in the death by trophy hunting of additional black rhinos. The imports are approved by the agency against the backdrop of escalating rhino poaching in Namibia. Millions of dollars have been paid by trophy hunters to the Namibian government to protect black rhinos as a justification for the hunts. While the American trophy hunters do not hesitate to slay a critically endangered species for self-serving bragging rights, the hunters have a willing partner in USFWS who continues to permit the imports of hunting trophies of the species.

In 2015, the population size of the subspecies of black rhinos *D. b. bicornis,* that exist in Namibia, was only 2,200 animals; of these, only 1,946 black rhinos occur in Namibia (the others occur in South Africa).[1] Comparing the 2015 Namibian black rhino population size of 19,946 to the approximately 75 black rhinos poached[2] in 2015, it would appear that approximately 3.85% of the African black rhino population was poached, nearly reaching the black rhino population growth rate of 4.7%. In Namibia, poaching of rhinos increased from zero in 2006-2008 to 90 in 2015.[3] News report found that wealthy Namibian businessmen recruit men from poor communities in Angola, Zimbabwe, and Zambia close to the Namibian border, supplying them

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[1] *African and Asian Rhinoceroses – Status, Conservation and Trade. A report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat pursuant to Resolution Conf. 9.14 (Rev. CoP15)* (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-68-A5.pdf , p.1

[2] Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy. Draft - Version 4 (September 2017). Annex 5, p. 46.

[3] IUCN SSN report. 2016. p.2.

with training and firearms that they use to poach rhinos in Namibia.[4] The businessmen have even posted bail for the poachers if they are arrested.[5]

While poaching of this critically endangered subspecies has escalated, the Namibian government has not been effective to protect rhinos from criminals. As my organization detailed in several comments submitted to the Service, there are serious questions whether Namibia has adequate laws to prevent poaching and trafficking and adequate enforcement and implementation of those laws. Namibia has admitted, in an October 2018 report[6] to the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), that there are obstacles to securing successful prosecutions. Indeed, of the 85 rhinoceros prosecutions from 2016-2018 reported by Namibia to the Standing Committee of CITES, "one so far has resulted in a conviction."[7] Successful convictions, not just arrests or prosecutions, are key to deter wildlife poaching and trafficking. It is a critical element in any country's conservation and management of wildlife.

Furthermore, USFWS has been relying on an outdated Black Rhino Strategy provided by the Namibian government. The 2003 Black Rhino Conservation Strategy for Namibia (hereafter "2003 Strategy") was supposed to remain in effect only for 2002-2006. The Service has approved multiple imports of black rhino trophies in the last decade based on this outdated strategy plan. While a new Strategy was adopted in June 2018, it is not clear that the new Strategy has been implemented. Despite having a strategy plan, Namibia has a reputation for poor control of black rhino hunting. An example occurred in 2012. An American trophy hunter, instead of killing a male black rhino as allowed by permit, killed the only female black rhino in Mangetti National Park, a significant loss to the breeding potential of this critically endangered species.

Namibia has long made the assertion, as it did in its 2004 proposal to establish an annual black rhino trophy export quota of five at the 13th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, that "Considerable funds can be raised through the trophy hunting of one animal, which can then be

[4] https://www.dailymaverick.co.za/article/2018-07-27-wealthy-businessmen-prey-on-indigent-namibians-to-poach-rhino-for-international-syndicates/
[5] https://www.dailymaverick.co.za/article/2018-07-27-wealthy-businessmen-prey-on-indigent-namibians-to-poach-rhino-for-international-syndicates/
[6] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56-A9.pdf, p. 7.
[7] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56.pdf at para. 69.

used to further enhance the conservation efforts for the species."[8] USFWS agreed with the assertion and included it in its 2013 enhancement finding and again in its 2015 enhancement finding. The 2013 enhancement finding also stated that World Wildlife Fund supported the permit application on the grounds that, *inter alia*, "Income generated from harvest of rhino is being used in support of black rhino conservation, assisting MET (Ministry of Environment and Tourism) to implement its black rhino management plan and protect against potential onslaught of poaching."[9] Thus, the escalation of black rhino poaching in Namibia since 2014, which is the single greatest threat to the survival of the species in Namibia today, created the perfect test case to see if indeed money from black rhino trophy hunting would be effectively deployed to address this threat. However, there is no evidence that this is the case. Indeed, the evidence suggests that rhino poaching escalated as funds from black rhino hunting were streaming in and that these funds were not effectively diverted to address the crisis. Thus, Namibia failed the test and the Service can no longer make the argument that money from black rhino trophy hunting will enhance the survival of black rhinos by protecting them from poachers.

It is also troubling that USFWS accepts the hunters' unsubstantiated claim that the targeted rhinos were problem animals or animals past their prime. Hunters' deliberate removal of so called "old" animals who fight with younger males is to ignore millions of years of evolution of "survival of the fittest." In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not need to be addressed by human intervention; if it were not optimal, it would not have evolved. Neither the Namibian government nor the USFWS cite scientific literature sources to support the claims that removal of males stimulates population growth and improves gene flow. In fact, Kenya which does not allow trophy hunting and which holds the third largest population of black rhinos in Africa does not consider older male rhinos to pose a threat to other rhinos to the point where they need to be removed from the population, much less killed.[10]. It is quite clear that this "threat" posed by aggressive, old male animal was invented by Namibia in order to profit from black rhino trophy hunting.

[8] https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-3.pdf
[9] 2013 USFWSenhancement finding, p.11
[10] Mulama, M., Omondi, P., Musyoki, C., Khayale, C., Kariuki, L. and Ndetei, R., 2015. Lessons learned in the implementation of endangered species specific strategies: Midterm Review of the Kenya Black Rhino Strategy (2012–2016). Pachyderm, 1(56), pp.97-101.

Annex VI

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Black Rhinoceros Trophy Import Permit (PRT-01537B); June 10, 2013 (14 pages)

Attached below.

THE HUMANE SOCIETY
OF THE UNITED STATES

June 10, 2013

Brenda Tapia
Division of Management Authority
U.S. Fish and Wildlife Service
4401 North Fairfax Drive, Room 212
Arlington, Virginia 22203

Re: Black Rhinoceros Trophy Import Permit (PRT-01537B)

Dear Ms. Tapia,

On behalf of The Humane Society of the United States, the nation's largest animal protection organization, I am writing to urge the U.S. Fish and Wildlife Service to deny the permit application from Spencer Scott (PRT-01537B) to import a hunting trophy of one male black rhinoceros (*Diceros bicornis*) from a private ranch in the Republic of South Africa. *See* 78 Fed. Reg. 27253 (May 9, 2013). Issuing this import permit would result in the death of a member of the critically endangered black rhino, and would clearly not enhance the propagation or survival of the species – indeed, granting this permit would undermine rhino conservation efforts and allow a multi-millionaire to further profit from killing endangered species. Approving this woefully inadequate application would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny this application.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the black rhinoceros (*Diceros bicornis*) over 30 years ago (45 Fed. Reg. 47352 (July 14, 1980)), individuals of listed species are protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific purposes consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* Email from Mike Carpenter to Collins Red Stag Ranch Ltd. (PRT-99898A) (stating that "permits are issued on the assurance that there will be a *benefit* to the species in the wild"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement

activity "must go beyond having a neutral effect and actually have a positive effect").

Enhancement authorization must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an enhancement permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Application Deficiencies

Mr. Scott fails to meet both the procedural and substantive requirements for issuance of the requested import permit; therefore, the Service must deny this application.

- Bad Faith

As an initial matter, Mr. Scott has obviously not applied for this authorization in good faith, as required by law. 16 U.S.C. § 1539(d)(1). Mr. Scott's application indicates that he is planning on killing an endangered black rhinoceros between "June to August 2013" – thus, the applicant concedes that he is applying for authority to hunt an unidentified animal and

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

import the trophy for his personal enjoyment. The applicant provides no assurance that, once imported, the trophy would not contribute to the black market trade of rhino parts, which is a major cause of the species' imperilment. Indeed, the U.S. Department of Justice recently announced that a federal grand jury indicted Charles Kokesh for violations of the ESA and the Lacey Act for illegally selling elephant tusks (in exchange for currency and guns) from an elephant that he legally imported as a hunting trophy. *See* http://www.justice.gov/opa/pr/2013/May/13-enrd-592.html.

The Service cannot issue authorization to conduct otherwise prohibited activities to an applicant who has no intention, let alone expertise, to actually contribute to conservation of the species.

Not only would Mr. Scott not remotely benefit rhino conservation by importing a hunting trophy, the landowner that Mr. Scott intends to pay for the hunt has ties to rhino poachers who undermine rhino conservation efforts. John Hume is a wealthy South African business man who personally profits from selling hunting concessions for the rhinoceros that roam his fenced property ("Mauricedale Game Ranch"). *See* Brendan Borrell, *Hunters Paying $150,000 to Kill an Endangered Rhino May Save the Species* (Dec. 9, 2010) (reporting that Mr. Hume "made his fortune in taxis, hotels, and time-shares, and Mauricedale was his Xanadu, a retirement project of immense proportions"), *available at* http://www.bloomberg.com/news/2010-12-09/hunters-paying-150-000-to-kill-an-endangered-rhino-may-save-the-species.html. Mr. Hume, who claims to regularly dehorn all of his 700+ rhino, has accumulated a large stockpile of rhino horn and is therefore motivated to reopen the international rhino horn trade in order to profit further from this endangered species.

Mr. Hume also has clear ties to rhino poachers. *See id.* ("John Hume…did business with Peter Thormahlen – a professional hunter arrested twice for his involvement with Vietnamese "pseudo hunts"); *South Africa Vets & Hunters Involved in Rhino Poaching* (July 18, 2012), *at* http://www.wildlifeextra.com/go/news/rhino-m99.html#cr; Legalbrief Environmental, *Storm Over Alleged Rhino Poaching Kingpin* (July 19, 2011), *at* http://www.legalbrief.co.za/article.php?story=20110719101939257; http://www.antipoaching.org/south-africa-arrest-of-another-vietnamese-national-highlights-ongoing-problem-in-rhino-crisis/; *Self-Proclaimed Rhino Conservationist Admits to Selling Rhino to Alleged Poaching Syndicate Mastermind* (Ju;y 17, 2011), *at* http://www.gafawildlife.org/2011/07/17/self-proclaimed-rhino-conservationist-admits-to-selling-rhino-to-alleged-poaching-syndicate-mastermind/.; http://www.africatrophyhunting.com/0-22.aspx?$1=1806&_=5XNL6v7a5r7Y6y45cksp6Fcas5643zZGIz3IJWYEMXd3NGtuoLJp66ILpopa3noLJJs4Jnp8JGZNocad61sysy65dYNva9cq3TJIZL36*H. To this day, Mr. Thormahlen offers to take clients on black rhino hunts on Mr. Hume's Mauricedale Game Ranch, located in Mpumalanga province, South Africa. *See* http://www.africatrophyhunting.com/0-

22.aspx?$1=1806&_=bXN5MPd4rbto6CqLc$MZ6FsqMbcK3TJ0IjJ2JmYkcHtZtGteoLpZ6soLJIpa31YrJps4p138pp3L26q7cHMCMCsr7Y7fafcaJjJXZrZNlo; http://www.africatrophyhunting.com/0-22.aspx?$1=1806&_=5H7b69dqrL7osi456$M3s*MK6rc43zZ02zpYJWIUcntJNmt8Ir3JM6ob3IJK3nYr3ZMqZH3epGJNYcK76nsisS65727fKvsKJTZH393XU*

Further, Mr. Hume apparently abandoned one of his game properties, failing to provide humane and healthful conditions to the fenced-in animals. *See* Bobby Jordan (May 13, 2012), http://www.rhinoarmy.org/site/news/15-rhino-lover-let-reserve-go-to-pot.html.

Therefore, the Service cannot make a finding that this permit was applied for in good faith, and, thus, must deny this permit.

- Insufficient Information

While Mr. Scott's trophy hunting intentions are relatively clear, his application is ridiculously vague and does not provide enough information (or any scientific evidence) for the public or the Service to carefully scrutinize the potential impacts to this endangered species.

Mr. Scott's application is only four pages long – three of these pages are the Service's application form with handwritten notations indicating that the rhino sought to be killed resides on Mr. Hume's property, and the final page is a one-paragraph cover letter. An email from Brenda Tapia (FWS-DMA) dated June 5, 2013 confirms that this is the entirety of the application.

As an apparent justification, the cover letter states (without providing supporting documents or context):

> The only financial research I have been able to accumulate is the degree of liability sustained by the S. Africa government in regard to what Mr. John Okori, of the African Rhino Program has divulged is the extensive cost of poaching patrols. I have discovered 60% of the cost primarily goes to the game parks for conservation efforts.

The application does not include any scientific data regarding black rhino population genetics or demographics, nor is there any information about the particular male rhino that Mr. Scott seeks to kill and import. The applicant provides no evidence that Mr. Hume has any long-term, science-based plan for captive propagation or culling. It is essential that the Service strictly evaluate proposals for otherwise prohibited activities under the ESA, and this application fails to provide any information to support the alleged benefit to the conservation of the species involved. Unsubstantiated intentions are an insufficient basis for authorizing otherwise prohibited activities under the ESA.

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Mr. Scott also fails to meet the substantive requirements for the Service to make an enhancement finding, as required by both the ESA and FWS regulations. In fact, the applicant's activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and would act to the detriment of the animal involved. Therefore, the Service must deny this application for enhancement authorization.

- Unmanaged Breeding

Mr. Hume operates a canned hunting facility that appears to engage in unmanaged breeding to maximize Mr. Hume's profits and facilitate trophy hunting. *See* 77 Fed. Reg. 431, 434 (Jan. 5, 2012) ("While the Service does believe that captive breeding can provide a significant benefit to endangered species, such benefits can only be realized when the breeding program is scientifically based and conducted in a manner that contributes to the continued survival of the species….However, breeding just to breed, without adequate attention to genetic composition and demographics of the breeding population, may not provide a clear conservation benefit to an endangered species."). The application provides no evidence that Mr. Hume's breeding efforts could or would enhance the survival of wild rhinos.

Breeding endangered animals in and of itself does not enhance the survival of species in the wild – the ESA mandates that the Service only issue enhancement authorization to legitimate (*i.e.*, scientifically sound) conservation programs that positively impact the survival of the species in the wild. Unfortunately, canned hunting ranches such as Mr. Hume's do not breed for conservation purposes, but instead breed to maintain a steady supply of trophy animals for their own personal benefit.

- Canned Hunting Is Not Enhancement

Mr. Scott's application does not provide any evidence of how his proposed hunting activities, or subsequent trophy import, would possibly enhance rhino survival.

Captive hunting of endangered animals and the trade of the animals' body parts as trophies can have a negative impact on wild populations. The Service itself has recognized that "uses of captive wildlife can be detrimental to wild populations" because "consumptive uses," including captive hunting, can "stimulate a demand for products which might further be satisfied by wild populations." 44 Fed. Reg. 30,044, 30,045 (May 23, 1979). Indeed, for trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

There is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife*

Conservation, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

Because of its inherently negative conservation impacts, canned-hunting of captive endangered species, such as the black rhinoceros at issue here, violates the plain language and purposes of the ESA and its implementing regulations.

- <u>Donations Are Not Enhancement</u>

As noted above, Mr. Scott includes no information even alleging enhancement of rhino survival, and this permit must be denied on that basis alone. However, since Mr. Scott is proposing to do business with Mr. Hume, HSUS would note that financial contributions to Mr. Hume are insufficient to meet the enhancement standard.

The ESA requires a direct link between the authorized action (the take or commerce) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of Mr. Scott and Mr. Hume. Thus, such a donation offset is insufficient grounds for an enhancement finding.

Further, even if such donations were permissible to justify otherwise prohibited activities – which HSUS firmly contends they are not – the application does not include any detail of how Mr. Hume would use the money that Mr. Scott is paying him to kill an endangered rhino. Yet the ESA regulations specifically require applicants to provide a "full statement of why the permit is justified." 50 C.F.R. § 17.22(a)(1)(vii).

Therefore, the applicant clearly has not demonstrated that the proposed activity, let alone the offset donation, would in fact enhance the survival of the species, and FWS cannot ensure that a donation to Mr. Hume would in fact enhance the species' survival. 16 U.S.C. § 1539(a)(1)(A).

Information from the Service's Files Does Not Support an Enhancement Finding

- The Service Cannot Rely on Its Enhancement Finding or Non-Detriment Finding for PRT-229051

Since Mr. Scott does not include any information in his application to evaluate, let alone justify, an enhancement finding, HSUS would caution the Service to not adopt the same rationale that it did in its recent approval of a permit to import a wild black rhino trophy from Namibia. *See* FWS, *Record of Advice on Import Permit Application (No. 229051, Feb. 2, 2010*); FWS, *Enhancement Finding for PRT-229051.*

The Namibian and South African black rhino import situations are distinguishable. The Namibian black rhino lived in the wild under government control and the funds derived from the hunt are also under government control. In contrast, the South African black rhino the applicant seeks to kill lives in captivity under private control and the funds derived from the hunt would go exclusively to the private owner. HSUS strongly urges the Service to reconsider the rationale it applied to the Namibian import permit application, for the following reasons.

The Service stated that the positive enhancement finding for PRT-229051 was based on three factors: success of implementing the Black Rhino Conservation Strategy for Namibia,

the use of funds generated from black rhino hunts, and the biological need for such harvests. We will address each of these in turn below.

Regarding the "success of implementing the Black Rhino Conservation Strategy for Namibia": The enhancement finding states that the Strategy "contains very specific management goals in the area of range expansion, biological management, protection, policy and legislative frameworks, and capacity building and sustainability"; "through this strategy, local communities directly benefit, resulting in increased community support for presence of black rhino and provides a disincentive to poaching"; and "between 2001 and 2012, the population of black rhino in Namibia increased from 735 to over 1700. It should be recognized that the ten-year target established in the Strategy plan was to increase the population to 1,500 animals by 2011." The implication of this explanation is that U.S. importation of a black rhino trophy is important to the success of the Strategy. However, firstly, given the wide-ranging activities addressed under the Strategy, it would be impossible to single out any one element—such as trophy hunting of one black rhino and the trophy being imported to the U.S.—as being the sole reason for the success of the Strategy. Secondly, these statements are about the Strategy as a whole, not trophy hunting and not importation of a trophy into the U.S. Thirdly, it is clear that whatever successes the Strategy had to date have happened without imports to the U.S. (since granting the Namibian import permit is inconsistent with the Service's policy over the last several decades). In conclusion, whatever success the Black Rhino Conservation Strategy for Namibia has achieved, it has done so without imports of black rhino trophies to the U.S. Evidence is cited in the enhancement finding for the success of the Strategy, but no evidence is provided that the importation of a black rhino trophy will enhance the survival of the species.

Regarding "the use of funds generated from black rhino hunts", the enhancement finding states that "permitting this rhino trophy deposited $175,000.00 into the GPTF." According to the finding, the "Game Products Trust Fund" was established to ensure "that revenue obtained from the sale of wildlife products could be used exclusively towards wildlife conservation and community conservation and development programs aimed at harmonizing the co-existence of people with such wildlife, and thus securing a future for wildlife outside of and within protected areas in Namibia." The finding further states that "since the need to protect populations from poaching and provide on the ground oversight, including 24-hour surveillance, may be prohibitively expensive, the sale of a surplus male trophy and the use of the funds derived from that sale to provide the protection and oversight needed, will serve to enhance the survival of the species." The implication of these statements is that the $175,000 paid to the GPTF will: a) be used for black rhino conservation; and b) this will enhance the survival of the species. However, as noted above, donations cannot legally offset otherwise prohibited activities. Further, there is no guarantee that any of the $175,000 will be used for black rhino conservation as this money was deposited into the GPTF which is a general fund allocated by a Board to all manner of

projects including those that have nothing to do with rhinos, and could even be harmful to rhinos, such as "rural development". The GPTF Board, comprised of diverse interests including community representatives, and Ministries of Agriculture and Finance, decides which projects will be funded. Secondly, even if some or all of the funds are used for black rhino conservation, there is no guarantee that the activities undertaken will enhance the survival of the species. Thirdly, given the reported success of black rhino conservation in Namibia as described in the enhancement finding, it is unclear what the additional funds provided by this hunt could do to further enhance the survival of the species; as noted in the enhancement finding, there is virtually no rhino poaching in Namibia. In conclusion, the enhancement finding admits that there is no guarantee that funds generated from black rhino hunts will be used to enhance the status of the species in the wild. Furthermore, the enhancement finding demonstrates that black rhino conservation in Namibia has been successful without funds associated with U.S. trophy imports.

Finally, regarding "the biological need for such harvests", the enhancement finding makes the case that so-called post-reproductive, surplus male black rhinos "need" to be removed from the population because males kill each other, compete with and impede immigration of younger males, repress breeding, and suppress gene flow. The finding makes numerous statements in this regard including: "there have been indications that aggressive males may be a population-limiting factor in some areas and removal of these individuals may lead to a population increase and greater survival"; "the removal of limited number of males has shown to stimulate population growth in areas where it is evident that density dependent effects are repressing breeding and causing mortality"; "biological effects of removing specific individuals from a population include 1) reduced male fighting; 2) shorter calving intervals; and 3) reduced juvenile mortality"; and "male-biased populations can have an adverse effect on productivity, gene flow, and immigration of younger males". Firstly, to call this a "biological need" is to ignore millions of years of evolution that resulted in these behaviors. In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not "need" to be addressed by human intervention; if it were not optimal, it would not have evolved. Secondly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that removal of males stimulates population growth and improves gene flow. Thirdly, even if these claims were true, the enhancement finding does not provide evidence that the black rhino trophy to be imported came from an "aggressive male" that lived in one of the areas or populations referred to in the claims (with density-dependent effects, or male-biased populations). Fourthly, the finding refers to density-dependent effects of black rhinos without understanding that the reference cited, Emslie et al. (2009)[2] refers to the effect of density of rhinos in fenced sanctuaries, and not to the effect of removing a specific

[2] Emslie, R.H., R. Amin, and R. Kock (eds). 2009. Guidelines for the in situ Re-introduction and Translocation of African and Asian Rhinoceros. IUCN Species Survival Commission, Gland, Switzerland.

individual from a wild population, which is relevant to the import of the Namibian black rhino trophy.

Furthermore, the enhancement finding for the Namibian import argues that import of a black rhino trophy to the U.S. will not harm the survival of the species. The finding states that "animals to be taken as trophies may only be "post reproductive" male animals and assumed to be beyond normal reproductive age that would be at least 30 years old. Presumably, this means that these animals are well represented in the population"; and "all current studies of population dynamics indicate that the removal of a limited number of surplus males from a self-sustaining population will have little effect on the fecundity or survival of that population". Firstly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that male black rhinos aged 30 and above no longer reproduce and that their genes are "well represented in the population", and that removal of "surplus males" will have little effect on survival of a self-sustaining population. Secondly, wild black rhinos may live to age 40 (Berger and Cunningham 1995)[3]; removal of a 30 year-old black rhino deprives the population of perhaps ten more years of genetic contribution, vital to the genetic diversity and therefore the resiliency and survival of a critically endangered species. Thirdly, the enhancement finding provides no evidence that the male black rhino subject to the import permit was a "surplus male" or that he lived in a "self-sustaining population". In conclusion, the enhancement finding for the Namibian import does not demonstrate a "biological need" for removing males from black rhino populations, and should not be relied upon in evaluating the South African import permit application.

- South African Rhinoceros Management Document

Although it is not included in the application materials, in a 2004 document submitted to CITES,[4] the South African government outlined its argument for how a limited trophy hunt of adult male black rhinos (*D. b. minor*) would enhance the survival of the species. This document is insufficient to support an enhancement finding by the Service for PRT-01537B for the following reasons:

1. The South African government's document refers only to *D. b. minor*. The fact that the subspecies of black rhino that the applicant intends to hunt is not included in the application calls into question the relevance of this South African government document to this application. There are three subspecies of this species in South Africa: *D. b. bicornis*, *D. b. michaeli*, and *D. b. minor*.

[3] Berger, J. and C. Cunningham. 1995. Predation, sensitivity and sex: why female black rhinoceroses outlive males. Behavioral Ecology 6 (1): 57-64.
[4] CITES CoP13 Doc. 19.4, http://www.cites.org/eng/cop/13/doc/E13-19-4.pdf

2. The South African government's document claims that "There is no empirical evidence to suggest that there is significant illegal international trade in any rhinoceros products emanating from South Africa. Strict adherence to international export and import restrictions are complied with in the finest detail, and no adverse commentary in this respect has been noted." However, since this document was published, and especially in the last few years, rhino poaching has escalated significantly. In 2012, the CITES Secretariat stated, "Despite significant resources being invested and commendable efforts by South African authorities to put an end to rhinoceros poaching, the number of rhinoceroses poached on an annual basis continues to rise at an alarming rate."[5] The number of rhinos poached in South Africa rose from 13 in 2007 to an all-time high of 668 in 2012. Now, South Africa admits that it, too, has a poaching problem, calling poaching "prevalent and increasing" there.[6]

3. According to the South African government's document, 71 black rhinos were sold to the private sector from 1990 to 1997 generating 14.53 million Rand; presumably more have been sold to the private sector over the past five years. The document further claims that income from government sales of black rhino to private individuals has been invested in conservation and that allowing hunting of privately owned black rhinos on private land provides "conservation incentives" to private land owners to buy rhinos and keep them on their property. Firstly, we do not agree that any money provided by the sale of a black rhino could possibly outweigh the value of that living black rhino to this critically endangered species in terms of its genetics; ensuring that critically endangered species retain genetic variability is vital. Secondly, after a black rhino is sold by the government into the private sector, that rhino is removed from the wild and its fate is under the control of the buyer – there is no requirement that private owners in South Africa only conduct actions with captive rhinos that benefit the survival of the species. This is particularly true in the case of Mr. Hume, who is a multi-millionaire and who can, and has, bought hundreds of rhinos; there is no evidence that Mr. Scott's fee to kill this black rhino will provide any financial incentive to Mr. Hume that will result in enhancement of the survival of the species in the wild.

4. The South African government's document claims that black rhino trophy hunting will be sustainable if the following "fundamental principles" are adhered to:

> "a) Hunting should not adversely affect the genetic or reproductive viability of the population in which it takes place.
>
> b) Only adult male southern central black rhinoceros that satisfy one or more of the following criteria would be allowed to be hunted:
>
> i) The sex ratio of the population is biased in favour of males.

[5] CITES CoP16 Doc. 54.2 (Rev. 1), paragraph 15, http://www.cites.org/eng/cop/16/doc/E-CoP16-54-02.pdf

[6] CITES CoP16 Inf. 38, http://www.cites.org/eng/cop/16/inf/E-CoP16i-38.pdf

ii) The removal of excess males increases the extent of habitat available, and hence facilitates the recruitment of young rhinoceroses into the population.

iii) The removal of males is required to improve population growth rate or viability. This applies to small populations (≤20 rhino) where the male carrying capacity is being exceeded (irrespective of whether the population sex ratio is biased), or where significant inbreeding is taking or is likely to be taking place.

iv) Female-biased groups are often required as founders for a small population (ecological carrying capacity ≤20 rhino) or to augment a male-biased population. This results in a surplus of males in the donor population, which could be removed.

v) The rhinoceroses are old and no longer reproductive.

vi) The rhinoceroses are sick or severely injured and full recovery will not be achieved. This may involve a rhinoceros in situ in the wild where treatment has proved, or will prove, ineffective; or to one relocated to an ex situ site for treatment, but where there is no practical opportunity to re-establish it in the wild where it can contribute to breeding. A detailed report from a wildlife veterinarian would be required.

vii) The rhinoceroses are vagrant individuals that routinely leave or break out of a reserve or property. These rhinoceroses may be a threat to people or their livestock, become a security risk or require an extended home range outside the 'protected area' to survive.

viii) Trophy hunting of southern central black rhinoceros would be strictly controlled through permits issued by the conservation authorities and in conjunction with the country concerned by the importation of trophies."

Mr. Scott has not addressed any of these principles with respect to the rhino he intends to hunt and import. With respect to principle a), no evidence is provided that the hunting of the rhino will "not adversely affect the genetic or reproductive viability of the population in which it takes place." With respect to principle b), none of the criteria i) through viii) have been addressed by the applicant: there is no information provided about the sex ratio, size, or density of Mr. Hume's population, or the age, genetic contribution, reproductive status, temperament, or health status of the black rhino the applicant intends to hunt. No evidence is provided that Mr. Hume is following the South African government's fundamental principles.

5. The South African government's document describes population monitoring and management measures, including "harvest rates" that are applicable to government controlled rhino populations. However, it does not address population monitoring and management in privately owned rhino populations or for rhinos held in captivity, such as that for which the applicant seeks an import permit. As noted above in point 4), no

information is provided in the application as to the population monitoring or management measures used on Mr. Hume's property. For example, with regard to harvest rates, the South African government's document states, "Harvest rates are determined by the reproductive performance of individual populations and mortalities, and tend to vary according to wet and dry climatic cycles. Rhinoceroses are generally not removed from populations until stocking rates reach at least 75 percent of ecological carrying capacity. Animals known to have bred successfully and passed on their genes, and have reached the age where there is an increased mortality risk from old age or nutritional stress, or through territorial disputes with younger animals, are likely to be males over 30 years old." However, the applicant has provided no information about the "reproductive performance" or "mortalities" in the black rhino population at issue here. Nor does the application provide information on that population's carrying capacity or whether the relevant black rhino is over 30 years old, or has bred successfully and passed on his genes.

Regarding the issue of territorial disputes, black rhinos are territorial and private owners must take care to provide enough space for rhinos in their care so as to prevent injury and mortality due to territorial disputes. HSUS rejects the claim that older male black rhinos must be removed from populations in order to enhance the survival of the species because they behave territorially and can injure or even kill other rhinos. This is an expression of a natural behavior which for wild animals should be allowed to continue. Some populations of black rhinos are being intensively managed simply for population growth rather than for preserving the species as it occurs naturally. In this intensive management scenario, especially in captive settings like that of Mr. Hume, it is the responsibility of the private owners to provide an environment in which the animals are allowed to behave in species-typical ways. In this case, rhinos need to have enough land to reduce territorial combat. Indeed, Mr. Hume has stated that he dehorns all of his rhinos and that this results in less damaging injuries.

Conclusion

In summary, the Service must deny this import permit application because:

- The permit was not applied for in good faith;
- The application contains insufficient details and explanation;
- Canned hunting and associated commercial breeding is not enhancement;
- The applicant's trophy import would not enhance rhino survival; and
- Donations cannot legally offset otherwise prohibited activities.

Sincerely,

Anna Frostic
Staff Attorney, Wildlife Litigation

The Humane Society of the United States
2100 L Street NW, Washington, DC 20037

Annex VII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Black Rhinoceros Trophy Import Permit Applications (PRT-33291B; PRT-33743B)); December 8, 2014 (13 pages)

Attached below.

THE HUMANE SOCIETY
OF THE UNITED STATES

HUMANE SOCIETY
INTERNATIONAL

December 8, 2014

Brenda Tapia
Branch of Permitting
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Re: Black Rhinoceros Trophy Import Permit Applications
(PRT-33291B; PRT-33743B)

Dear Ms. Tapia,

The Humane Society of the United States and Humane Society International strongly urge the U.S. Fish and Wildlife Service to deny the permit applications from Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B) to import black rhinoceros (*Diceros bicornis*) hunting trophies from Namibia. *See* 79 Fed. Reg. 65980 (Nov. 6, 2014). Rhino poaching has dramatically increased in Namibia in the last year, corruption in the trophy hunting industry is rampant, and there is no evidence that Namibia's rhinoceros management plan has been updated to include the most recent scientific information. Issuing these import permits would result in the death of a critically endangered black rhino and would clearly not enhance the propagation or survival of the species, as required by law. Indeed, granting these permits would undermine rhino conservation efforts and would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny these applications.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the black rhinoceros (*Diceros bicornis*) over 30 years ago (45 Fed. Reg. 47352 (July 14, 1980)), individuals of listed species are protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-

Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that these rhino import permits will only be issued if the Service finds "that the rhino is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Enhancement authorization must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

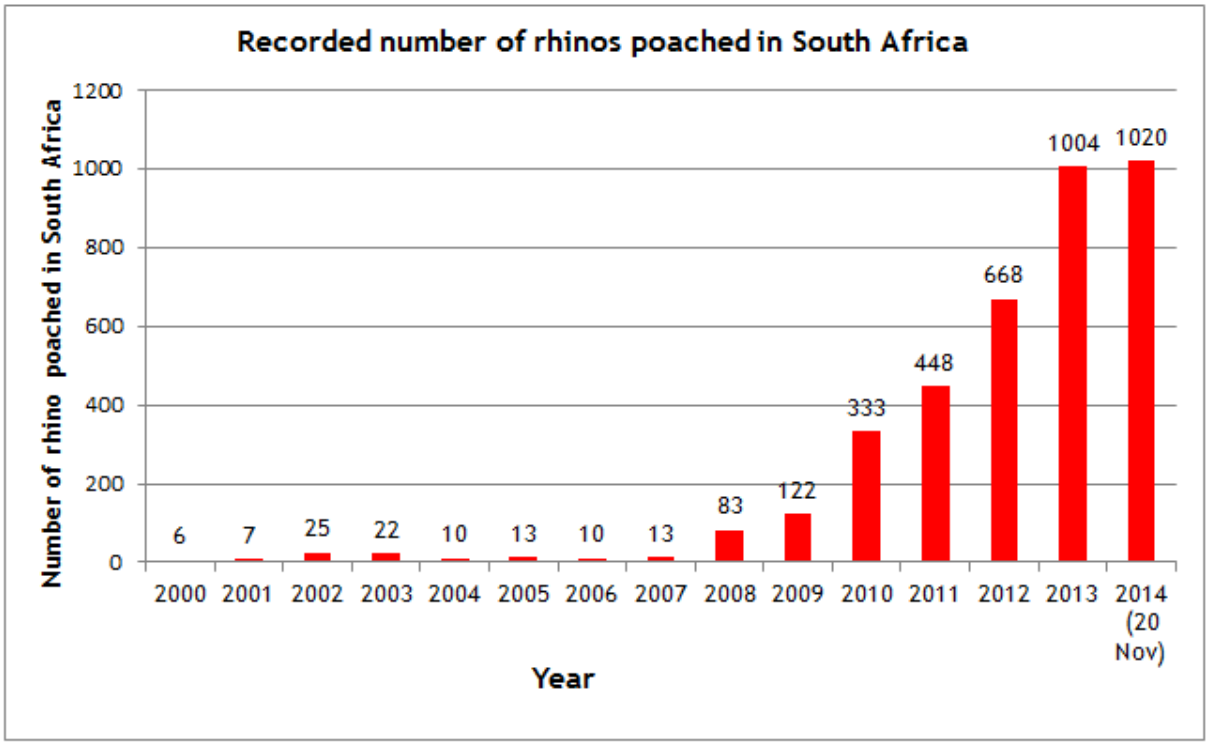
In deciding whether to issue an enhancement permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Current Status of Rhinos in Namibia

Rhinoceros across Africa are facing a poaching crisis on a scale never before seen – hundreds of rhinos are killed each year to feed the demand for rhino horn used in

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

traditional Asian medicine, and the profitable trade in rhino parts funds organized poaching gangs and terrorist organizations. *See, e.g.,* U.S. National Strategy to Combat Wildlife Trafficking (2014), *available at* http://www.whitehouse.gov/sites/default/files/docs/nationalstrategywildlifetrafficking.pdf. In South Africa, more rhinos have been killed so far in 2014 than in any other year in the past decade:



http://www.savetherhino.org/rhino_info/poaching_statistics

Unfortunately, rhino poaching is also on the rise in neighboring Namibia. As indicated in the attached news articles, at least 20 rhinos have been found dead in Namibia this year, with two poachings documented in the formerly secure Etosha National Park just last month.

Humane Society International is actively working to decrease the demand for rhino horn – in partnership with the Vietnam CITES Management Authority, HSI has used a variety of approaches to increase public awareness that it is illegal to buy and sell rhino horn in Vietnam, and to educate the public on the myths of medicinal uses of rhino horn. Fortunately, recent polls show that this campaign has been remarkably successful. *See* http://blog.humanesociety.org/wayne/2014/10/rhino-horn-demand-drops-in-vietnam.html.

However, rhinos continue to be under siege from poachers in Africa, and there is no evidence that Namibia's rhino management plan, the most recent version of which is more than ten years old (2003), long before the current rhino poaching crisis erupted, has been amended to account for the current threats that rhinos face.

Further, although Namibia issues permits to hunt rhino, there is no evidence that such permitting decisions take into account the best available science, which demonstrates the importance of incorporating individual-level measures of rhino genetic diversity into management plans and shows that "excess" male rhinos can successfully be used to improving genetic diversity in small populations (instead of culled via trophy hunting). *See Attached* Cain, B. et al. 2014. *Sex-Biased Inbreeding Effects on Reproductive Success and Home Range Size of the Critically Endangered Black Rhinoceros.* Conservation Biology Conservation Biology, Volume 28, Issue 2, pages 594–603, *http://www.olpejetaconservancy.org/sites/default/files/documents/Cain_2013.pdf*; Linklater, W. L., Adcock, K., du Preez, P., Swaisgood, R. R., Law, P. R., Knight, M. H., Gedir, J. V. and Kerley, G. I.H. (2011), *Guidelines for large herbivore translocation simplified: black rhinoceros case study*. Journal of Applied Ecology, 48: 493–502. doi: 10.1111/j.1365-2664.2011.01960.x http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.01960.x/full.

The international trade in rhino horns for commercial purposes is prohibited under the U.N. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Rhino poaching and the illicit international trade in rhino horns has been on the CITES agenda for decades, including at the most recent meeting of the Conference of the Parties, held in March 2013, and subsequent meetings of the CITES Standing Committee. The illegal trade in rhino horns also has been the subject of other high level multilateral negotiations, including the February 2014 London Conference on Illegal Wildlife Trade (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/281289/london-wildlife-conference-declaration-140213.pdf).

Thus, it is imperative that Namibia reevaluate whether critically endangered black rhinos can be sustainable hunted for trophies, especially in light of the current poaching crisis and new scientific information demonstrating the value of preserving bulls. Unless or until such analyses are completed, it is impossible for the Service to make an enhancement finding for these permit applications.

The Service Cannot Rely on Its Previous Enhancement Finding or Non-Detriment Finding

In 2013, the Service issued an import permit for a black rhino trophy from Namibia (PRT-229051); however, for the following reasons, the Service's findings underlying that permit are insufficient for the Service to make an enhancement finding on the current applications

from Mr. Knowlton and Mr. Luzich. *See* FWS, *Record of Advice on Import Permit Application (No. 229051, Feb. 2, 2010*); FWS, *Enhancement Finding for PRT-229051.*

The Service stated that the positive enhancement finding for PRT-229051 was based on three factors: success of implementing the Black Rhino Conservation Strategy for Namibia, the use of funds generated from black rhino hunts, and the biological need for such harvests. Not only were these findings flawed when originally issued, but given the materially different landscape in 2014 (and the ongoing poaching crisis), these findings are particularly inadequate to support issuance of the Knowlton and Luzich permits.

Regarding the "success of implementing the Black Rhino Conservation Strategy for Namibia": The previous enhancement finding states that the Strategy "contains very specific management goals in the area of range expansion, biological management, protection, policy and legislative frameworks, and capacity building and sustainability"; "through this strategy, local communities directly benefit, resulting in increased community support for presence of black rhino and provides a disincentive to poaching"; and "between 2001 and 2012, the population of black rhino in Namibia increased from 735 to over 1700. It should be recognized that the ten-year target established in the Strategy plan was to increase the population to 1,500 animals by 2011." The implication of this explanation is that U.S. importation of a black rhino trophy is important to the success of the Strategy.

However, firstly, given the wide-ranging activities addressed under the Strategy, it would be impossible to single out any one element—such as trophy hunting of one black rhino and the trophy being imported to the U.S.—as being the sole reason for the success of the Strategy. Secondly, these statements are about the Strategy as a whole, not trophy hunting and not importation of a trophy into the U.S. Thirdly, it is clear that whatever successes the Strategy had to date have happened without imports to the U.S. (since granting the Namibian import permit is inconsistent with the Service's policy over the last several decades). In conclusion, whatever success the Black Rhino Conservation Strategy for Namibia has achieved, it has done so without imports of black rhino trophies to the U.S. Evidence is cited in the enhancement finding for the success of the Strategy, but no evidence is provided that the importation of a black rhino trophy will enhance the survival of the species.

Regarding "the use of funds generated from black rhino hunts", the previous enhancement finding states that "permitting this rhino trophy deposited $175,000.00 into the GPTF." According to the finding, the "Game Products Trust Fund" was established to ensure "that revenue obtained from the sale of wildlife products could be used exclusively towards wildlife conservation and community conservation and development programs aimed at harmonizing the co-existence of people with such wildlife, and thus securing a future for wildlife outside of and within protected areas in Namibia." The finding further states that "since the need to protect populations from poaching and provide on the ground oversight,

including 24-hour surveillance, may be prohibitively expensive, the sale of a surplus male trophy and the use of the funds derived from that sale to provide the protection and oversight needed, will serve to enhance the survival of the species." The implication of these statements is that the $175,000 paid to the GPTF will: a) be used for black rhino conservation; and b) this will enhance the survival of the species.

Further, there is no guarantee that any of the $175,000 will be used for black rhino conservation as this money was deposited into the GPTF which is a general fund allocated by a Board to all manner of projects including those that have nothing to do with rhinos, and could even be harmful to rhinos, such as "rural development". The GPTF Board, comprised of diverse interests including community representatives, and Ministries of Agriculture and Finance, decides which projects will be funded. Secondly, even if some or all of the funds are used for black rhino conservation, there is no guarantee that the activities undertaken will enhance the survival of the species. Thirdly, given the reported success of black rhino conservation in Namibia as described in the enhancement finding, it is unclear what the additional funds provided by this hunt could do to further enhance the survival of the species; as noted in the enhancement finding, at that time there was virtually no rhino poaching in Namibia. In conclusion, the previous enhancement finding admits that there is no guarantee that funds generated from black rhino hunts will be used to enhance the status of the species in the wild. Furthermore, the enhancement finding demonstrates that black rhino conservation in Namibia has been successful without funds associated with U.S. trophy imports.

Finally, regarding "the biological need for such harvests", the previous enhancement finding makes the case that so-called post-reproductive, surplus male black rhinos "need" to be removed from the population because males kill each other, compete with and impede immigration of younger males, repress breeding, and suppress gene flow. The finding makes numerous statements in this regard including: "there have been indications that aggressive males may be a population-limiting factor in some areas and removal of these individuals may lead to a population increase and greater survival"; "the removal of limited number of males has shown to stimulate population growth in areas where it is evident that density dependent effects are repressing breeding and causing mortality"; "biological effects of removing specific individuals from a population include 1) reduced male fighting; 2) shorter calving intervals; and 3) reduced juvenile mortality"; and "male-biased populations can have an adverse effect on productivity, gene flow, and immigration of younger males". Firstly, to call this a "biological need" is to ignore millions of years of evolution that resulted in these behaviors. In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not "need" to be addressed by human intervention; if it were not optimal, it would not have evolved. Secondly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that removal of males stimulates population growth and improves gene flow. Thirdly, even if these claims were true, the enhancement finding

does not provide evidence that the black rhino trophy to be imported came from an "aggressive male" that lived in one of the areas or populations referred to in the claims (with density-dependent effects, or male-biased populations). Fourthly, the finding refers to density-dependent effects of black rhinos without understanding that the reference cited, Emslie et al. (2009)[2], refers to the effect of density of rhinos in fenced sanctuaries, and not to the effect of removing a specific individual from a wild population, which is relevant to the import of the Namibian black rhino trophy.

Furthermore, the previous enhancement finding for the Namibian import argues that import of a black rhino trophy to the U.S. will not harm the survival of the species. The finding states that "animals to be taken as trophies may only be "post reproductive" male animals and assumed to be beyond normal reproductive age that would be at least 30 years old. Presumably, this means that these animals are well represented in the population"; and "all current studies of population dynamics indicate that the removal of a limited number of surplus males from a self-sustaining population will have little effect on the fecundity or survival of that population". Firstly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that male black rhinos aged 30 and above no longer reproduce and that their genes are "well represented in the population", and that removal of "surplus males" will have little effect on survival of a self-sustaining population. Secondly, wild black rhinos may live to age 40 (Berger and Cunningham 1995)[3]; removal of a 30 year-old black rhino deprives the population of perhaps ten more years of genetic contribution, vital to the genetic diversity and therefore the resiliency and survival of a critically endangered species. Thirdly, the enhancement finding provides no evidence that the male black rhino subject to the import permit was a "surplus male" or that he lived in a "self-sustaining population". In conclusion, the enhancement finding for the Namibian import does not demonstrate a "biological need" for removing males from black rhino populations, and should not be relied upon in evaluating the South African import permit application.

The ESA (16 U.S.C. § 1539(c)) requires the Service to make individualized enhancement findings and the Service must reconsider its previous findings and examine the Knowlton and Luzich applications *de novo*. But even if the Service did apply the same criteria, these applications should be denied – for example, Knowlton's application seeks authorization to kill and import the trophy of Bull D, a 28 year old male that is under the 30 year age limit the Service used in its previous analysis.

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[2] Emslie, R.H., R. Amin, and R. Kock (eds). 2009. Guidelines for the in situ Re-introduction and Translocation of African and Asian Rhinoceros. IUCN Species Survival Commission, Gland, Switzerland.

[3] Berger, J. and C. Cunningham. 1995. Predation, sensitivity and sex: why female black rhinoceroses outlive males. Behavioral Ecology 6 (1): 57-64.

Deficiencies in Knowlton and Luzich Applications

Mr. Luzich and Mr. Knowlton fail to meet both the procedural and substantive requirements for issuance of the requested import permits; therefore, the Service must deny these applications.

- Bad Faith

As an initial matter, these individuals cannot be said to have applied for this authorization in good faith, as required by law. 16 U.S.C. § 1539(d)(1). Mr. Luzich and Mr. Knowlton are two wealthy business men whose primary interest is securing a trophy for personal enjoyment and aesthetic purposes, not to contribute to rhino conservation. Michale Luzich is Managing Partner at Luzich Partners, LLC, a Las Vegas-based investment firm. Luzich is a member of the NRA Golden Ring of Freedom, which requires a minimum donation of $1 million to the NRA to gain entry. Luzich has already killed a critically endangered black rhino that he now seeks to import to display as a trophy. Corey Knowlton is currently an Associate Hunting Consultant for The Hunting Consortium Ltd. and works on the "Jim Shockey's The Professionals". Mr. Knowlton's application acknowledges that without the issuance of the import permit he will not hunt a black rhino (thus confirming that his primary desire is to acquire a trophy for personal enjoyment).

The Service cannot issue authorization to conduct otherwise prohibited activities to an applicant who has no intention, let alone expertise, to actually contribute to conservation of the species.

Further, it is especially concerning that Mr. Luzich's application references Peter Thormahlen, a professional hunter with a history of arrests for violating hunting regulations, including leading multiple "hunts" to feed the rhino horn trade. *See* Brendan Borrell, *Hunters Paying $150,000 to Kill an Endangered Rhino May Save the Species* (Dec. 9, 2010), *available at* http://www.bloomberg.com/news/2010-12-09/hunters-paying-150-000-to-kill-an-endangered-rhino-may-save-the-species.html; *South Africa Vets & Hunters Involved in Rhino Poaching* (July 18, 2012), *at* http://www.wildlifeextra.com/go/news/rhino-m99.html#cr. Perhaps most egregiously, last year one of Thormahlen's American clients killed a **female** rhino in Mangetti National Park, a significant loss to the breeding potential of this critically endangered species. *See* The Namibian, *Napha Distances Itself from Rhino Cow Hunter* (Oct. 2014), http://allafrica.com/stories/201410230452.html. This also demonstrates improprieties in the management and security of Mangetti, which is the same location that Knowlton and Luzich reference in their applications.

- Insufficient Information

Neither Mr. Luzich's nor Mr. Knowlton's application provides sufficient information for the Service to make an enhancement finding.

Both of these applications include the same supporting documentation, as both applications were completed by John Jackson, President of Conservation Force, which has a vested interest in facilitating trophy hunting and imports of trophies. By and large, the documentation characterizes trophy hunting as having an important economic benefit. But it is irrelevant that some people consider trophy hunting in general, or Namibia's rhino trophy hunting program in particular to be of economic value – the ESA requires the Service to deny an import permit application unless the applicant clearly demonstrates that the proposed activity would enhance the survival of the species.

Mr. Jackson and the Director of Conservation Force (Shane Mahoney) are members of the IUCN "Sustainable Use and Livelihood Specialist Group" – not to be confused with the IUCN African Rhino Specialist group, which is the scientific authority on the issue of black rhino conservation and management. The letter from this "Sustainable Use" group contains a number of false and misleading statements: for example, the letter states that "Namibia has experienced very few poaching incidents" and references a document from March 2013 on that issue – but as demonstrated in the attached news articles, the situation in Namibia is drastically different now than it was in 2013, and rhino poaching has unfortunately become a significant problem in that country (both within and outside of national parks).

Similarly, the included IUCN SSC Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incentives cannot justify an enhancement finding for either Mr. Knowlton or Mr. Luzich since that document does not provide any information specific to these particular hunts and even acknowledges (at pg 7) that "Nothing in this document is intended to be interpreted in any way as a specific endorsement or criticism of a particular trophy hunting programme."

Further, all of the information included in Mr. Luzich's application that relates to the Dallas Safari Club auction (at issue in Mr. Knowlton's application) is irrelevant, as that auction occurred four months after Mr. Luzich hunted a black rhino.

Emails between the Service and Namibia (regarding Mr. Luzich's hunt) provide no information on the rhino that was killed except to say that he was moved from Etosha National Park to Mangetti NP in 2009 because 'it was post-reproductive and was breaking out of the park". No information was provided on the age of the rhino as requested by USFWS, how it was determined that he was "post-reproductive" or "surplus", or why he was selected to be hunted. Thus, Namibia did not respond fully to the request for information from the Service and provided no justification at all for the hunt of this particular animal. Indeed, the application materials provide no information at all on the population rhinos in Mangetti NP (e.g., how many are there, what is the sex ratio and age structure).

Mr. Knowlton's application is similarly insufficient. Although the application materials suggest that there is a letter of support from the IUCN/SSC African Rhino Specialist Group

for this hunt, no such letter is included in the application materials. Further, Mr. Knowlton's application states that the hunt would occur in Mangetti National Park (which the application mistakenly identifies as a game reserve) and identifies the two bulls that he will chose from to kill (Bull C (age 31) and Bull D (age 28)) – without clearly identifying which bull he is proposing to hunt, it is difficult to analyze whether the hunt would be sustainable..

Male rhinos can breed until they die so it is unclear what Mr. Knowlton's application means when he says these two bulls (age 28 and 31) are "post-reproductive". That a particular male rhino might restrict cows from breeding with younger bulls is a statement of the natural behavior of black rhinos (as male rhinos compete for access to females and older males naturally restrict younger males' access to females) – thus, such description cannot alone justify a need to remove a particular rhino from a population. Thus, the information provided in these applications is insufficient for the Service to make a finding that importing trophies of the particular rhinos hunted would enhance the survival of the species, as required by law.

- Trophy Hunting Is Not Enhancement

HSUS and HSI object to the notion that trophy hunting of a critically endangered species provides a net benefit to species survival. Indeed, there is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically

targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

For trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

- Donations Are Not Enhancement

The ESA requires a direct link between the authorized action (the take or commerce) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of Mr. Knowlton and Mr. Luzich. Thus, such a donation offset is insufficient grounds for an enhancement finding.

As discussed above, there is no evidence that donations made to Namibia's Game Products Trust Fund (GPTF) automatically benefit rhino conservation. Further, there is no accounting of how GPTF funds have been spent in the past, nor evidence that Namibia's black rhino conservation plan relies on funding from trophy hunting. Indeed, if such information existed, one would have expected these applications to contain evidence that funds generated by the hunt of the black rhino in Namibia for which the Service previously permitted a trophy import, were spent by the GPTF on rhino conservation projects. But Mr. Knowlton and Mr. Luzich rely entirely on donations to the GPTF in attempt to justify their proposed actions, even though they have not even alleged how exactly their donations would be used to further rhino conservation (e.g., projects to reduce levels of poaching and human-wildlife conflict or to expand protected habitat). Mr. Jackson's conclusory statements on these issues are not dispositive.

Mr. Luzich's application alleges that the applicant donated $200,000 to the GPTF – but Mr. Luzich (and his attorney John Jackson) failed to provide any proof that such donation was in fact made. Further Mr. Luzich does not even allege that the money purportedly donated to the GPTF would be earmarked to implement the Black Rhino Conservation Strategy for Namibia. While Mr. Luzich appears to have paid N$100.00 (US$9.13) for the hunting permit, N$135.00 (US$12.32) to the Namibia Professional Hunters Association, and N$250,000.00 (US$22,820.11) to Glaser Safaris, such payments are completely irrelevant to the Service's enhancement analysis.

Any alleged loss of future auction revenue is also irrelevant to the Service's decision here, not only because such auctions have not been demonstrated to benefit rhino conservation, but because predictions about future auctions are entirely speculative.

In fact, the applicants' proposed activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and would act to the detriment of the animal involved. Therefore, the Service must deny this application for enhancement authorization.

Conclusion

In summary, the Service must deny this import permit application because:

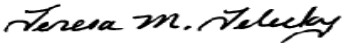
- Namibia's rhino conservation plan has not been updated to address the poaching crisis;
- The permits were not applied for in good faith;
- The applications contain insufficient details and explanation;
- Trophy hunting of critically endangered black rhinos is not enhancement;
- The applicants' trophy imports would not enhance rhino survival; and
- Donations cannot legally offset otherwise prohibited activities.

Nearly 100,000 HSUS and HSI constituents also submitted comments in opposition to these permits (filed separately), demonstrating that there is strong public support for protecting endangered rhinos from senseless death.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), HSUS hereby requests ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of these permits. Additionally, if the Service decides to issue these permits, please include with such notice a copy of the individualized enhancement finding for the applicant.

Sincerely,

Anna Frostic
Attorney, Wildlife Litigation
The Humane Society of the United States
2100 L Street NW, Washington, DC 20037



Teresa M. Telecky, Ph.D.
Director, Wildlife Department
Humane Society International

Annex VIII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Black Rhinoceros Trophy Import Permit Application (PRT-31792C); February 5, 2018 (18 pages)

Attached below.

February 5, 2018

Mr. Timothy Van Norman
Chief, Branch of Permits
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Re: Black Rhinoceros Trophy Import Permit Application (PRT–31792C)

Dear Chief Van Norman,

The Humane Society of the United States and Humane Society International strongly urge the U.S. Fish and Wildlife Service to deny the permit applications from Lacy James Harber (PRT–31792C) to import a black rhinoceros (*Diceros bicornis*) hunting trophy from Namibia. *See* 83 Fed. Reg. 535 (Jan. 4, 2018). Rhino poaching has dramatically increased in Namibia in recent years, corruption in the trophy hunting industry is rampant, and there is no evidence that Namibia's outdated rhinoceros management plan takes into account the most recent scientific information. Issuing this import permit would clearly not enhance the propagation or survival of the species, as required by law – indeed, the Service's 2015 authorization of black rhinoceros trophy imports from Namibia created a dangerous precedent that has resulted in the death of additional black rhinoceros, a critically endangered species. Granting this permit would undermine rhino conservation efforts and would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny this application.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the black rhinoceros (*Diceros bicornis*) over 30 years ago (45 Fed. Reg. 47352 (July 14, 1980)), individuals of listed species are protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the

plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that these rhino import permits will only be issued if the Service finds "that the rhino is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Enhancement permits for endangered species must be granted on a case-by-case basis, with an application published in the Federal Register and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an enhancement permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

Current Status of the Black Rhino in Namibia

The black rhino is a Critically Endangered species.[2] The main threat to the survival of the black rhinoceros is poaching to meet the demand for rhino horn[3] which is used in traditional Asian medicine and/or given as expensive gifts in Asia.

The black rhino experienced a population decline of 97.6% between 1960 and 1995, mainly due to poaching.[4] As of 2015, there were only 5,250 black rhinos of three subspecies in existence in the wild.[5] In 2015, the population size of the subspecies that exists in Namibia, *D. b. bicornis*, was only 2,200 animals; of these, only 1,946 occur in Namibia (the others occur in South Africa).[6]

Rhinos continue to be under siege from poachers in Africa generally, and Namibia specifically. Poaching of rhinos (both black and white) in Africa has risen exponentially since 2007 (Figure 1), growing from only 62 in 2007 to 1,342 in 2015.[7] In 2015, 3.8% of the African black rhino population was poached, nearly reaching the black rhino population growth rate of 4.7%.[8] Poaching of black rhinos nearly doubled between 2013 and 2015, mainly because of increased poaching in Namibia, Zimbabwe and South Africa.[9]

In Namibia, poaching of both rhino species increased from zero in 2006-2008 to 30 in 2014, and then tripled to 90 in 2015.[10] The vast majority of rhinos poached in Namibia between 2014 and 2016 were black rhinos (Figure 2). According to a 2016 report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC, "The geographical shift in poaching to Namibia over the last two years is worrying."[11]

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[2] Emslie, R. 2012. *Diceros bicornis*. The IUCN Red List of Threatened Species 2012: e.T6557A16980917. http://www.iucnredlist.org/details/full/6557/0 . Downloaded on 31 January 2018.
[3] Id.
[4] Id.
[5] *African and Asian Rhinoceroses – Status, Conservation and Trade. A report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat pursuant to Resolution Conf. 9.14 (Rev. CoP15)* (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-68-A5.pdf . Downloaded on 31 January 2018. P. 1.
[6] Id, p. 1.
[7] Id., p. 2.
[8] Id., p. 2.
[9] Id., p. 2.
[10] Id., p. 2.
[11] Id., p. 3.

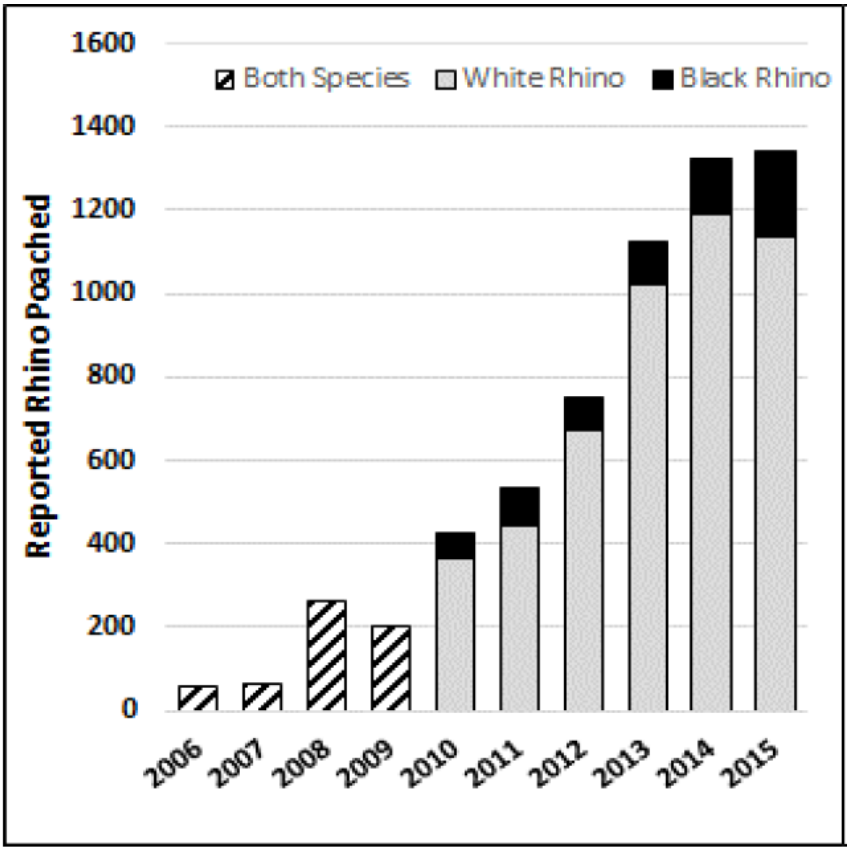

Figure 1. Number of rhinos poached in Africa, 2006-2015.[12]

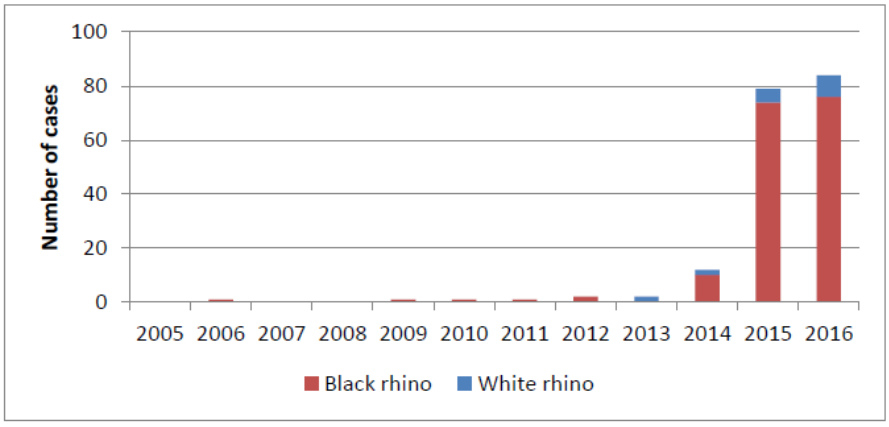

Figure 2. Number of rhinos poached in Namibia, 2005-2016.[13]

In light of the escalation of black rhino poaching in Namibia, it is important to note that Namibia does not have an up-to-date black rhino management plan. The 2003 Black Rhino

[12] Id., p. 2.
[13] Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy. Draft - Version 4 (September 2017). Annex 5, p. 46.

Conservation Strategy for Namibia (hereafter "2003 Strategy"),[14] which was supposed to remain in effect only for 2002-2006,[15] remains in effect today. A 2017 Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy (hereafter "2017 Draft Strategy")[16] is still in draft form.

The 2003 Strategy contains the objective: "Losses of black rhinos due to illegal killing, and levels of human disturbance, are minimized."[17] The 2003 Strategy explains, "All black rhino populations need to be actively protected from illegal killing in order to maintain individual population growth, and contribution of increase in the rhino metapopulation towards agreed targets."[18] The 2003 Strategy states that an indicator of success regarding this objective is that there is <1% mortality of individually known and registered rhinos.[19]

However, the 2017 Draft Strategy explains that Namibia has completely failed to meet this objective: "following a period of relatively low levels of illegal killing of black rhinos in Namibia, once again the major threat to black rhino numbers is poaching and illegal trade in rhino horn. Since 2014, Namibia has experienced a dramatic increase in losses of black rhinos from illegal killing, and over this period levels based on detected cases have exceeded the target threshold of 1% of the metapopulation. A concerted effort will need to be made to reverse the trend, in order to sustain population growth and maintain the economic, tourism, social and community value/benefits of rhino."[20]

Comparing the 2015 Namibian black rhino population size of 1,946 to the approximately 75 black rhinos poached in 2015 (see Figure 2), it would appear that approximately 3.85% of Namibia's black rhinos were poached in 2015, which is nearly four times higher than the desired target threshold of <1%, demonstrating the gross failure of Namibia to meet this strategic objective.

Despite rising poaching levels, Namibia continued to allow black rhino hunting, ostensibly to raise money to fight poaching. Namibia has allowed the trophy hunting of black rhinos since 2009, when one animal was hunted.[21] Since then, one black rhino was hunted in 2011, one in 2012, two in 2013, one in 2014, and one in 2015.[22]

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[14] *Black Rhino Conservation Strategy for Namibia*, January 2003, Ministry of Environment and Tourism, Republic of Namibia.
[15] Id., p. 11.
[16] *Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy*. Draft - Version 4 (September 2017).
[17] *Black Rhino Conservation Strategy for Namibia*, January 2003, p. 15.
[18] Id., p. 15.
[19] Id., p. 15.
[20] Id., p. 13.
[21] *African and Asian Rhinoceroses – Status, Conservation and Trade*, p. 8.
[22] Id., p. 8.

Together, black rhino hunts in Namibia from 2009 through 2015 resulted in American hunters paying at least USD 725,000 dollars to a fund—the Game Products Trust Fund or GPTF—that is, according to the Namibian Ministry of Environment and Tourism (MET), "ring fenced for rhino conservation in Namibia:"[23] USD175,000 for the David Reinke permit (PRT-229051);[24] and USD550,000 for the Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B) permit applications.[25]

According to information contained in the CITES Trade Database, at least five more black rhino trophies were exported from Namibia since 2009 (Table 1). At least one black rhino trophy was imported to Austria, one to Spain, one to Russia and one to South Africa; it is alarming to note that, according to the comparative tabulation contained in Table 1, Namibia did not record these black rhino trophy exports to Russia or South Africa (these were only recorded by the importing countries). In addition, the comparative tabulation led us to discover a discrepancy that remains unexplained: in 2015, the CITES Trade Database and the Service's own import records indicate that three rather than two black rhino trophies were imported to the US from Namibia. But the Federal Register only contains two import applications that year for one black rhino trophy each, and the only other import permit application noticed in the Federal Register was published in 2009 (PRT-229051).

Table 1. Comparative tabulation report obtained from the CITES Trade Database, based on a search for exports of *Diceros bicornis* from Namibia, purpose H, 2009-2015, conducted on 1 February 2018.[26]

Year	Importer	Exporter	Origin	Importer reported quantity	Exporter reported quantity	Term	Unit	Purpose	Source
2009	AT	NA			1	trophies		H	W
2010	AT	NA		1		trophies		H	W
2010	RU	NA		1		trophies		H	W
2013	US	NA			2	horns		H	W
2013	US	NA			1	skins		H	W
2013	US	NA			1	skulls		H	W
2013	US	NA		1		trophies		H	W
2013	ZA	NA		1		trophies		H	W
2014	ES	NA			1	trophies		H	W
2015	ES	NA		1		trophies		H	W
2015	US	NA		3	3	trophies		H	W

Thus, from 2009 through 2015, with at least USD 725,000 from three black rhino hunts by Americans, and probably at least an equal amount for the other five hunts, it would appear

[23] Email from MET to USFWS, dated November 14, 2017, contained in the Harber permit application.
[24] Memorandum to File from Chief, Branch of Permits, Division of Management Authority, U.S. Fish and Wildlife Service, dated March 27, 2013, on the subject of Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051), p. 11.
[25] https://www.fws.gov/news/ShowNews.cfm?ID=56D54860-AEA6-0EEE-73467FE9B00499F0
[26] https://trade.cites.org/en/cites_trade/

that about 1.5 million USD was available to Namibia to address the rhino poaching crisis that began in 2014.

Namibia made the assertion long ago, in its 2004 proposal to establish an annual black rhino trophy export quota of five at the 13th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES CoP13), that "Considerable funds can be raised through the trophy hunting of one animal, which can then be used to further enhance the conservation efforts for the species. As all black rhinoceroses in Namibia belong to the State, all revenue from hunting will be re-invested in conservation programmes through the trust fund established pursuant to the Game Products Trust Fund Act, Act No. 7 of 1997."[27]

This assertion was parroted by the Service in its 2013 enhancement finding for PRT-229051 and its 2015 enhancement finding for PRT-33291B. For example, the 2013 enhancement finding states that the GPTF "is a mechanism for ensuring that revenue obtained from the sale of wildlife products could be used exclusively toward wildlife conservation and community conservation and development programs aimed at harmonizing the co-existence of people with such wildlife, and securing a future for wildlife outside of and within protected areas in Namibia."[28] The 2013 enhancement finding also states that World Wildlife Fund supported the permit application on the grounds that, *inter alia*, "Income generated from harvest of rhino is being used in support of black rhino conservation, assisting MET to implement its black rhino management plan and protect against potential onslaught of poaching."[29]

Thus, the escalation of black rhino poaching in Namibia since 2014, which is the single greatest threat to the survival of the species in Namibia today, created the perfect test case to see if indeed money from black rhino trophy hunting would be effectively deployed to address this threat. However, there is no evidence that this is the case. Indeed, the evidence suggests that rhino poaching escalated as funds from black rhino hunting were streaming in and that these funds were not effectively diverted to address the crisis. Thus, Namibia failed the test and the Service can no longer make the argument that money from black rhino trophy hunting will enhance the survival of black rhinos by protecting them from poachers.

And, there is certainly no evidence that the USD 250,000 already paid to the GPTF by Mr. Harber, or the additional USD 25,000 that will be paid upon issuance of an import permit,[30] will lead to enhancement of the survival of the species.

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[27] https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-3.pdf
[28] Id., p. 10.
[29] Id., p. 11.
[30] Letter from Conservation Force to the Service dated April 12, 2017, contained in the application materials.

Further, although Namibia issues permits to hunt rhino, there is no evidence that such permitting decisions take into account the best available science, which demonstrates the importance of incorporating individual-level measures of rhino genetic diversity into management plans and shows that "excess" male rhinos can successfully be used to improve genetic diversity in small populations (instead of culled via trophy hunting).[31]

Thus, it is imperative that Namibia reevaluate whether critically endangered black rhinos can be sustainably hunted for trophies, especially in light of the current poaching crisis and new scientific information demonstrating the value of preserving bulls. Unless or until such analyses are completed, it is impossible for the Service to make an enhancement finding for these permit applications.

The Service Cannot Rely on Its Previous Enhancement Findings or Non-Detriment Findings

In 2015, the Service issued import permits for two black rhino trophies from Namibia to Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B); however, for the following reasons, the Service's findings underlying those permits are insufficient for the Service to make an enhancement finding on the current application from Mr. Harber.

The Service stated that the 2015 positive enhancement finding[32] was based on three factors: success of implementing the Black Rhino Conservation Strategy for Namibia, the use of funds generated from black rhino hunts, and the biological need for such harvests. These are the same factors cited by the Service in its previous positive enhancement finding issued in 2013.[33] Not only were these findings flawed when originally issued, but given the materially different landscape in 2018 (and the ongoing and escalating poaching crisis), these findings are particularly inadequate to support issuance of Mr. Harber's permit application.

Regarding the "success of implementing the Black Rhino Conservation Strategy for Namibia": The Service obviously thinks the Strategy has been a success as both the 2013 and 2015 enhancement findings state that the Strategy "contains very specific management goals

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[31] Cain, B. et al. 2014. *Sex-Biased Inbreeding Effects on Reproductive Success and Home Range Size of the Critically Endangered Black Rhinoceros.* Conservation Biology Conservation Biology, Volume 28, Issue 2, pages 594–603, *http://www.olpejetaconservancy.org/sites/default/files/documents/Cain_2013.pdf*; Linklater, W. L., Adcock, K., du Preez, P., Swaisgood, R. R., Law, P. R., Knight, M. H., Gedir, J. V. and Kerley, G. I.H. (2011), *Guidelines for large herbivore translocation simplified: black rhinoceros case study.* Journal of Applied Ecology, 48: 493–502. doi: 10.1111/j.1365-2664.2011.01960.x http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.01960.x/full.

[32] *Enhancement Finding for the import of a Sport-hunted Black Rhino trophy taken in Namibia during 2013 (PRT-33291B)*, memo to file from the Chief, Branch of Permits, DMA, USFWS, dated April 6, 2015.

[33] *Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051)*, memo to file from the Chief, Branch of Permits, DMA, USFWS, dated March 27, 2013.

in the area of range expansion, biological management, protection, policy and legislative frameworks, and capacity building and sustainability"; "through this strategy, local communities directly benefit, resulting in increased community support for presence of black rhino and provides a disincentive to poaching"; and "between 2001 and 2012, the population of black rhino in Namibia increased from 735 to over 1700 [the 2015 finding states "1,769" rather than "over 1,700"]. It should be recognized that the ten-year target established in the Strategy plan was to increase the population to 1,500 animals by 2011."[34] In the 2015 finding, the Service states that, "Without a proper framework in place to ensure Namibia's rhino population is being managed and conserved sustainable, the Service would be unable to find that the import of such a trophy would enhance the survival of the species; regardless of the amount of money someone was willing to spend to hunt and import such a trophy."[35]

However, the Strategy is outdated and, based on the exponential increase in black rhino poaching in Namibia since 2014, is clearly not successful. The Black Rhino Conservation Strategy for Namibia was issued in 2003 and was meant to cover only 2002-2006. While a draft 2017 Strategy has been prepared, it has not been finalized. Given the exponential and detrimental increase in black rhino poaching in Namibia since 2014, it would be arbitrary and capricious to conclude that the Strategy is successful. As noted before, in 2015, 3.8% of the black rhino population in Namibia was poached, nearly reaching the black rhino population growth rate of 4.7%. According to the 2015 enhancement finding, the "recognized sustainable offtake" for black rhinos is 1% annually;[36] current poaching is nearly four times that level, indicating a failure of the Strategy. Therefore, given the lack of an up-to-date, effective framework for conservation and the clear lack of protection of black rhinos in Namibia from the most important threat to the species—poaching—the Service cannot find that the import of such a trophy would enhance the survival of the species.

Furthermore, Namibia has a reputation for poor control of black rhino hunting. In 2012, a Russian client of controversial professional hunter Peter Thormählen killed a Namibian black rhino on a hunting permit that expired in 2011.[37] In 2013, the same professional hunter was guiding an American hunter, Jimmy John Liautaud, on a **male** black rhino hunt when Liautaud killed the only **female** black rhino in Mangetti National Park, a significant loss to the breeding potential of this critically endangered species.[38]

Regarding "the use of funds generated from black rhino hunts", both the 2013 and the 2015 enhancement findings state that "since the need to protect populations from poaching and provide on the ground oversight, including 24-hour surveillance, may be prohibitively expensive, the sale of a surplus male trophy and the use of the funds derived from that sale

[34] 2013 enhancement finding, p. 8-9; 2015 enhancement finding, p. 3-4.
[35] 2015 enhancement finding, p. 8.
[36] 2015 enhancement finding, p. 4.
[37] https://mg.co.za/article/2012-06-28-questions-over-namibian-rhino-hunt
[38] See *The Namibian*, Napha Distances Itself from Rhino Cow Hunter (Oct. 23, 2014), https://www.namibian.com.na/print.php?id=129586&type=2

to provide the protection and oversight needed, will serve to enhance the survival of the species."[39] The 2015 enhancement finding states that "money "generated from a few select hunts of surplus males, provides much needed funding to further assist the Namibian government in conserving and protecting its rhinos, allowing for increased enforcement efforts to combat the ever growing threat from poachers and the increasing demands for rhino horn on the black market."[40]

The implication of these statements is that money paid by hunters into the aforementioned Game Products Trust Fund (GPTF): a) will be used for black rhino conservation; and b) this will enhance the survival of the species. However, it is obvious that the hundreds of thousands of dollars that American hunters have paid into the GPTF since 2013 for trophy hunting black rhinos has coincided with an exponential increase in black rhino poaching that began in 2014 and continues to the present day. An appropriate management response would have been to direct this money toward increased protection of black rhinos in poaching hotspots. But no evidence has been provided by the applicant or is otherwise available that the hundreds of thousands of dollars already received by GPTF for black rhino trophy hunting were used for this purpose; given the black rhino poaching crisis in Namibia, we must assume that the funds were not effectively used to protect black rhinos from poachers. Therefore, Service cannot credibly continue to assert that funds from black rhino trophy hunting in Namibia are being used to protect black rhinos from poaching.

Furthermore, as we have pointed out in previous comments to the Service regarding the importation of black rhino trophies, there is no guarantee that any of the money deposited into the GPTF will be used for black rhino conservation as this is a general fund allocated by a Board to all manner of projects including those that have nothing to do with rhinos, and could even be harmful to rhinos, such as "rural development". The GPTF Board, comprised of diverse interests including community representatives, and Ministries of Agriculture and Finance, decides which projects will be funded. Secondly, even if some or all of the funds are used for black rhino conservation, there is no guarantee that the activities undertaken will enhance the survival of the species. Thirdly, given that funds previously deposited into the GPTF were not used effectively to address the escalation of black rhino poaching in Namibia since 2014, it is unclear what the additional funds provided by Mr. Harber could do to further enhance the survival of the species. In conclusion, despite the million dollars that has been deposited into the GPTF by American trophy hunters, there is no evidence that any of these funds have been used to address the escalation in black rhino poaching.

Finally, regarding "the biological need for such harvests", the previous enhancement findings make the case that so-called post-reproductive, surplus male black rhinos "need" to be removed from the population because males kill each other, compete with and impede immigration of younger males, repress breeding, and suppress gene flow. The findings make

[39] 2013 enhancement finding, p. 9; 2015 enhancement finding, p. 4
[40] 2015 enhancement finding, p. 8.

numerous statements in this regard including: "there have been indications that aggressive males may be a population-limiting factor in some areas and removal of these individuals may lead to a population increase and greater survival"; "the removal of limited number of males has shown to stimulate population growth in areas where it is evident that density dependent effects are repressing breeding and causing mortality"; "biological effects of removing specific individuals from a population include 1) reduced male fighting; 2) shorter calving intervals; and 3) reduced juvenile mortality"; and "male-biased populations can have an adverse effect on productivity, gene flow, and immigration of younger males". Firstly, to call this a "biological need" is to ignore millions of years of evolution that resulted in these behaviors. In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not "need" to be addressed by human intervention; if it were not optimal, it would not have evolved. Secondly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that removal of males stimulates population growth and improves gene flow. Thirdly, even if these claims were true, the enhancement findings do not provide evidence that the black rhino trophies to be imported came from an "aggressive male" that lived in one of the areas or populations referred to in the claims (with density-dependent effects, or male-biased populations). Fourthly, the finding refers to density-dependent effects of black rhinos without understanding that the reference cited, Emslie et al. (2009)[41], refers to the effect of density of rhinos in fenced sanctuaries, and not to the effect of removing a specific individual from a wild population, which is relevant to the import of the Namibian black rhino trophy. Finally, we note that Kenya, which does not allow trophy hunting, and which holds the third largest population of black rhino in Africa and is a stronghold for the eastern subspecies (*Diceros bicornis michaeli*)), does not consider older male rhinos to pose a threat to other rhinos to the point where they need to be removed from the population, much less killed.[42] This suggests that this "threat" was invented by Namibia in order to profit from black rhino trophy hunting.

Furthermore, the previous enhancement findings argue that import of a black rhino trophy to the U.S. will not harm the survival of the species. The finding states that "animals to be taken as trophies may only be "post reproductive" male animals and assumed to be beyond normal reproductive age that would be at least 30 years old. Presumably, this means that these animals are well represented in the population"; and "all current studies of population dynamics indicate that the removal of a limited number of surplus males from a self-sustaining population will have little effect on the fecundity or survival of that population." Firstly, the enhancement finding does not cite sources in the scientific literature to support

[41] Emslie, R.H., R. Amin, and R. Kock (eds). 2009. Guidelines for the in situ Re-introduction and Translocation of African and Asian Rhinoceros. IUCN Species Survival Commission, Gland, Switzerland.

[42] Mulama, M., Omondi, P., Musyoki, C., Khayale, C., Kariuki, L. and Ndetei, R., 2015. Lessons learned in the implementation of endangered species specific strategies: Midterm Review of the Kenya Black Rhino Strategy (2012–2016). Pachyderm, 1(56), pp.97-101.

the claims made, particularly that male black rhinos aged 30 and above no longer reproduce and that their genes are "well represented in the population," and that removal of "surplus males" will have little effect on survival of a self-sustaining population. Secondly, wild black rhinos may live to age 40 (Berger and Cunningham 1995);[43] removal of a 30 year-old black rhino deprives the population of perhaps ten more years of genetic contribution, vital to the genetic diversity and therefore the resiliency and survival of a critically endangered species. Thirdly, the enhancement finding provides no evidence that the male black rhino subject to the import permit was a "surplus male" or that he lived in a "self-sustaining population." In conclusion, the previous enhancement findings do not demonstrate a "biological need" for removing males from black rhino populations, and should not be relied upon in evaluating the Harber import permit application.

The ESA (16 U.S.C. § 1539(c)) requires the Service to make individualized enhancement findings for endangered species and the Service must reconsider its previous findings and examine the Harber application *de novo*. But even if the Service did apply the same criteria, this application should be denied – for example, according to an email from MET to the Service, dated November 14, 2017, and contained in Mr. Harber's application materials, states that the rhino he killed was as young as 27 years old and therefore under the 30 year age limit the Service used in its previous analyses.

Deficiencies in the Harber Application

Mr. Harber fails to meet both the procedural and substantive requirements for issuance of the requested import permit; therefore, the Service must deny this application.

- Bad Faith

As an initial matter, this individual cannot be said to have applied for this authorization in good faith, as required by law. 16 U.S.C. § 1539(d)(1). Mr. Harber is a wealthy businessman whose primary interest is securing a trophy for personal enjoyment and aesthetic purposes, not to contribute to rhino conservation. Mr. Harber is the former owner of the American Bank of Texas, which he reportedly sold for $450 million in 2016.[44] He won the Dallas Safari Club's Outstanding Hunting Achievement award in 1998 for, "his 12 year quest and collection in fair chase of all of the nine Spiral Horned Antelope of Africa and five sub-species of which all are record class."[45] He and his wife Dorothy have their own "museum", the Harber Wildlife Museum,[46] which contains up to 450 animals, many of them killed by the Harbers.[47]

[43] Berger, J. and C. Cunningham. 1995. Predation, sensitivity and sex: why female black rhinoceroses outlive males. Behavioral Ecology 6 (1): 57-64.
[44] http://www.heralddemocrat.com/news/20161115/harber-says-no-promise-was-made
[45] https://www.biggame.org/awards/outstanding-hunting-achievement-award/
[46] http://www.harberwildlifemuseum.com/index.html
[47] http://www.heralddemocrat.com/lifestyle/20170611/harber-wildlife-museum-brings-safari-to-sherman

The Service cannot issue authorization to conduct otherwise prohibited activities to an applicant who has no intention, let alone expertise, to actually contribute to conservation of the species.

- Insufficient and Contradictory Information

Mr. Harber's application materials provide insufficient and contradictory information for the Service to make an enhancement finding.

- By and large, the documentation attached to Mr. Harber's application characterizes trophy hunting as having an important economic benefit. But it is irrelevant that some people consider trophy hunting in general, or Namibia's black rhino trophy hunting program in particular, to be of economic value – the ESA requires the Service to deny an import permit application unless the applicant clearly demonstrates that the proposed activity would enhance the survival of the species.

- The letter from John Jackson of Conservation Force to the Service, dated April 12, 2017, and contained in Mr. Harber's application materials, states that "information previously submitted by Conservation Force in support of the granted enhancement import applications of Renke, Luzich and Knowlton" "remains current and appropriate for the USFWS' consideration. That being the case, we noted in our comments on the applications of Mr. Luzich and Mr. Knowlton: Mr. Jackson and the Director of Conservation Force (Shane Mahoney) are members of the IUCN "Sustainable Use and Livelihood Specialist Group" – not to be confused with the IUCN African Rhino Specialist group, which is the scientific authority on the issue of black rhino conservation and management. The letter from this "Sustainable Use" group contains a number of false and misleading statements: for example, the letter states that "Namibia has experienced very few poaching incidents" and references a document from March 2013 on that issue – but as demonstrated above, the situation in Namibia is drastically different now than it was in 2013, and rhino poaching has unfortunately become a significant problem in that country (both within and outside of national parks). Similarly, the included IUCN SSC Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incentives cannot justify an enhancement finding for Mr. Harber since that document does not provide any information specific to this particular hunt and even acknowledges (at page 7) that "Nothing in this document is intended to be interpreted in any way as a specific endorsement or criticism of a particular trophy hunting programme."

- The letter to the Service from Conservation Force also states that the rhino that was killed by Mr. Harber was "post-reproductive male that had killed six other rhinos, including females and cafes" [sic]. Firstly, male rhinos can breed until they die so it is unclear what is meant by "post-reproductive". That a particular male rhino might

restrict cows from breeding with younger bulls is a statement of the natural behavior of black rhinos (as male rhinos compete for access to females and older males naturally restrict younger males' access to females) – thus, such description cannot alone justify a need to remove a particular rhino from a population. Secondly, the number and types of other rhinos that Conservation Force said to have been killed by the hunted rhino does not match the description provided by the MET in an email to the Service, dated November 14, 2017, and contained in the application materials, which indicates that only two or three rhinos had been killed by the hunted rhino, and does not mention that any of them were calves.

- The letter to the Service from Conservation Force states that the hunted rhino had to be removed to avoid inbreeding; however, to address this problem, the hunted rhino, which was being managed as part of the metapopulation of black rhinos in Namibia, could have been relocated to another property rather than killed.

- The letter to the Service from Conservation Force states that the presence of the rhino was "reducing the growth rate of that population;" however, no details are provided to support this statement. Indeed, according to an email from MET to the Service, dated November 14, 2017, and contained in the application materials, the hunted rhino was the "only remaining adult bull on the property;" given this, firstly, there were no other males he would fight for access to females; and secondly, killing him meant there were no other males to breed with females on the property and this certainly would have the effect of reducing the growth rate of that population.

- The letter to the Service from Conservation Force states that "Namibia has experienced a small spike in poaching of black rhino. MET has taken urgent and effective action to combat this threat. And despite this small increase, poaching in Namibia remains low and well below the black rhino population growth rate." (p. 2) Firstly, the escalation of black rhino poaching in Namibia was not a "small spike." Secondly, the action taken by MET was demonstrably not "effective," as poaching continued to escalate from 2014 to 2015, and 2015 to 2016. Finally, as noted earlier, approximately 3.85% of Namibia's black rhinos were poached in 2015, which is not "well below" the black rhino population growth rate of 4.7%. Also, as stated earlier, the 2003 Black Rhino Conservation Strategy for Namibia calls for <1% mortality from poaching, whereas actual poaching levels are nearly four times that level. We also note that the Service stated in its 2013 and 2015 enhancement findings[48] that "sustainable offtake" for black rhinos is 1% annually; the poaching rate is nearly four times that level.

- Another document included in the Harber application materials, which appears to have been an attachment to an email from MET to Mr. Jackson of Conservation Force,

[48] 2015 Service enhancement finding, p. 4.

dated March 3, 2018, describes the hunt as taking place on a "private piece of land" and states that "this will be the first time that a rhino will be hunted on private land." In contrast, the 2013 and 2015 Service enhancement findings state, "according to MET, it is not their intent to expand hunting for black rhinoceros outside of protected areas."[49]

- A document contained in the Harber application materials Document on GPTF letterhead, dated 26 October 2017, regards "The Use of Funds Raised from Trophy Hunting Activities in 2017". This document calls into question the MET's assertion that funds raised from black rhino hunts are "ring fenced" for rhino.[50] The document shows eleven projects that have been funded and approved for funding in 2017, using "funds that were raised from the rhinos that were auctioned off for hunting in 2017," "with the aim to protect, manage and conserve rhinos and other wildlife in Namibia" (emphasis added. As evidence of this, despite the high levels of black rhino poaching and the urgent need to this to be addressed, GPTF funds were allocated to a project to address human-wildlife conflict in communities.

Thus, the information provided in the application is insufficient for the Service to make a finding that importing trophies of the particular rhino hunted would enhance the survival of the species, as required by law.

➢ Trophy Hunting Is Not Enhancement

HSUS and HSI object to the notion that trophy hunting of a critically endangered species provides a net benefit to species survival. Indeed, there is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target

[49] 2015 Service enhancement finding, p. 4.
[50] Email from MET to the Service, November 14, 2017, contained in the Harber application materials.

species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

For trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

- <u>Donations Are Not Enhancement</u>

The ESA requires a direct link between the authorized action (the take or commerce) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of Mr. Harber. Thus, such a donation offset is insufficient grounds for an enhancement finding.

As discussed above, there is no evidence that donations made to Namibia's Game Products Trust Fund (GPTF) automatically benefit rhino conservation. Further, there is no accounting of how GPTF funds have been spent in the past, nor evidence that Namibia's black rhino conservation plan relies on funding from trophy hunting. Indeed, if such information existed, one would have expected the application to contain evidence that funds generated by the

hunts of the black rhino in Namibia for which the Service previously permitted trophy imports, were spent by the GPTF on rhino conservation projects. But Mr. Harber relies entirely on donations to the GPTF in attempt to justify his proposed actions, even though they have not even alleged how exactly their donations would be used to further rhino conservation (e.g., projects to reduce levels of poaching and human-wildlife conflict or to expand protected habitat). Mr. Jackson's conclusory statements on these issues are not dispositive.

Any alleged loss of future auction revenue is also irrelevant to the Service's decision here, not only because such auctions have not been demonstrated to benefit rhino conservation, but because predictions about future auctions are entirely speculative.

In fact, the applicant's proposed activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and have acted to the detriment of the animal involved. Therefore, the Service must deny this application for enhancement authorization.

Conclusion

In summary, the Service must deny this import permit application because:

- Namibia's rhino conservation plan has not been updated to address the poaching crisis;
- The permits were not applied for in good faith;
- The applications contain insufficient and contradictory details and explanation;
- Trophy hunting of critically endangered black rhinos is not enhancement;
- The applicants' trophy imports would not enhance rhino survival; and
- Donations cannot legally offset otherwise prohibited activities.

Nearly 100,000 HSUS and HSI constituents also submitted comments in opposition to previous permit applications (filed separately), demonstrating that there is strong public support for protecting endangered rhinos from senseless death.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), HSUS hereby requests ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of these permits. Additionally, if the Service decides to issue these permits, please include with such notice a copy of the individualized enhancement finding for the applicant.

Sincerely,

Anna Frostic
Managing Attorney, Wildlife Litigation
The Humane Society of the United States

Teresa M. Telecky, Ph.D.
Senior Director, Wildlife Department
Humane Society International

Sarah Uhlemann
International Program Director & Senior Attorney
Center for Biological Diversity

Annex IX

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Black Rhinoceros Trophy Import Permit Application (PRT-70782C); March 13, 2019 (18 pages)

Attached below.

March 13, 2019

Mary Cogliano, Ph.D.
Chief, Branch of Permits
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: IA
Falls Church, VA 22041-3803

Re: Black Rhinoceros Trophy Import Permit Application (PRT–70782C)

Dear Dr. Cogliano,

The Humane Society of the United States (HSUS), Humane Society Legislative Fund (HSLF), Humane Society International (HSI), and Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service to deny the permit application from Lawrence Costa (PRT–70782C) to import a black rhinoceros (*Diceros bicornis*) hunting trophy from Namibia. *See* 84 Fed. Reg. 3224 (Feb. 11, 2019). Rhino poaching has dramatically increased in Namibia in recent years, corruption in the trophy hunting industry is rampant, and there is no evidence that Namibia's outdated rhinoceros management plan takes into account the most recent scientific information. Issuing this import permit would clearly not enhance the propagation or survival of the species, as required by law – indeed, the Service's 2015 authorization of black rhinoceros trophy imports from Namibia created a dangerous precedent that has resulted in the death of additional black rhinoceros, a critically endangered species. Granting this permit would undermine rhino conservation efforts and would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny this application.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the black

rhinoceros (*Diceros bicornis*) over 30 years ago (45 Fed. Reg. 47352 (July 14, 1980)), individuals of listed species are protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that these rhino import permits will only be issued if the Service finds "that the rhino is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Section 10 import permits for endangered species must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue a permit to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an import permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

"[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Current Status of the Black Rhino in Namibia

The black rhino is a Critically Endangered species.[2] The main threat to the survival of the black rhinoceros is poaching to meet the demand for rhino horn,[3] which is used in traditional Asian medicine and/or given as expensive gifts in Asia.

The black rhino experienced a population decline of 97.6% between 1960 and 1995, mainly due to poaching.[4] As of 2015, there were only 5,250 black rhinos of three subspecies in existence in the wild.[5] In 2015, the population size of the subspecies that exists in Namibia, *D. b. bicornis*, was only 2,200 animals; of these, only 1,946 occur in Namibia (the others occur in South Africa).[6]

Rhinos continue to be under siege from poachers in Africa generally, and Namibia specifically. Poaching of rhinos (both black and white) in Africa has risen exponentially since 2007 (Figure 1), growing from only 62 in 2007 to 1,342 in 2015.[7] In 2015, 3.8% of the African black rhino population was poached, nearly reaching the black rhino population growth rate of 4.7%.[8] Poaching of black rhinos nearly doubled between 2013 and 2015, mainly because of increased poaching in Namibia, Zimbabwe and South Africa.[9]

In Namibia, poaching of both rhino species increased from zero in 2006-2008 to 30 in 2014, and then tripled to 90 in 2015.[10] The vast majority of rhinos poached in Namibia between 2014 and 2016 were black rhinos (Figure 2). According to a 2016 report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC, "The geographical shift in poaching to Namibia over the last two years is worrying."[11]

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[2] Emslie, R. 2012. *Diceros bicornis*. The IUCN Red List of Threatened Species 2012: e.T6557A16980917. http://www.iucnredlist.org/details/full/6557/0 . Downloaded on 31 January 2018.
[3] Id.
[4] Id.
[5] *African and Asian Rhinoceroses – Status, Conservation and Trade. A report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat pursuant to Resolution Conf. 9.14 (Rev. CoP15)* (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-68-A5.pdf . Downloaded on 31 January 2018. P. 1.
[6] Id, p. 1.
[7] Id., p. 2.
[8] Id., p. 2.
[9] Id., p. 2.
[10] Id., p. 2.
[11] Id., p. 3.

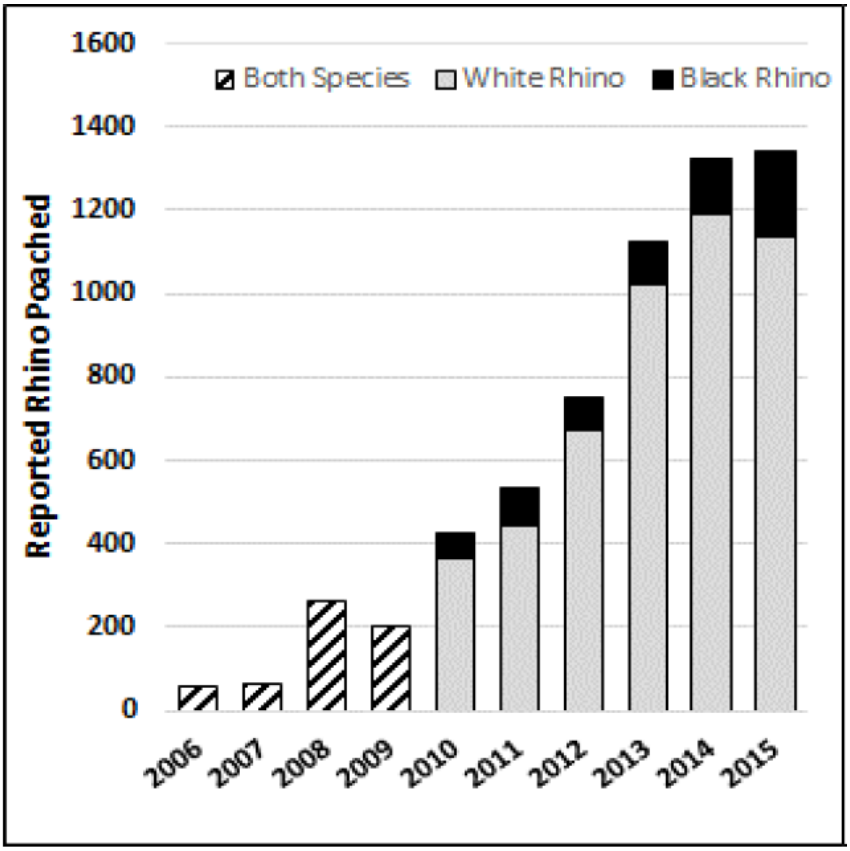

Figure 1. Number of rhinos poached in Africa, 2006-2015.[12]

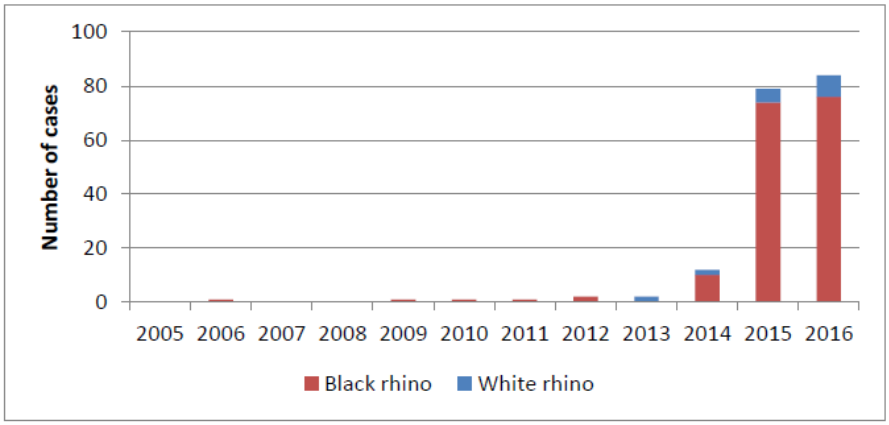

Figure 2. Number of rhinos poached in Namibia, 2005-2016.[13]

We are not aware of official Namibian government poaching figures for 2017 and 2018. However, according to a news report,[14] 27 black rhinos were poached in Namibia in 2017 and 57 in 2018, meaning that poaching levels remain high compared to a decade ago.

[12] Id., p. 2.
[13] Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy. Draft - Version 4 (September 2017). Annex 5, p. 46.
[14] http://www.xinhuanet.com/english/2019-02/12/c_137813872.htm

The escalation of rhino poaching in Namibia clearly indicates that the government is failing to protect the black rhino from criminals. As detailed in our previous comments, there are serious questions whether Namibia has an updated black rhino management plan that is fully implemented, adequate laws to prevent poaching and trafficking, and adequate enforcement and implementation of those laws. Namibia has admitted, in an October 2018 report to the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"), that there are obstacles to securing successful prosecutions:

> "Although amendments were made on penalties and prosecutions regarding illegal possession and trade of controlled wildlife products, some prosecutors still gives lenient penalties and imprisonments to offenders, which encourage offenders to repeat a similar offence. In addition, release of suspects on bail is also contributing to wildlife crime, as offenders commit similar crime as they wait for long time to be prosecuted.[15]

Indeed, of the 85 rhinoceros prosecutions from 2016-2018 reported by Namibia to the Standing Committee of CITES "one has so far resulted in a conviction."[16]

A July 2018 investigative news report may shed further light on the problem: It found that wealthy Namibian businessmen recruit men from poor communities in Angola, Zimbabwe and Zambia close to the Namibian border, supplying them with training and firearms that they use to poach rhinos in Namibia.[17] The businessmen even post bail for the poachers if they are arrested.

Indeed, the recent report submitted to the October 2018 CITES Standing Committee by its Working Group on Rhinoceroses recommended that Namibia be considered for inclusion among the Countries for Priority Attention "because of the recent escalation of rhino poaching."[18] Indeed, "Twelve Parties have provided samples from seized horn since 2015, and links have been made to rhinoceros" from three countries including Namibia."[19] One of the reasons for inclusion of Namibia as a country for priority attention is its need to report illegal trade to the Secretariat of CITES.

In light of the escalation of black rhino poaching in Namibia, it is important to note that Namibia does not have an up-to-date black rhino management plan. The 2003 Black Rhino

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[15] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56-A9.pdf, p. 7.
[16] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56.pdf at para. 69.
[17] https://www.dailymaverick.co.za/article/2018-07-27-wealthy-businessmen-prey-on-indigent-namibians-to-poach-rhino-for-international-syndicates/
[18] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56.pdf
[19] SC70 Doc 56 para. 30.

Conservation Strategy for Namibia (hereafter "2003 Strategy"),[20] which was supposed to remain in effect only for 2002-2006,[21] remains in effect today. A 2017 Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy (hereafter "2017 Draft Strategy")[22] is still in draft form and there is no indication it is being implemented.

The 2003 Strategy contains the objective: "Losses of black rhinos due to illegal killing, and levels of human disturbance, are minimized."[23] The 2003 Strategy explains, "All black rhino populations need to be actively protected from illegal killing in order to maintain individual population growth, and contribution of increase in the rhino metapopulation towards agreed targets."[24] The 2003 Strategy states that an indicator of success regarding this objective is that there is <1% mortality of individually known and registered rhinos.[25]

However, the 2017 Draft Strategy explains that Namibia has completely failed to meet this objective: "following a period of relatively low levels of illegal killing of black rhinos in Namibia, once again the major threat to black rhino numbers is poaching and illegal trade in rhino horn. Since 2014, Namibia has experienced a dramatic increase in losses of black rhinos from illegal killing, and over this period levels based on detected cases have exceeded the target threshold of 1% of the metapopulation. A concerted effort will need to be made to reverse the trend, in order to sustain population growth and maintain the economic, tourism, social and community value/benefits of rhino."[26]

Comparing the 2015 Namibian black rhino population size of 1,946 to the approximately 75 black rhinos poached in 2015 (see Figure 2), it would appear that approximately 3.85% of Namibia's black rhinos were poached in 2015, which is nearly four times higher than the desired target threshold of <1%, demonstrating the gross failure of Namibia to meet this strategic objective.

Despite rising poaching levels, Namibia continued to allow black rhino hunting, ostensibly to raise money to fight poaching. Namibia has allowed the trophy hunting of black rhinos since 2009, when one animal was hunted.[27] Since then, one black rhino was hunted in 2011, one in 2012, two in 2013, one in 2014, and one in 2015.[28]

Together, black rhino hunts in Namibia from 2009 through 2015 resulted in American hunters paying at least USD 1 million dollars to a fund—the Game Products Trust Fund or

[20] *Black Rhino Conservation Strategy for Namibia*, January 2003, Ministry of Environment and Tourism, Republic of Namibia.
[21] Id., p. 11.
[22] *Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy*. Draft - Version 4 (September 2017).
[23] *Black Rhino Conservation Strategy for Namibia*, January 2003, p. 15.
[24] Id., p. 15.
[25] Id., p. 15.
[26] Id., p. 13.
[27] *African and Asian Rhinoceroses – Status, Conservation and Trade*, p. 8.
[28] Id., p. 8.

GPTF—that is, according to the Namibian Ministry of Environment and Tourism (MET), "ring fenced for rhino conservation in Namibia:"[29] USD 175,000 for the David Reinke permit (PRT-229051);[30] USD 550,000 for the Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B) permit applications,[31] and USD 275,000 for the Lacy James Harber (PRT–31792C) permit application.[32]

According to information contained in the CITES Trade Database, at least eight additional black rhino trophies were exported from Namibia from countries other than the U.S. since 2009 (Table 1). At least one black rhino trophy was imported to Austria, one to Spain, four to Russia, one to South Africa and one to Czech Republic; it is alarming to note that, according to the comparative tabulation contained in Table 1, Namibia did not record some black rhino trophy exports to Russia or South Africa (these were only recorded by the importing countries). In addition, the comparative tabulation led us to discover a discrepancy that remains unexplained: in 2015, the CITES Trade Database and the Service's own import records indicate that three rather than two black rhino trophies were imported to the US from Namibia. But the Federal Register only contains two import applications that year for one black rhino trophy each, and the only other import permit applications noticed in the Federal Register was published in 2009 (PRT-229051) and 2018 ((PRT–31792C).

Table 1. Comparative tabulation report obtained from the CITES Trade Database, based on a search for exports of *Diceros bicornis* from Namibia, purpose H, 2009-2018, conducted on 9 February 2019.[33]

Year	Importer	Exporter	Origin	Importer reported quantity	Exporter reported quantity	Term	Unit	Purpose	Source
2009	AT	NA			1	trophies		H	W
2010	AT	NA		1		trophies		H	W
2010	RU	NA		1		trophies		H	W
2013	US	NA			2	horns		H	W
2013	US	NA			1	skins		H	W
2013	US	NA			1	skulls		H	W
2013	US	NA		1		trophies		H	W
2013	ZA	NA		1		trophies		H	W
2014	ES	NA			1	trophies		H	W
2014	RU	NA		1		trophies		H	W
2015	ES	NA		1		trophies		H	W

[29] Email from MET to USFWS, dated November 14, 2017, contained in the Lacy James Harber (PRT–31792C) permit application.
[30] Memorandum to File from Chief, Branch of Permits, Division of Management Authority, U.S. Fish and Wildlife Service, dated March 27, 2013, on the subject of Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051), p. 11.
[31] https://www.fws.gov/news/ShowNews.cfm?ID=56D54860-AEA6-0EEE-73467FE9B00499F0
[32] Letter from Conservation Force to the Service dated April 12, 2017, contained in the Lacy James Harber application materials.
[33] https://trade.cites.org/en/cites_trade/

Table 1. Comparative tabulation report obtained from the CITES Trade Database, based on a search for exports of *Diceros bicornis* from Namibia, purpose H, 2009-2018, conducted on 9 February 2019.[33]									
Year	**Importer**	**Exporter**	**Origin**	**Importer reported quantity**	**Exporter reported quantity**	**Term**	**Unit**	**Purpose**	**Source**
2015	US	NA		3	3	trophies		H	W
2017	CZ	NA		1	1	trophies		H	W
2017	RU	NA			2	trophies		H	W

Thus, from 2009 through 2017, in addition to the USD 1 million from four black rhino hunts by Americans, and probably at least an equal amount per rhino for the other eight hunts, it would appear that about USD 3 million was available to Namibia to address the rhino poaching crisis that began in 2014.

Namibia made the assertion long ago, in its 2004 proposal to establish an annual black rhino trophy export quota of five at the 13th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES CoP13), that "Considerable funds can be raised through the trophy hunting of one animal, which can then be used to further enhance the conservation efforts for the species. As all black rhinoceroses in Namibia belong to the State, all revenue from hunting will be re-invested in conservation programmes through the trust fund established pursuant to the Game Products Trust Fund Act, Act No. 7 of 1997."[34]

This assertion was parroted by the Service in its 2013 enhancement finding for PRT-229051 and its 2015 enhancement finding for PRT-33291B. For example, the 2013 enhancement finding stated that the GPTF "is a mechanism for ensuring that revenue obtained from the sale of wildlife products could be used exclusively toward wildlife conservation and community conservation and development programs aimed at harmonizing the co-existence of people with such wildlife, and securing a future for wildlife outside of and within protected areas in Namibia."[35] The 2013 enhancement finding also stated that World Wildlife Fund supported the permit application on the grounds that, *inter alia*, "Income generated from harvest of rhino is being used in support of black rhino conservation, assisting MET to implement its black rhino management plan and protect against potential onslaught of poaching."[36]

Thus, the escalation of black rhino poaching in Namibia since 2014, which is the single greatest threat to the survival of the species in Namibia today, created the perfect test case to see if indeed money from black rhino trophy hunting would be effectively deployed to address this threat. However, there is no evidence that this is the case. Indeed, the evidence

[34] https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-3.pdf
[35] Id., p. 10.
[36] Id., p. 11.

suggests that rhino poaching escalated as funds from black rhino hunting were streaming in and that these funds were not effectively diverted to address the crisis. Thus, Namibia failed the test and the Service can no longer make the argument that money from black rhino trophy hunting will enhance the survival of black rhinos by protecting them from poachers.

And, there is certainly no evidence that the USD 400,000 already paid to the GPTF by Mr. Costa for the 2017 black rhino hunt will lead to enhancement of the survival of the species.

Further, although Namibia issues permits to hunt rhino, there is no evidence that such permitting decisions take into account the best available science, which demonstrates the importance of incorporating individual-level measures of rhino genetic diversity into management plans and shows that "excess" male rhinos can successfully be used to improve genetic diversity in small populations (instead of culled via trophy hunting).[37]

Thus, it is imperative that Namibia reevaluate whether critically endangered black rhinos can be sustainably hunted for trophies, especially in light of the current poaching crisis and new scientific information demonstrating the value of preserving bulls. Unless or until such analyses are completed, it is impossible for the Service to make an enhancement finding for these permit applications.

The Service Cannot Rely on Its Previous Enhancement Findings or Non-Detriment Findings

In 2015, the Service issued import permits for two black rhino trophies from Namibia to Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B), and in 2018 the Service announced that it made an enhancement finding supporting issuance of such a permit to Lacy James Harber (PRT–31792C). However, for the following reasons, the Service's findings underlying those permits are insufficient for the Service to make an enhancement finding on the current application from Mr. Costa.

The Service stated that the 2015 positive enhancement finding[38] was based on three factors: success of implementing the Black Rhino Conservation Strategy for Namibia, the use of funds generated from black rhino hunts, and the biological need for such harvests. These are the same factors cited by the Service in its previous positive enhancement finding issued in 2013.[39] Not only were these findings flawed when originally issued but, given the materially

[37]Cain, B. et al. 2014. *Sex-Biased Inbreeding Effects on Reproductive Success and Home Range Size of the Critically Endangered Black Rhinoceros.* Conservation Biology Conservation Biology, Volume 28, Issue 2, pages 594–603, *http://www.olpejetaconservancy.org/sites/default/files/documents/Cain_2013.pdf*; Linklater, W. L., Adcock, K., du Preez, P., Swaisgood, R. R., Law, P. R., Knight, M. H., Gedir, J. V. and Kerley, G. I.H. (2011), *Guidelines for large herbivore translocation simplified: black rhinoceros case study.* Journal of Applied Ecology, 48: 493–502. doi: 10.1111/j.1365-2664.2011.01960.x http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.01960.x/full.

[38] *Enhancement Finding for the import of a Sport-hunted Black Rhino trophy taken in Namibia during 2013 (PRT-33291B),* memo to file from the Chief, Branch of Permits, DMA, USFWS, dated April 6, 2015.

[39] *Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051),* memo to file from the Chief, Branch of Permits, DMA, USFWS, dated March 27, 2013.

different landscape in 2018 (and the ongoing and escalating poaching crisis), these findings are particularly inadequate to support issuance of Mr. Costa's permit application.

Regarding the "success of implementing the Black Rhino Conservation Strategy for Namibia": The Service obviously thinks the Strategy has been a success as both the 2013 and 2015 enhancement findings state that the Strategy "contains very specific management goals in the area of range expansion, biological management, protection, policy and legislative frameworks, and capacity building and sustainability"; "through this strategy, local communities directly benefit, resulting in increased community support for presence of black rhino and provides a disincentive to poaching"; and "between 2001 and 2012, the population of black rhino in Namibia increased from 735 to over 1700 [the 2015 finding states "1,769" rather than "over 1,700"]. It should be recognized that the ten-year target established in the Strategy plan was to increase the population to 1,500 animals by 2011."[40] In the 2015 finding, the Service states that, "Without a proper framework in place to ensure Namibia's rhino population is being managed and conserved sustainable, the Service would be unable to find that the import of such a trophy would enhance the survival of the species; regardless of the amount of money someone was willing to spend to hunt and import such a trophy."[41]

However, the Strategy is outdated and, based on the exponential increase in black rhino poaching in Namibia since 2014, is clearly not successful. The Black Rhino Conservation Strategy for Namibia was issued in 2003 and was meant to cover only 2002-2006. While a draft 2017 Strategy has been prepared, it has not been finalized. Given the exponential and detrimental increase in black rhino poaching in Namibia since 2014, it would be arbitrary and capricious to conclude that the Strategy is successful. As noted before, in 2015, 3.8% of the black rhino population in Namibia was poached, nearly reaching the black rhino population growth rate of 4.7%. According to the 2015 enhancement finding, the "recognized sustainable offtake" for black rhinos is 1% annually;[42] current poaching is nearly four times that level, indicating a failure of the Strategy. Therefore, given the lack of an up-to-date, effective framework for conservation and the clear lack of protection of black rhinos in Namibia from the most important threat to the species—poaching—the Service cannot find that the import of such a trophy would enhance the survival of the species.

Furthermore, Namibia has a reputation for poor control of black rhino hunting. In 2012, a Russian client of controversial professional hunter Peter Thormählen killed a Namibian black rhino on a hunting permit that expired in 2011.[43] In 2013, the same professional hunter was guiding an American hunter, Jimmy John Liautaud, on a **male** black rhino hunt when

[40] 2013 enhancement finding, p. 8-9; 2015 enhancement finding, p. 3-4.
[41] 2015 enhancement finding, p. 8.
[42] 2015 enhancement finding, p. 4.
[43] https://mg.co.za/article/2012-06-28-questions-over-namibian-rhino-hunt

Liautaud killed the only **female** black rhino in Mangetti National Park, a significant loss to the breeding potential of this critically endangered species.[44]

Regarding "the use of funds generated from black rhino hunts", both the 2013 and the 2015 enhancement findings state that "since the need to protect populations from poaching and provide on the ground oversight, including 24-hour surveillance, may be prohibitively expensive, the sale of a surplus male trophy and the use of the funds derived from that sale to provide the protection and oversight needed, will serve to enhance the survival of the species."[45] The 2015 enhancement finding states that "money generated from a few select hunts of surplus males, provides much needed funding to further assist the Namibian government in conserving and protecting its rhinos, allowing for increased enforcement efforts to combat the ever growing threat from poachers and the increasing demands for rhino horn on the black market."[46]

The implication of these statements is that money paid by hunters into the aforementioned Game Products Trust Fund (GPTF): a) will be used for black rhino conservation; and b) this will enhance the survival of the species. However, it is obvious that the millions of dollars that American hunters, and hunters from other countries, have paid into the GPTF since 2009 for trophy hunting black rhinos has coincided with an exponential increase in black rhino poaching that began in 2014 and continues to the present day. An appropriate management response would have been to direct this money toward increased protection of black rhinos in poaching hotspots. But no evidence has been provided by the applicant or is otherwise available that the millions of dollars already received by GPTF for black rhino trophy hunting were used for this purpose; given the black rhino poaching crisis in Namibia, we must assume that the funds were not effectively used to protect black rhinos from poachers. Therefore, Service cannot credibly continue to assert that funds from black rhino trophy hunting in Namibia are being used to protect black rhinos from poaching.

Furthermore, as we have pointed out in previous comments to the Service regarding the importation of black rhino trophies, there is no guarantee that any of the money deposited into the GPTF will be used for black rhino conservation as this is a general fund allocated by a Board to all manner of projects including those that have nothing to do with rhinos, and could even be harmful to rhinos, such as "rural development". The GPTF Board, comprised of diverse interests including community representatives, and Ministries of Agriculture and Finance, decides which projects will be funded. Secondly, even if some or all of the funds are used for black rhino conservation, there is no guarantee that the activities undertaken will enhance the survival of the species. Thirdly, given that funds previously deposited into the GPTF were not used effectively to address the escalation of black rhino poaching in Namibia since 2014, it is unclear what the additional funds provided by Mr. Costa could do to further

[44] See *The Namibian*, Napha Distances Itself from Rhino Cow Hunter (Oct. 23, 2014), https://www.namibian.com.na/print.php?id=129586&type=2
[45] 2013 enhancement finding, p. 9; 2015 enhancement finding, p. 4
[46] 2015 enhancement finding, p. 8.

enhance the survival of the species. In conclusion, despite the million dollars that has been deposited into the GPTF by American trophy hunters, there is no evidence that any of these funds have been used to address the escalation in black rhino poaching.

Finally, regarding "the biological need for such harvests", the previous enhancement findings make the case that so-called post-reproductive, surplus male black rhinos "need" to be removed from the population because males kill each other, compete with and impede immigration of younger males, repress breeding, and suppress gene flow. The findings make numerous statements in this regard including: "there have been indications that aggressive males may be a population-limiting factor in some areas and removal of these individuals may lead to a population increase and greater survival"; "the removal of limited number of males has shown to stimulate population growth in areas where it is evident that density dependent effects are repressing breeding and causing mortality"; "biological effects of removing specific individuals from a population include 1) reduced male fighting; 2) shorter calving intervals; and 3) reduced juvenile mortality"; and "male-biased populations can have an adverse effect on productivity, gene flow, and immigration of younger males".

Firstly, to call this a "biological need" is to ignore millions of years of evolution that resulted in these behaviors. In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not "need" to be addressed by human intervention; if it were not optimal, it would not have evolved. Secondly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that removal of males stimulates population growth and improves gene flow. Thirdly, even if these claims were true, the enhancement findings do not provide evidence that the black rhino trophies to be imported came from an "aggressive male" that lived in one of the areas or populations referred to in the claims (with density-dependent effects, or male-biased populations). Fourthly, the finding refers to density-dependent effects of black rhinos without understanding that the reference cited, Emslie et al. (2009),[47] refers to the effect of density of rhinos in fenced sanctuaries, and not to the effect of removing a specific individual from a wild population, which is relevant to the import of the Namibian black rhino trophy. Finally, we note that Kenya, which does not allow trophy hunting, and which holds the third largest population of black rhino in Africa and is a stronghold for the eastern subspecies (*Diceros bicornis michaeli*)), does not consider older male rhinos to pose a threat to other rhinos to the point where they need to be removed from the population, much less killed.[48] This suggests that this "threat" was invented by Namibia in order to profit from black rhino trophy hunting.

[47] Emslie, R.H., R. Amin, and R. Kock (eds). 2009. Guidelines for the in situ Re-introduction and Translocation of African and Asian Rhinoceros. IUCN Species Survival Commission, Gland, Switzerland.

[48] Mulama, M., Omondi, P., Musyoki, C., Khayale, C., Kariuki, L. and Ndetei, R., 2015. Lessons learned in the implementation of endangered species specific strategies: Midterm Review of the Kenya Black Rhino Strategy (2012–2016). Pachyderm, 1(56), pp.97-101.

Furthermore, the previous enhancement findings argue that import of a black rhino trophy to the U.S. will not harm the survival of the species. The finding states that "animals to be taken as trophies may only be "post reproductive" male animals and assumed to be beyond normal reproductive age that would be at least 30 years old. Presumably, this means that these animals are well represented in the population"; and "all current studies of population dynamics indicate that the removal of a limited number of surplus males from a self-sustaining population will have little effect on the fecundity or survival of that population." Firstly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that male black rhinos aged 30 and above no longer reproduce and that their genes are "well represented in the population," and that removal of "surplus males" will have little effect on survival of a self-sustaining population. Secondly, wild black rhinos may live to age 40 (Berger and Cunningham 1995);[49] removal of a 30-year-old black rhino deprives the population of perhaps ten more years of genetic contribution from these obviously successful old males, vital to the genetic diversity and therefore the resiliency and survival of a critically endangered species. In conclusion, the previous enhancement findings do not demonstrate a "biological need" for removing males from black rhino populations, and should not be relied upon in evaluating the Costa import permit application.

The ESA (16 U.S.C. § 1539(c)) requires the Service to make individualized enhancement findings for endangered species and the Service must reconsider its previous findings and examine the Costa application *de novo*.

Deficiencies in the Costa Application

Mr. Costa fails to meet both the procedural and substantive requirements for issuance of the requested import permit; therefore, the Service must deny this application.

- Bad Faith

As an initial matter, this individual cannot be said to have applied for this authorization in good faith, as required by law. 16 U.S.C. § 1539(d)(1). Mr. Costa is a wealthy businessman whose primary interest is securing a trophy for personal enjoyment and aesthetic purposes, not to contribute to rhino conservation. The Service cannot issue authorization to conduct otherwise prohibited activities to an applicant who has no intention, let alone expertise, to actually contribute to conservation of the species.

- Insufficient and Contradictory Information

Mr. Costa's application materials provide insufficient and contradictory information for the Service to make an enhancement finding.

[49] Berger, J. and C. Cunningham. 1995. Predation, sensitivity and sex: why female black rhinoceroses outlive males. Behavioral Ecology 6 (1): 57-64.

- By and large, the documentation attached to Mr. Costa's application characterizes trophy hunting as having an important economic benefit. But it is irrelevant that some people consider trophy hunting in general, or Namibia's black rhino trophy hunting program in particular, to be of economic value – the ESA requires the Service to deny an import permit application unless the applicant clearly demonstrates that the proposed activity would enhance the survival of the species.

- The application's cover letter to the Service from Conservation Force, dated 27 December 2017, states, that there as an error in the application pertaining to the date of the hunt. It states, "there is one error in the paperwork that has been corrected. The hunt was on 24/6/2017 but the PH accidentally wrote 24/7/2017, i.e., the month of July instead of the correct month of June. The correspondence attached explains and corrects the date of the hunt." The hunt permit, which is contained in the application materials, was valid from 19-25 June 2017; consequently, this seems to be an attempt to correct the record to claim that the hunt took place when the permit was valid and not a month after it expired. However, other materials in the application indicate that the hunt indeed took place on 24 July 2017, and not on 24 June 2017 as claimed by Conservation Force. The application materials that support the 24 June hunt date and contradict the Conservation Force claim include:

    - An application to the Ministry of Environment and Tourism (MET) of Namibia to possess controlled game products is dated 25 June 2017. This is one day after the 24 June hunt supposedly took place.

    - The permit from the MET, which originally stated that the hunt took place on 24 July 2017; this is crossed out by hand and 24 June 2017 is recorded in its place. The initials of two people appear below this correction. The MET permit is stamped with the date of 9 September 2017. This is 77 days after 24 June.

    - The MET Namibian Rhinoceros Mortality Reporting Form states, on p. 21, that the animal killed was a black rhino, male, age 35, "data found" on 24 July 2017 by "Victor and Pieter, "how found" was "searched for", with "estimated data of death as 24 July 2017, cause of death "hunting/trophy", two horns were found and the skull was collected. In the comments section it is stated, "Reiser Taxidermy will take possession of the rhino on 25 July 2017. The signature of the recorder was dated 24 July 2017.

    - Email from MET to Service, dated 14 November 2017, which states (on page 29 of the application) that the hunt took place on 24 July 2017.

- The email from MET to the Service, dated 14 November 2017, also states that "The rhino was removed because it was interfering with the breeding by other, younger

breeding bulls. This impacted negatively on the Mangetti National Park population and the overall objectives of our meta-population management at a time when positive rhinoceros' growth rates are essential due to the threat of poaching." That a particular male rhino might restrict cows from breeding with younger bulls is a description of the natural behavior of black rhinos (as male rhinos compete for access to females and older males naturally restrict younger males' access to females) – thus, such description alone cannot justify a need to remove a particular rhino from a population. Moreover, no explanation is provided as to why this completely natural behavior that has been molded by natural selection supposedly has a negative impact on the population in Mangetti and the objectives of Namibia's meta-population management of the species.

Thus, the information provided in the application is insufficient for the Service to make a finding that importing trophies of the particular rhino hunted would enhance the survival of the species, as required by law.

- Trophy Hunting Is Not Enhancement

HSUS, HSLF, HSI, and CBD object to the notion that trophy hunting of a critically endangered species provides a net benefit to species survival. Indeed, there is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

For trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

- Donations Are Not Enhancement

The ESA requires a direct link between the authorized action (the take or commerce) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of Mr. Costa. Thus, such a donation offset is insufficient grounds for an enhancement finding.

As discussed above, there is no evidence that donations made to Namibia's Game Products Trust Fund (GPTF) automatically benefit rhino conservation. Further, there is no accounting of how GPTF funds have been spent in the past, nor evidence that Namibia's black rhino conservation plan relies on funding from trophy hunting. Indeed, if such information existed, one would have expected the application to contain evidence that funds generated by the hunts of the black rhino in Namibia for which the Service previously permitted trophy imports, were spent by the GPTF on rhino conservation projects and that these projects actually enhanced the survival of the species. But Mr. Costa relies entirely on donations to the GPTF in attempt to justify his proposed actions, even though they have not even alleged how exactly their donations would be used to further rhino conservation (e.g., projects to reduce levels of poaching and human-wildlife conflict or to expand protected habitat).

Any alleged loss of future auction revenue is also irrelevant to the Service's decision here, not only because such auctions have not been demonstrated to benefit rhino conservation, but because predictions about future auctions are entirely speculative.

In fact, the applicant's proposed activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and have acted to the detriment of the animal involved. Therefore, the Service must deny this application for enhancement authorization.

Conclusion

In summary, the Service must deny this import permit application because:

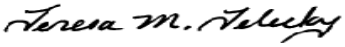
- Namibia's rhino conservation plan has not been updated to address the poaching crisis;
- The permit was not applied for in good faith;
- The application contains insufficient and contradictory details and explanation;
- Trophy hunting of critically endangered black rhinos is not enhancement;
- The applicants' trophy imports would not enhance rhino survival; and
- Donations cannot legally offset otherwise prohibited activities.

Over 57,000 HSUS, HSLF, HSI, and CBD constituents have voiced their opposition to this permit, demonstrating that there is strong public support for protecting endangered rhinos from senseless death.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), HSUS, HSLF, HSI, and CBD hereby request ten days advance notification (via email, afrostic@humanesociety.org and tsanerib@biologicaldiversity.org) prior to the issuance of these permits. Additionally, if the Service decides to issue these permits, please include with such notice a copy of the enhancement finding justifying the permit issuance.

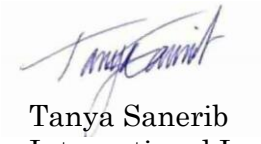
Sincerely,

Anna Frostic
Managing Attorney, Wildlife Litigation
The Humane Society of the United States



Teresa M. Telecky, Ph.D.
Vice President, Wildlife
Humane Society International

Keisha Sedlacek
Director of Regulatory Affairs, Federal Affairs
Humane Society Legislative Fund



Tanya Sanerib
International Legal Director & Senior Attorney
Center for Biological Diversity

Annex X

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Black Rhinoceros Trophy Import Permit Application (PRT-15594D); May 28, 2019 (17 pages)

Attached below.

May 28, 2019

Mary Cogliano, Ph.D.
Chief, Branch of Permits
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: IA
Falls Church, VA 22041-3803

Re: Black Rhinoceros Trophy Import Permit Application (PRT–15594D)

Dear Dr. Cogliano,

The Humane Society of the United States, Humane Society International, Humane Society Legislative Fund, and Center for Biological Diversity strongly urge the U.S. Fish and Wildlife Service to deny the permit application from Chris Peyerk (PRT– 15594D) to import a black rhinoceros (*Diceros bicornis*) hunting trophy from Namibia. *See* 84 Fed. Reg. 17882 (Apr. 26, 2019). Rhino poaching has dramatically increased in Namibia in recent years, corruption in the trophy hunting industry is rampant, and there is no evidence that Namibia's outdated rhinoceros management plan takes into account the most recent scientific information. Issuing this import permit would clearly not enhance the propagation or survival of the species, as required by law – indeed, the Service's 2015 authorization of black rhinoceros trophy imports from Namibia created a dangerous precedent that has resulted in the death of additional black rhinoceros, a critically endangered species. Granting this permit would undermine rhino conservation efforts and would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny this application.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the black rhinoceros (*Diceros bicornis*) over 30 years ago (45 Fed. Reg. 47352 (July 14, 1980)), individuals of listed species are protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. 16 U.S.C. § 1539(a)(1)(A); *see also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that these rhino import permits will only be issued if the Service finds "that the rhino is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Enhancement authorization for endangered species must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an enhancement permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Current Status of the Black Rhino in Namibia

The black rhino is a Critically Endangered species.[2] The main threat to the survival of the black rhinoceros is poaching to meet the demand for rhino horn[3] which is used in traditional Asian medicine and/or given as expensive gifts in Asia.

The black rhino experienced a population decline of 97.6% between 1960 and 1995, mainly due to poaching.[4] As of 2015, there were only 5,250 black rhinos of three subspecies in existence in the wild.[5] In 2015, the population size of the subspecies that exists in Namibia, *D. b. bicornis*, was only 2,200 animals; of these, only 1,946 occur in Namibia (the others occur in South Africa).[6]

Rhinos continue to be under siege from poachers in Africa generally, and Namibia specifically. Poaching of rhinos (both black and white) in Africa has risen exponentially since 2007 (Figure 1), growing from only 62 in 2007 to 1,342 in 2015.[7] In 2015, 3.8% of the African black rhino population was poached, nearly reaching the black rhino population growth rate of 4.7%.[8] Poaching of black rhinos nearly doubled between 2013 and 2015, mainly because of increased poaching in Namibia, Zimbabwe and South Africa.[9]

In Namibia, poaching of both rhino species increased from zero in 2006-2008 to 30 in 2014, and then tripled to 90 in 2015.[10] The vast majority of rhinos poached in Namibia between 2014 and 2016 were black rhinos (Figure 2). According to a 2016 report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and

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[2] Emslie, R. 2012. *Diceros bicornis*. The IUCN Red List of Threatened Species 2012: e.T6557A16980917. http://www.iucnredlist.org/details/full/6557/0 . Downloaded on 31 January 2018.
[3] Id.
[4] Id.
[5] *African and Asian Rhinoceroses – Status, Conservation and Trade. A report from the IUCN Species Survival Commission (IUCN SSC) African and Asian Rhino Specialist Groups and TRAFFIC to the CITES Secretariat pursuant to Resolution Conf. 9.14 (Rev. CoP15)* (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-68-A5.pdf . Downloaded on 31 January 2018. P. 1.
[6] Id, p. 1.
[7] Id., p. 2.
[8] Id., p. 2.
[9] Id., p. 2.
[10] Id., p. 2.

TRAFFIC, "The geographical shift in poaching to Namibia over the last two years is worrying."[11]

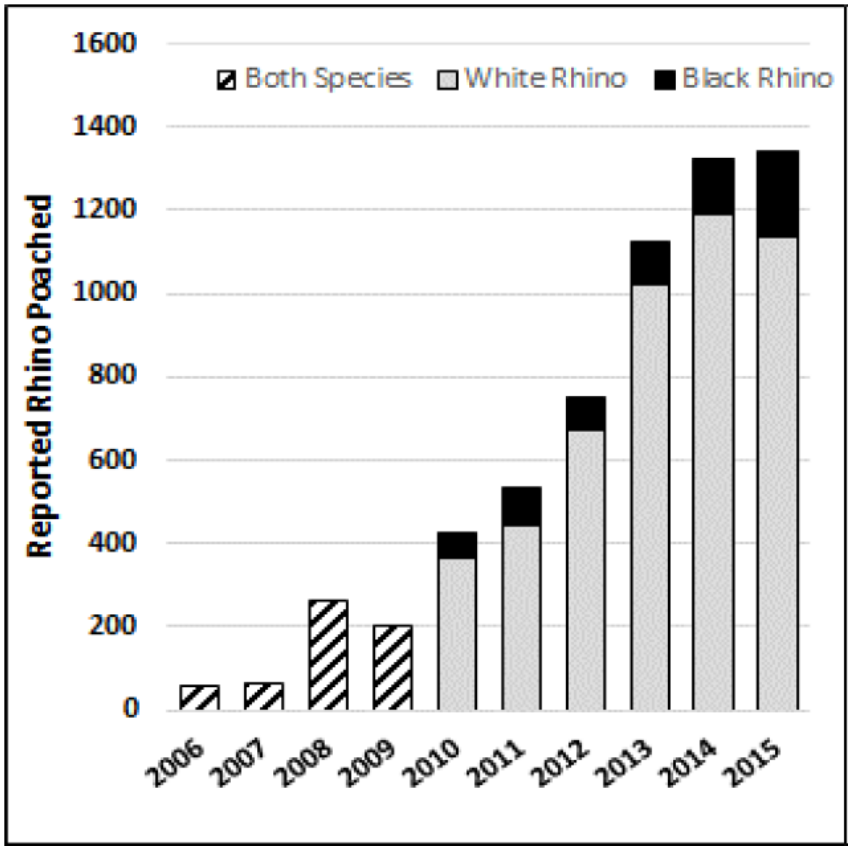

Figure 1. Number of rhinos poached in Africa, 2006-2015.[12]

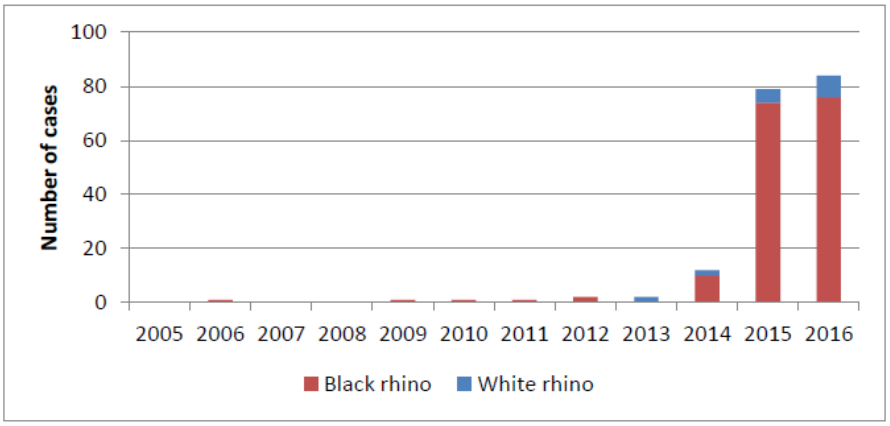

Figure 2. Number of rhinos poached in Namibia, 2005-2016.[13]

[11] Id., p. 3.
[12] Id., p. 2.
[13] Namibia Black Rhinoceros (*Diceros bicornis bicornis*) Management Strategy. Draft - Version 4 (September 2017). Annex 5, p. 46.

We are not aware of official Namibian government poaching figures for 2017 and 2018. However, according to a news report,[14] 27 black rhinos were poached in Namibia in 2017 and 57 in 2018, meaning that poaching levels remain high compared to a decade ago.

The escalation of rhino poaching in Namibia clearly indicates that the government is failing to protect the black rhino from criminals. As detailed in our previous comments, there are serious questions whether Namibia has adequate laws to prevent poaching and trafficking, and adequate enforcement and implementation of those laws. Namibia has admitted, in an October 2018 report to the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"), that there are obstacles to securing successful prosecutions:

> "Although amendments were made on penalties and prosecutions regarding illegal possession and trade of controlled wildlife products, some prosecutors still gives lenient penalties and imprisonments to offenders, which encourage offenders to repeat a similar offence. In addition, release of suspects on bail is also contributing to wildlife crime, as offenders commit similar crime as they wait for long time to be prosecuted.[15]

Indeed, of the 85 rhinoceros prosecutions from 2016-2018 reported by Namibia to the Standing Committee of CITES, "one so far has resulted in a conviction."[16]

A July 2018 investigative news report may shed further light on the problem: It found that wealthy Namibian businessmen recruit men from poor communities in Angola, Zimbabwe and Zambia close to the Namibian border, supplying them with training and firearms that they use to poach rhinos in Namibia.[17] The businessmen even post bail for the poachers if they are arrested.

Indeed, the recent report submitted to the October 2018 CITES Standing Committee by its Working Group on Rhinoceroses recommended that Namibia be considered for inclusion among the Countries for Priority Attention "because of the recent escalation of rhino poaching."[18] One of the reasons for inclusion of Namibia as a country for priority attention is its need to report illegal trade to the Secretariat of CITES. Of the "[t]welve Parties [that] have provided samples from seized horn since 2015" links were "made to rhinoceros" from three countries, including Namibia.[19]

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[14] http://www.xinhuanet.com/english/2019-02/12/c_137813872.htm
[15] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56-A9.pdf, p. 7.
[16] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56.pdf at para. 69.
[17] https://www.dailymaverick.co.za/article/2018-07-27-wealthy-businessmen-prey-on-indigent-namibians-to-poach-rhino-for-international-syndicates/
[18] https://cites.org/sites/default/files/eng/com/sc/70/E-SC70-56.pdf
[19] SC70 Doc 56 para. 30.

In light of the escalation of black rhino poaching in Namibia, it is important to note that Namibia only recently updated its black rhino management plan. The 2003 Black Rhino Conservation Strategy for Namibia (hereafter "2003 Strategy"),[20] which was supposed to remain in effect only for 2002-2006,[21] remained in effect without any updates until a new Strategy was adopted in June 2018. According to an email from Kenneth Uiseb of MET to Adrienne Lohe of FWS, dated 25 March 2019, and contained in Mr. Peyerk's import permit application materials, the new strategy was adopted on 12 June 2018 "and it's implementation started immediately." It is important to note that the new strategy was adopted after Mr. Peyerk killed the black rhino and at that time, rhino management was still under the outdated 2003 Strategy. Further, there is no evidence in the record demonstrating that the June 2018 strategy has in fact been implemented.

The 2003 Strategy contains the objective: "Losses of black rhinos due to illegal killing, and levels of human disturbance, are minimized."[22] The 2003 Strategy explains, "All black rhino populations need to be actively protected from illegal killing in order to maintain individual population growth, and contribution of increase in the rhino metapopulation towards agreed targets."[23] The 2003 Strategy states that an indicator of success regarding this objective is that there is <1% mortality of individually known and registered rhinos.[24]

However, the 2018 Strategy explains that Namibia has completely failed to meet this objective: "following a period of relatively low levels of illegal killing of black rhinos in Namibia, once again the major threat to black rhino numbers is poaching and illegal trade in rhino horn. Since 2014, Namibia has experienced a dramatic increase in losses of black rhinos from illegal killing, and over this period levels based on detected cases have exceeded the target threshold of 1% of the metapopulation. A concerted effort will need to be made to reverse the trend, in order to sustain population growth and maintain the economic, tourism, social and community value/benefits of rhino."[25]

Comparing the 2015 Namibian black rhino population size of 1,946 to the approximately 75 black rhinos poached in 2015 (see Figure 2), it would appear that approximately 3.85% of Namibia's black rhinos were poached in 2015, which is nearly four times higher than the desired target threshold of <1%, demonstrating the gross failure of Namibia to meet this strategic objective.

Despite rising poaching levels, Namibia continued to allow black rhino hunting, ostensibly to raise money to fight poaching. Namibia has allowed the trophy hunting of black rhinos since

[20] *Black Rhino Conservation Strategy for Namibia*, January 2003, Ministry of Environment and Tourism, Republic of Namibia.
[21] Id., p. 11.
[22] *Black Rhino Conservation Strategy for Namibia*, January 2003, p. 15.
[23] Id., p. 15.
[24] Id., p. 15.
[25] *Namibia - Black rhino* (Diceros bicornis bicornis) *Management Strategy*, p. 13.

2009, when one animal was hunted.[26] Since then, one black rhino was hunted in 2011, one in 2012, two in 2013, one in 2014, and one in 2015.[27]

Together, black rhino hunts in Namibia from 2009 through 2017 resulted in American hunters paying at least USD 1.4 million dollars to a fund—the Game Products Trust Fund or GPTF—that is, according to the Namibian Ministry of Environment and Tourism (MET), "ring fenced for rhino conservation in Namibia:"[28] USD 175,000 for the David Reinke permit (PRT-229051);[29] USD 550,000 for the Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B) permit applications,[30] USD 275,000 for the Lacy James Harber (PRT–31792C) permit application, [31] and USD 400,000 for the Lawrence Costa (PRT–70782C) permit application.

According to information contained in the CITES Trade Database, at least eight additional black rhino trophies were exported from Namibia from countries other than the U.S. since 2009 (Table 1). At least one black rhino trophy was imported to Austria, one to Spain, four to Russia, one to South Africa and one to Czech Republic; it is alarming to note that, according to the comparative tabulation contained in Table 1, Namibia did not record some black rhino trophy exports to Russia or South Africa (these were only recorded by the importing countries). In addition, the comparative tabulation led us to discover a discrepancy that remains unexplained: in 2015, the CITES Trade Database and the Service's own import records indicate that three rather than two black rhino trophies were imported to the US from Namibia. But the Federal Register only contains two import applications that year for one black rhino trophy each, and the only other import permit applications noticed in the Federal Register was published in 2009 (PRT-229051) and 2018 ((PRT–31792C).

Table 1. Comparative tabulation report obtained from the CITES Trade Database, based on a search for exports of *Diceros bicornis* from Namibia, purpose H, 2009-2018, conducted on 9 February 2019.[32]

Year	Importer	Exporter	Origin	Importer reported quantity	Exporter reported quantity	Term	Unit	Purpose	Source
2009	AT	NA			1	trophies		H	W
2010	AT	NA		1		trophies		H	W
2010	RU	NA		1		trophies		H	W

[26] *African and Asian Rhinoceroses – Status, Conservation and Trade*, p. 8.
[27] Id., p. 8.
[28] Email from MET to USFWS, dated November 14, 2017, contained in the Lacy James Harber (PRT–31792C) permit application.
[29] Memorandum to File from Chief, Branch of Permits, Division of Management Authority, U.S. Fish and Wildlife Service, dated March 27, 2013, on the subject of Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051), p. 11.
[30] https://www.fws.gov/news/ShowNews.cfm?ID=56D54860-AEA6-0EEE-73467FE9B00499F0
[31] Letter from Conservation Force to the Service dated April 12, 2017, contained in the Lacy James Harber application materials.
[32] https://trade.cites.org/en/cites_trade/

Table 1. Comparative tabulation report obtained from the CITES Trade Database, based on a search for exports of *Diceros bicornis* from Namibia, purpose H, 2009-2018, conducted on 9 February 2019.[32]									
Year	**Importer**	**Exporter**	**Origin**	**Importer reported quantity**	**Exporter reported quantity**	**Term**	**Unit**	**Purpose**	**Source**
2013	US	NA			2	horns		H	W
2013	US	NA			1	skins		H	W
2013	US	NA			1	skulls		H	W
2013	US	NA		1		trophies		H	W
2013	ZA	NA		1		trophies		H	W
2014	ES	NA			1	trophies		H	W
2014	RU	NA		1		trophies		H	W
2015	ES	NA		1		trophies		H	W
2015	US	NA		3	3	trophies		H	W
2017	CZ	NA		1	1	trophies		H	W
2017	RU	NA			2	trophies		H	W

Thus, from 2009 through 2018, in addition to the USD 1.4 million from five black rhino hunts by Americans, and probably at least an equal amount per rhino for the other eight hunts, it would appear that about USD 3 million was available to Namibia to address the rhino poaching crisis that began in 2014.

Namibia made the assertion long ago, in its 2004 proposal to establish an annual black rhino trophy export quota of five at the 13th meeting of the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES CoP13), that "Considerable funds can be raised through the trophy hunting of one animal, which can then be used to further enhance the conservation efforts for the species. As all black rhinoceroses in Namibia belong to the State, all revenue from hunting will be re-invested in conservation programmes through the trust fund established pursuant to the Game Products Trust Fund Act, Act No. 7 of 1997."[33]

This assertion was parroted by the Service in its 2013 enhancement finding for PRT-229051 and its 2015 enhancement finding for PRT-33291B. For example, the 2013 enhancement finding stated that the GPTF "is a mechanism for ensuring that revenue obtained from the sale of wildlife products could be used exclusively toward wildlife conservation and community conservation and development programs aimed at harmonizing the co-existence of people with such wildlife, and securing a future for wildlife outside of and within protected areas in Namibia."[34] The 2013 enhancement finding also stated that World Wildlife Fund supported the permit application on the grounds that, *inter alia*, "Income generated from harvest of rhino is being used in support of black rhino conservation, assisting MET to

[33] https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-3.pdf
[34] Id., p. 10.

implement its black rhino management plan and protect against potential onslaught of poaching."[35]

Thus, the escalation of black rhino poaching in Namibia since 2014, which is the single greatest threat to the survival of the species in Namibia today, created the perfect test case to see if indeed money from black rhino trophy hunting would be effectively deployed to address this threat. However, there is no evidence that this is the case. Indeed, the evidence suggests that rhino poaching escalated as funds from black rhino hunting were streaming in and that these funds were not effectively diverted to address the crisis. Thus, Namibia failed the test and the Service can no longer make the argument that money from black rhino trophy hunting will enhance the survival of black rhinos by protecting them from poachers.

And, there is certainly no evidence that the USD 400,000 currently held by Conservation Force and to allegedly be paid to the GPTF for the 2018 black rhino hunt once Mr. Peyerk receives an import permit from FWS, will lead to enhancement of the survival of the species.

Further, although Namibia issues permits to hunt rhino, there is no evidence that such permitting decisions take into account the best available science, which demonstrates the importance of incorporating individual-level measures of rhino genetic diversity into management plans and shows that "excess" male rhinos can successfully be used to improve genetic diversity in small populations (instead of culled via trophy hunting).[36]

Thus, it is imperative that Namibia reevaluate whether critically endangered black rhinos can be sustainably hunted for trophies, especially in light of the current poaching crisis and new scientific information demonstrating the value of preserving bulls. Unless or until such analyses are completed, it is impossible for the Service to make an enhancement finding for these permit applications.

The Service Cannot Rely on Its Previous Enhancement Findings or Non-Detriment Findings

In 2015, the Service issued import permits for two black rhino trophies from Namibia to Corey Knowlton (PRT-33291B) and Michael Luzich (PRT-33743B); however, for the following reasons, the Service's findings underlying those permits are insufficient for the Service to make an enhancement finding on the current application from Mr. Peyerk.

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[35] Id., p. 11.

[36]Cain, B. et al. 2014. *Sex-Biased Inbreeding Effects on Reproductive Success and Home Range Size of the Critically Endangered Black Rhinoceros.* Conservation Biology Conservation Biology, Volume 28, Issue 2, pages 594–603, *http://www.olpejetaconservancy.org/sites/default/files/documents/Cain_2013.pdf*; Linklater, W. L., Adcock, K., du Preez, P., Swaisgood, R. R., Law, P. R., Knight, M. H., Gedir, J. V. and Kerley, G. I.H. (2011), *Guidelines for large herbivore translocation simplified: black rhinoceros case study.* Journal of Applied Ecology, 48: 493–502. doi: 10.1111/j.1365-2664.2011.01960.x http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2011.01960.x/full.

The Service stated that the 2015 positive enhancement finding[37] was based on three factors: success of implementing the Black Rhino Conservation Strategy for Namibia, the use of funds generated from black rhino hunts, and the biological need for such harvests. These are the same factors cited by the Service in its previous positive enhancement finding issued in 2013.[38] Not only were these findings flawed when originally issued but, given the materially different landscape in 2018 (and the ongoing and escalating poaching crisis), these findings are particularly inadequate to support issuance of Mr. Peyerk's permit application.

Regarding the "success of implementing the Black Rhino Conservation Strategy for Namibia": The Service obviously thinks the Strategy has been a success as both the 2013 and 2015 enhancement findings state that the Strategy "contains very specific management goals in the area of range expansion, biological management, protection, policy and legislative frameworks, and capacity building and sustainability"; "through this strategy, local communities directly benefit, resulting in increased community support for presence of black rhino and provides a disincentive to poaching"; and "between 2001 and 2012, the population of black rhino in Namibia increased from 735 to over 1700 [the 2015 finding states "1,769" rather than "over 1,700"]. It should be recognized that the ten-year target established in the Strategy plan was to increase the population to 1,500 animals by 2011."[39] In the 2015 finding, the Service states that, "Without a proper framework in place to ensure Namibia's rhino population is being managed and conserved sustainable, the Service would be unable to find that the import of such a trophy would enhance the survival of the species; regardless of the amount of money someone was willing to spend to hunt and import such a trophy."[40]

However, based on the exponential increase in black rhino poaching in Namibia since 2014, the Strategy is clearly not successful. Given the exponential and detrimental increase in black rhino poaching in Namibia since 2014, it would be arbitrary and capricious to conclude that the Strategy is successful. As noted before, in 2015, 3.8% of the black rhino population in Namibia was poached, nearly reaching the black rhino population growth rate of 4.7%. According to the 2015 enhancement finding, the "recognized sustainable offtake" for black rhinos is 1% annually;[41] current poaching is nearly four times that level, indicating a failure of the Strategy. Therefore, given the clear lack of protection of black rhinos in Namibia from the most important threat to the species—poaching—the Service cannot find that the import of such a trophy would enhance the survival of the species.

Furthermore, Namibia has a reputation for poor control of black rhino hunting. In 2012, a Russian client of controversial professional hunter Peter Thormählen killed a Namibian

[37] *Enhancement Finding for the import of a Sport-hunted Black Rhino trophy taken in Namibia during 2013 (PRT-33291B)*, memo to file from the Chief, Branch of Permits, DMA, USFWS, dated April 6, 2015.
[38] *Enhancement from the import of a Black Rhino trophy from Namibia (PRT-229051)*, memo to file from the Chief, Branch of Permits, DMA, USFWS, dated March 27, 2013.
[39] 2013 enhancement finding, p. 8-9; 2015 enhancement finding, p. 3-4.
[40] 2015 enhancement finding, p. 8.
[41] 2015 enhancement finding, p. 4.

black rhino on a hunting permit that expired in 2011.[42] In 2013, the same professional hunter was guiding an American hunter, Jimmy John Liautaud, on a **male** black rhino hunt when Liautaud killed the only **female** black rhino in Mangetti National Park, a significant loss to the breeding potential of this critically endangered species.[43]

Regarding "the use of funds generated from black rhino hunts", both the 2013 and the 2015 enhancement findings state that "since the need to protect populations from poaching and provide on the ground oversight, including 24-hour surveillance, may be prohibitively expensive, the sale of a surplus male trophy and the use of the funds derived from that sale to provide the protection and oversight needed, will serve to enhance the survival of the species."[44] The 2015 enhancement finding states that "money "generated from a few select hunts of surplus males, provides much needed funding to further assist the Namibian government in conserving and protecting its rhinos, allowing for increased enforcement efforts to combat the ever growing threat from poachers and the increasing demands for rhino horn on the black market."[45]

The implication of these statements is that money paid by hunters into the aforementioned Game Products Trust Fund (GPTF): a) will be used for black rhino conservation; and b) this will enhance the survival of the species. However, it is obvious that the millions of dollars that American hunters, and hunters from other countries, have paid into the GPTF since 2009 for trophy hunting black rhinos has coincided with an exponential increase in black rhino poaching that began in 2014 and continues to the present day. Given the black rhino poaching crisis in Namibia, we must assume that the funds were not effectively used to protect black rhinos from poachers. Therefore, Service cannot credibly continue to assert that funds from black rhino trophy hunting in Namibia are being used to protect black rhinos from poaching.

Furthermore, as we have pointed out in previous comments to the Service regarding the importation of black rhino trophies, there is no guarantee that any of the money deposited into the GPTF will be used for black rhino conservation as this is a general fund allocated by a Board to all manner of projects including those that have nothing to do with rhinos, and could even be harmful to rhinos, such as "rural development". The GPTF Board, comprised of diverse interests including community representatives, and Ministries of Agriculture and Finance, decides which projects will be funded. Secondly, even if some or all of the funds are used for black rhino conservation, there is no guarantee that the activities undertaken will enhance the survival of the species. Thirdly, given that funds previously deposited into the GPTF were not used effectively to address the escalation of black rhino poaching in Namibia since 2014, it is unclear what the additional funds provided by Mr. Peyerk could do to further

[42] https://mg.co.za/article/2012-06-28-questions-over-namibian-rhino-hunt
[43] See *The Namibian*, Napha Distances Itself from Rhino Cow Hunter (Oct. 23, 2014), https://www.namibian.com.na/print.php?id=129586&type=2
[44] 2013 enhancement finding, p. 9; 2015 enhancement finding, p. 4
[45] 2015 enhancement finding, p. 8.

enhance the survival of the species. In conclusion, despite the million dollars that has been deposited into the GPTF by American trophy hunters, there is no evidence that any of these funds have been used to effectively address the escalation in black rhino poaching.

Finally, regarding "the biological need for such harvests", the previous enhancement findings make the case that so-called post-reproductive, surplus male black rhinos "need" to be removed from the population because males kill each other, compete with and impede immigration of younger males, repress breeding, and suppress gene flow. The findings make numerous statements in this regard including: "there have been indications that aggressive males may be a population-limiting factor in some areas and removal of these individuals may lead to a population increase and greater survival"; "the removal of limited number of males has shown to stimulate population growth in areas where it is evident that density dependent effects are repressing breeding and causing mortality"; "biological effects of removing specific individuals from a population include 1) reduced male fighting; 2) shorter calving intervals; and 3) reduced juvenile mortality"; and "male-biased populations can have an adverse effect on productivity, gene flow, and immigration of younger males". Firstly, to call this a "biological need" is to ignore millions of years of evolution that resulted in these behaviors. In evolutionary terms, mortal combat between males and competition with younger males is optimal behavior that does not "need" to be addressed by human intervention; if it were not optimal, it would not have evolved. Secondly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that removal of males stimulates population growth and improves gene flow. Thirdly, even if these claims were true, the enhancement findings do not provide evidence that the black rhino trophies to be imported came from an "aggressive male" that lived in one of the areas or populations referred to in the claims (with density-dependent effects, or male-biased populations). Fourthly, the finding refers to density-dependent effects of black rhinos without understanding that the reference cited, Emslie et al. (2009),[46] refers to the effect of density of rhinos in fenced sanctuaries, and not to the effect of removing a specific individual from a wild population, which is relevant to the import of the Namibian black rhino trophy. Finally, we note that Kenya, which does not allow trophy hunting, and which holds the third largest population of black rhino in Africa and is a stronghold for the eastern subspecies (*Diceros bicornis michaeli*)), does not consider older male rhinos to pose a threat to other rhinos to the point where they need to be removed from the population, much less killed.[47] This suggests that this "threat" was invented by Namibia in order to profit from black rhino trophy hunting.

[46] Emslie, R.H., R. Amin, and R. Kock (eds). 2009. Guidelines for the in situ Re-introduction and Translocation of African and Asian Rhinoceros. IUCN Species Survival Commission, Gland, Switzerland.

[47] Mulama, M., Omondi, P., Musyoki, C., Khayale, C., Kariuki, L. and Ndetei, R., 2015. Lessons learned in the implementation of endangered species specific strategies: Midterm Review of the Kenya Black Rhino Strategy (2012–2016). Pachyderm, 1(56), pp.97-101.

Furthermore, the previous enhancement findings argue that import of a black rhino trophy to the U.S. will not harm the survival of the species. The finding states that "animals to be taken as trophies may only be "post reproductive" male animals and assumed to be beyond normal reproductive age that would be at least 30 years old. Presumably, this means that these animals are well represented in the population"; and "all current studies of population dynamics indicate that the removal of a limited number of surplus males from a self-sustaining population will have little effect on the fecundity or survival of that population." Firstly, the enhancement finding does not cite sources in the scientific literature to support the claims made, particularly that male black rhinos aged 30 and above no longer reproduce and that their genes are "well represented in the population," and that removal of "surplus males" will have little effect on survival of a self-sustaining population. Secondly, wild black rhinos may live to age 40 (Berger and Cunningham 1995);[48] removal of a 30-year-old black rhino deprives the population of perhaps ten more years of genetic contribution from these obviously successful old males, vital to the genetic diversity and therefore the resiliency and survival of a critically endangered species. In conclusion, the previous enhancement findings do not demonstrate a "biological need" for removing males from black rhino populations, and should not be relied upon in evaluating the Peyerk import permit application.

It must also be noted that the black rhino killed by Mr. Peyerk was only 28 years old, according to an email from Elly Hamunyela, MET, to John J. Jackson, III, Conservation Force, dated 28 May 2018. Thus, even by the faulty standards of the Service's enhancement findings, as explained in the paragraph above, the rhino killed by Mr. Peyerk was too young to be considered "post-reproductive".

The ESA (16 U.S.C. § 1539(c)) requires the Service to make individualized enhancement findings for endangered species and the Service must reconsider its previous findings and examine the Peyerk application *de novo*.

Deficiencies in the Peyerk Application

Mr. Peyerk fails to meet both the procedural and substantive requirements for issuance of the requested import permit; therefore, the Service must deny this application.

- Bad Faith

As an initial matter, this individual cannot be said to have applied for this authorization in good faith, as required by law. 16 U.S.C. § 1539(d)(1). Mr. Peyerk is a wealthy businessman whose primary interest is securing a trophy for personal enjoyment and aesthetic purposes, not to contribute to rhino conservation. The Service cannot issue authorization to conduct

[48] Berger, J. and C. Cunningham. 1995. Predation, sensitivity and sex: why female black rhinoceroses outlive males. Behavioral Ecology 6 (1): 57-64.

otherwise prohibited activities to an applicant who has no intention, let alone expertise, to actually contribute to conservation of the species.

- Insufficient Information

Mr. Peyerk's application materials provide insufficient information for the Service to make an enhancement finding.

- By and large, the documentation attached to or referred to in Mr. Peyerk's application characterizes trophy hunting as having an important economic benefit. But it is irrelevant that some people consider trophy hunting in general, or Namibia's black rhino trophy hunting program in particular, to be of economic value – the ESA requires the Service to deny an import permit application unless the applicant clearly demonstrates that the proposed activity would enhance the survival of the species.

- An email from Elly Hamunyela, MET, to John J. Jackson, III, Conservation Force, dated 28 May 2018, states that "The rhino was removed because it was interfering with the breeding bv other, younger breeding bulls. This impacted negatively on the Mangetti National Park population and the overall objectives of our meta-population management at a time when positive rhinoceros' growth rates are essential due to the threat of poaching. The current sex ratio in the park is 50:50 of which a third of the male population is above 25, resulting in post reproductive bulls directly competing with young bulls." That a particular male rhino might restrict cows from breeding with younger bulls is a description of the natural behavior of black rhinos (as male rhinos compete for access to females and older males naturally restrict younger males' access to females) – thus, such description alone cannot justify a need to remove a particular rhino from a population. Moreover, no explanation is provided as to why this completely natural behavior that has been molded by natural selection supposedly has a negative impact on the population in Mangetti and the objectives of Namibia's meta-population management of the species.

Thus, the information provided in the application is insufficient for the Service to make a finding that importing trophies of the particular rhino hunted would enhance the survival of the species, as required by law.

- Trophy Hunting Is Not Enhancement

HSUS, HSI, HSLF, and the Center object to the notion that trophy hunting of a critically endangered species provides a net benefit to species survival. Indeed, there is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of

[wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

For trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

- Donations Are Not Enhancement

The ESA requires a direct link between the authorized action (the take or commerce) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise

prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of Mr. Peyerk. Thus, such a donation offset is insufficient grounds for an enhancement finding.

There is no evidence that Namibia's black rhino conservation plan relies on funding from trophy hunting. Indeed, if such information existed, one would have expected the application to contain evidence that funds generated by the hunts of the black rhino in Namibia for which the Service previously permitted trophy imports, were spent on rhino conservation projects that actually enhanced the survival of the species. But Mr. Peyerk relies entirely on donations to the GPTF in attempt to justify his proposed actions.

In fact, the applicant's proposed activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and have acted to the detriment of the animal involved. Therefore, the Service must deny this application for enhancement authorization.

Conclusion

In summary, the Service must deny this import permit application because:

- At the time the black rhino was killed by the applicant, Namibia's rhino conservation plan had not been updated to address the poaching crisis;
- The permit was not applied for in good faith;
- Trophy hunting of critically endangered black rhinos is not enhancement;
- The applicant's trophy imports would not enhance rhino survival; and
- Donations cannot legally offset otherwise prohibited activities.

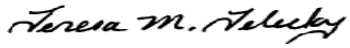
Thousands of HSUS, HSI, HSLF, and the Center's constituents have submitted comments in opposition to FWS issuing rhino trophy import permits, demonstrating that there is strong public support for protecting endangered rhinos from senseless death.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), HSUS, HSI, HSLF, and the Center hereby request ten days advance notification (via email, to afrostic@humanesociety.org and tsanerib@biologicaldiversity.org) prior to the issuance of this permit. Additionally, if the Service decides to issue these permits, please include with such notice a copy of the individualized enhancement finding for the applicant.

Sincerely,

Anna Frostic

Managing Attorney, Wildlife Litigation
The Humane Society of the United States



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Director of Regulatory Affairs, Federal Affairs
Humane Society Legislative Fund

Tanya Sanerib
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Center for Biological Diversity

Annex XI

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Imports of African Elephant Trophies from Tanzania Should Not Be Permitted; October 6, 2017 (25 pages)

Attached below.

October 6, 2017

Mr. Timothy Van Norman
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Re: Imports of African Elephant Trophies from Tanzania Should Not Be Permitted

Dear Chief Van Norman & Chief Gnam:

The Humane Society of the United States (HSUS), Humane Society International (HSI), and the Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service (FWS or "the Service") to continue prohibiting the import of African elephant trophies from Tanzania. As detailed herein, recent evidence demonstrates that elephants in Tanzania are threatened with extinction from poaching and habitat loss and Tanzania cannot ensure that recreational offtake of elephants is sustainable. Therefore, the Service cannot lawfully make an enhancement finding under the Endangered Species Act (ESA) for imports of elephant trophies from Tanzania.

ESA Requirements for Elephant Trophy Imports

Since the African elephant special rule amendment (50 C.F.R. § 17.40(e)) went into effect in June 2016, every import of an African elephant trophy is required to comply with ESA permitting requirements (and imports from Tanzania must also qualify for an import permit under the non-detriment standard in the Convention on International Trade in Endangered Species of Wild Fauna and Flora, "CITES"). Pursuant to the ESA (16 U.S.C. § 1538) and implementing regulations (50 C.F.R. § 17.40(e)), before the Service can authorize the import of an African elephant trophy it must be able to make a finding that the take of the animal enhances the survival of the species. According to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at*

http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with FWS that the IUCN provides relevant standards for determining whether elephant trophy hunting meets this conservation goal. *See* 81 Fed. Reg. 36388, 36394 (June 6, 2016). We strongly encourage FWS to conduct this enhancement analysis consistent with how the Service conducts its analysis for determining whether African lion hunting meets the enhancement standard. 80 Fed. Reg. 79999, 80045 (Dec. 23, 2015). Specifically,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival[], the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of African elephants, as it does for African lions:

> "(a) Biological Sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.
>
> (d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population

counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Further, FWS regulations provide that "No more than two African elephant sport-hunted trophies [can be] imported by any hunter in a calendar year." 50 C.F.R. § 17.40(e)(6)(E).

Strict scrutiny of elephant trophy imports is especially imperative, given that the Service has found that uplisting the species to endangered may be warranted. 81 Fed. Reg. 14058 (March 16, 2016).

There Is No Evidence that Elephant Trophy Hunting in Tanzania Enhances the Survival of the Subspecies

For calendar years 2014 and 2015, the Service was unable to make the requisite findings that hunting African elephants in Tanzania enhances the survival of the species (or that hunting African elephants in Tanzania is not detrimental to the survival of the species). In announcing those suspensions, the Service committed that "Unless information is received that shows a significantly improved situation for elephants in Tanzania such that the required findings could be made, permit applications for the import of elephant sport-hunted trophies would be denied." *See* https://www.fws.gov/international/permits/by-activity/sport-hunted-trophies.html. Elephant populations in Tanzania have declined by as much as 60 percent since 2009 due to poaching and are still extremely vulnerable to exploitation, such as trophy hunting; thus, the Service cannot lawfully make an enhancement finding (or non-detriment finding) for trophy imports from this population for calendar year 2016 or beyond, as detailed herein.

Tanzania Lacks an Adaptive and Up-to-Date Elephant Management Plan

As noted above, the Service's enhancement analysis for trophy imports must consider whether the range country has adaptive and appropriate resource assessments and monitoring to establish quotas for off-take that ensure that sex/age restrictions of harvested animals are met. Although the most recent survey (Chase MJ *et al.* 2016) indicates that the Tanzanian population of elephants has decreased by more than 60% since 2009 (including through offtake by American trophy hunters), Tanzania has not developed a new elephant management plan since 2010.

Tanzania's Ministry of Natural Resources and Tourism (MNRT) initiated the Tanzania Elephant Management Plan process and conducted a series of stakeholders and consultative meetings. The culminating document, Tanzania's Elephant Management Plan 2010 – 2015, prepared by the Tanzania Wildlife Research Institute (TAWIRI), was endorsed and signed by Hon. Ezekiel M. Maige, Minister for Natural Resources and Tourism, on January 15th 2011. (TAWIRI 2010).

The 2009 national elephant population census estimated approximately 109,501 individuals. (TAWIRI 2010, pp.10) At the time, now eight years ago, some populations were said to be increasing and others were expected to stabilize if poaching (then mostly localized) could be minimized. However, the Management Plan recognized that Tanzania was currently facing challenges from poaching due to a resurgent demand for ivory in Asia. A downward trend in elephant population since 2006 was recorded in the TAWIRI National Elephant Censuses (TAWIRI 2010 pp.10).

Workshops and consultative meetings with stakeholders were held during the collection of information for the Management Plan. The Management Plan summarized discussions from four zonal workshops. Participants in the workshops identified several problems facing the conservation of African Elephants in Tanzania. Among them were: (1) lack of benefits from conservation and protection of elephants; (2) inadequate capacity of district councils to implement policies, and enforce laws and regulations; (3) conflicting policies, laws, and institutions or weak and outdated laws; (4) inadequate stakeholder coordination; (5) inadequate integration of indigenous knowledge in conservation; (6) lack of or inadequate conservation education amongst communities; and (7) corruption. (TAWIRI 2010, Annex II, p.83) The Tanzanian government provided a list of 36 action items – "Annual Operation Plan and Budget for Implementation of the Tanzania Elephant Management Plan for 2015" – in a letter to the Species Review Group of the European Commission in August 2015. However, this document did not cure the defects in the 2010 Plan and there is an urgent need to update the Management Plan to reflect the current population size, demographic structure and trends, address the challenges identified in the 2010 Plan, strengthen existing wildlife laws, and implement feasible and sustainable measures to combat elephant poaching and ivory trafficking.

No country in Africa has experienced worse elephant poaching than Tanzania. A 2014 aerial survey, in collaboration with the Great Elephant Census, documented that a shocking 60% of Tanzania's elephants were killed due to poaching over a five-year period. The elephant population dropped from 109,051 in 2009 to 42,871 in 2014. (Chase MJ et al. pp. 13 Table 2). Survey results released in 2016 by the IUCN African Elephant Specialist Group put the number of the population slightly higher at 50,433. The 2010 Elephant Management Plan, which is the latest elephant management plan of Tanzania, does not reflect this current population status and trend. Without an updated Management Plan, it is not possible to ascertain if Tanzania has sufficiently addressed each identified challenge and action items. Therefore, it is essential that Tanzania update its Elephant Management Plan and develop and implement a vigorous, science-based, and comprehensive conservation program for the species in Tanzania. Unless or until that occurs, it would be arbitrary and capricious for the Service to issue an enhancement finding for the import of elephant trophies from Tanzania.

Beleaguered Elephant Populations in Tanzania Yet to Recover from Poaching, Cannot Sustain Further Exploitation

Due to the insufficient management of the population, Tanzania – once a stronghold of elephant populations in Eastern Africa – has suffered from a poaching epidemic in recent years. In 2009 an aerial census conducted by Tanzania Wildlife Research Institute (TAWIRI) surveyed six ecosystems, Tarangire-Manyara, Serengeti, Selous-Mikumi, Ruaha-Rungwa, Katavi-Rukwa and Moyowosi-Kigosi. The survey estimated 109,051 elephants in Tanzania. (TAWIRI 2010). In 2016, the Great Elephant Census (GEC), the first continent-wide survey of African savannah elephants, covered 93% of savannah elephants in the 18 countries surveyed. The GEC estimated 42,871 elephants in Tanzania, a reduction of 66,180 animals or approximately 60% since 2009. (Chase MJ et al.). A survey in 2006 placed an estimate of 139,915±12,338 elephants across the six ecosystems. (CoP15, Document 68. Annex 6a). Contrasting the 2016 data with the 2006 figure, Tanzania has lost a staggering 70% of its elephants in a decade.

Elephants in Tanzania face a myriad of threats, such as habitat loss, retaliatory killings due to human-elephant conflict, poaching, and trophy hunting. As human populations and development grow, habitats previously occupied by elephants have been converted to farmlands, roads or for other human use. Loss of connectivity between core wildlife habitat areas poses a major threat to the elephant population as existing corridors are becoming blocked by expanding agriculture, human settlements and livestock grazing, and destruction of habitats for logging and charcoal production. (TAWIRI 2010).

A presentation in May 26th 2016 at the Proceedings of the 3rd National CBNRM Forum in Tanzania by Professor Neil Burgess of UNEP-WCMC discussed predictors of elephant poaching in southern Tanzania and northern Mozambique. Professor Burgess found that "in Tanzania, elephant carcasses were mostly associated with human variables. State-managed protected areas were negatively associated with the number of elephant carcasses, whereas the numbers of elephant carcasses were high in community-managed sites." [1] This suggests that the community management of elephant conservation has not been effective in halting elephant poaching. If the communities were benefiting from trophy hunting in the community-managed game reserve sites, the poaching would not be as high as it is.

Declines occurred in most of the Tanzanian elephant populations surveyed by the Great Elephant Census or IUCN AfESG, some more drastic than others. According to the African Elephant Status Report 2016:

- Moyowosi-Kigosi ecosystem: A 2015 estimate of 1,645 ± 2,389, down from a 2006 estimate of 9,541 ± 3,657.

- Sagara-Nyamagoma ecosystem: A 2015 estimate of 503 ± 592 down from a 2007 estimate of 4,635 ± 3,028.

[1] Tanzania Natural Resources Forum, *Proceedings of the 3rd National CBNRM Forum* (2016), https://tnrf.org/files/proceedings_of_the_3rd_cbnrm_forum_final_report31082016.pdf.

- Ugalla Game Reserve: A 2015 estimate of 659 ± 549, down from a 2007 estimate of 1,352 ± 837.

- Katavi National Park and Rukwa Game Reserve: A 2015 estimate of 5,738 ± 2,993, down from a 2006 estimate of 6,261 ± 1344. The IUCN AfESG African Elephant Status Report stated that several surveys carried out in the areas over time did not result in substantially different estimates, suggesting that the population has been relatively stable over the period. However, the carcass ratio of 10% in 2014 is a cause of concern as the AfESG report points out.

- Ruaha-Rungwa ecosystem: A 2015 estimate of 14,283 ± 6,123, down from the 2006 estimate of 35,409 ± 11,507. A 2014 aerial survey done by the Great Elephant Census provided a much lower estimate of 8,272 ± 6,433, and a high carcass ratio of 29%. A 2009 estimate found 34,643 ± 8,199, indicating that rampant elephant poaching took place after 2009.

- Selous-Mikumi ecosystem: A 2014 survey by the Great Elephant Census gave an estimate of 14,040 ± 3,252 with a very high carcass ratio of 40%, a very large reduction from the 2006 estimate of 70,406 ± 24,843. The AfESG census report expressed concerns that the 2006 figure may have been an overestimate. A 2013 survey gave an estimate of 13,084 ± 3,559 with a 30% carcass rate while a 2009 survey estimated 38,975 ± 5,182 with a 2% carcass rate. The various surveys confirmed that the Selous elephant population has experienced a significant decline.

- Serengeti is among the few areas that saw an increase in elephant populations. The 2014 survey by the Great Elephant Census estimated 6,078, up from the 2006 estimate of 1,472. The increase could be due to movement from Kenya's Masai Mara ecosystem as well as higher intensity surveys, additional blocks counted and the possibility of immigration of elephants from unsurveyed adjoining areas.

CITES Monitoring of Illegal Killing of Elephants (MIKE) operates in 58 sites in 30 countries and 27 sites in 13 countries in Asia. MIKE monitors relative poaching levels using the Proportion of Illegally Killed Elephants (PIKE), which is calculated as the number of illegally killed elephants found divided by the total number of elephant carcasses encountered by patrols or other means (e.g. community reports, researchers, etc.), aggregated by year for each site. Coupled with estimates of population size and natural mortality rates, PIKE can be used to estimate numbers of elephants illegally killed, as well as poaching rates (i.e. the proportion of the total elephant population illegally killed). A PIKE level 0.5 or higher (i.e. where half of dead elephants found are deemed to be illegally killed) is considered unsustainable.

MIKE data reported to CITES CoP17 shows a steady increase in levels of illegal killing of elephants starting in 2006, punctuated by a decline in 2009 and peaking in 2011 and remaining virtually unchanged after 2013. Poaching levels in 2015 overall remained stable but high across African MIKE sites.

There are five MIKE sites in Tanzania: Katavi National Park and Rukwa Game Reserve, Mkomazi National Park, Ruaha Rungwa National Park and Game Reserve, Selous-Mikumi Game Reserve and National Park and Tarangire National Park. Among sites that reported 20 or more carcasses for 2015, Katavi-Rukwa, Ruaha-Rungwa and Selous-Mikumi are of particular concern. PIKE increased substantially in Ruaha-Rungwa by 28%, from 0.58 to 0.74 from 2014 to 2015. (CITES CoP17 Doc 57.5. pp.3.) The 2011 PIKE level was alarmingly high with 0.64 at Selous-Mikumi, a shocking 0.94 at Ruaha-Rungwa and 0.86 at Katavi-Rukwa MIKE site. The 2013 PIKE level was 0.74 in Selous-Mikumi and 0.84 at Ruaha-Rungwa. (CITES SC65 Inf.1, pp.2.)

This data demonstrates a high poaching rate in across Tanzania, including areas that were formerly strongholds of elephant populations in Eastern Africa. Among the worst poaching sites are the Selous and Ruaha eco-systems areas. The Selous Game Reserve and ecosystem once had the second highest population of elephants in Africa and the highest population in Tanzania. Covering an area of some 80,000km^2, the Selous Game Reserve and nearby ecosystems (i.e. Mikumi National Park, the Kilombero Game Controlled area, and land to the north, east and south of the Selous Game Reserve), boasted 109,419 elephants in 1976. There approximately 50,000 individuals in 2009. (TAWIRI 2010) As mentioned above, the best estimate of the elephant populations in the area today is 14,040 ± 3,252, according to the Great Elephant Census.

The Ruaha-Rungwa ecosystem covers an area of approximately 43,000 km^2 and includes Tanzania's largest national park, Ruaha National Park, Rungwa, Kizigo and Muhesi Game Reserves. It once had the second largest elephant population in Tanzania, after the Selous ecosystem. Data on poaching within Ruaha NP since 2005 show a consistent, high level of poaching.

Table 1 below are TAWIRI estimates of the elephant populations in the Ruaha-Rungwa ecosystem. It is important to note that the area surveyed has increased, and that elephants were counted in 2015 that were outside of the previously defined census zone.

Table 1. Population estimate in the Ruaha-Rungwa ecosystem

Year	**Population Estimate**	**Standard Error**	**Population Estimate Range**	**Are Surveyed (km^2)**
2006	35,461	±3,653	31,808-39,114	43,601
2009	34,664	±4,178	30,486-38,842	43,641
2013	20,090	±3,282	16,808-23,372	50,889
2014	8,272	±1,652	6,620-9,924	30,368
2015	15,836	±4,759	11,077-20,595	52,462

(Source: http://www.stzelephants.org/census-results-ruaha-rungwa/)

A CITES MIKE report in March 2017 indicated a 55% reduction PIKE levels in Katavi-Rukwa, Ruaha-Rungwa and Selous-Mikumi ecosystems. However, the report noted that "As of now no explanation has been received why there was a significant drop in the number of carcasses reported

from these sites in Tanzania."[2] It would be premature to conclude that poaching has therefore subsided in Tanzania. Moreover, as explained further below, a reduction of PIKE level, albeit a temporary one, does not equate to recovery of elephant populations in Tanzania.

A new study by Robson et al. (April 2017) found that savanna elephant population sizes in protected areas are only a quarter of their expected size, based on a modelling exercise using ecological benchmarks given a scenario of zero poaching. Of the 73 protected areas studied, Tanzania's Selous had the greatest deficit: ~89,000 elephants (p. 9).

For Tanzania, Robson et al. (2017, supporting information) found that the protected areas are "missing" (signified by the minus sign) the following number of elephants (Table 2):

Table 2: Number of elephants missing in the protected area based on the zero poaching model

Game reserve/National Park	**Number of elephants missing based on the zero poaching model**
Katavi-Rukwa Region	-13,851
Kigosi GR	-16,487
Kizigo GR	-4,602
Maswa GR	-2,626
Mikumi NP	-4,491
Mkomzai GR	-1,868
Moyowosi GR	-13,857
Muhesi GR	-5.950
Ruaha NP	-25,786
Rungwa GR	-3,976
Selous GR	-89,344
Serengeti NP	-14,285
Ugalla River GR	-7,318
Total	**-210,167**

Poaching Negatively Affects the Reproductive Output of Breeding Female Elephants

Research (Gobush et al.2008) found that widespread poaching has long-term, negative impacts on adult female elephants because it alters the demographic structure of matrilineal family groups by decreasing the number of old matriarchs (Moss & Poole 1984; Poole 1989; Barnes & Kapela 1991 as cited in Gobush et al. 2008). The researchers examined the fecal glucocorticoid levels of 218 adult female elephants from 109 groups in Mikumi National Park. High physiological stress as reflected by high fecal glucocorticoid measures indicates a negative physiological state for an elephant, which in turns translate into diminished reproductive function, depressed immunity, muscle breakdown, and an increased risk mortality (Singfield & Ramenofsky 1999; Sapolsky et al. 2000 as cited in Gobush et al. 2008).

[2]"Levels and trends of illegal killing of elephants in Africa to 31 December 2016-Preliminary Findings", CITES website (accessed August 14, 2017) https://cites.org/sites/default/files/eng/prog/MIKE/MIKE_report_released_WWD_3Mar2017.pdf

The study found a multi-generational effect of poaching which imposes chronic stress condition for the elephants in a disrupted family group. Because old female elephants hold unique social positions in their families, their removal by poaching impairs group social functions, elevates physiological stress and reduces reproductive output among the females left behind. The study concludes that the consequences of disrupting group composition in this way may persist for upwards of 20 years until sufficient time has elapsed for a new mother-adult daughter pairs to form. (Gobush et al. 2008).

It will be a couple of decades from now that Tanzania's remaining elephants would be able to recover from the recent poaching epidemic, provided that the poaching and other offtake are halted. Any additional pressure on the populations, such as trophy hunting offtake, will impede their recovery.

Poaching has a direct impact on sleep, foraging and movement patterns of the elephants

A 10-year researched (Ihwagi et al. 2018) conducted by Save the Elephants and the University of Twente has discovered that poaching has a direct and profound impact on an elephant's behavior, causing elephants to adapt by developing nocturnal behavior to stay out of danger from poachers active during the day. Using elephant GPS tracing and mortality data collected in Northern Kenya between 2002 and 2012, researchers found that elephants move more at night in areas that suffer high levels of poaching, turning to feeding and traveling instead of sleeping. Other key findings from the study include: the relationship between poaching levels and night-day speed ratios was stronger for females than for males and that this change in elephant behavior has potential long term implications for the survival of elephants which normally rest at night and are more active during the day. One of the authors, world-renowned elephant scientist Iain Douglas-Hamilton, remarked that, "This alteration in movement behavior by elephants has implications for their foraging strategy, reproduction and survival, which are not yet fully understood."

This research presents the latest scientific evidence that poaching poses an ongoing direct and negative impact on the elephants' biological behaviors. Lethal offtake for trophy hunting has an additive impact and further undermines the effort to conserve the species and restore the species' populations.

Tanzania Is a Hub of Ivory Trafficking

Tanzania is a "country of primary concern" in the CITES EITS (Elephant Information Trade System) reports (CoP17 Doc.57.6 (Rev.1), pp. 17). ETIS tracks large-scale ivory seizures (defined as 500 kg or more of raw or worked ivory). Among the African countries of primary concern, Tanzania has been the source of the greatest portion of this ivory. Corruption was identified as a major problem, "with various reports documenting serious governance shortfalls at ports of entry and exit, within government institutions charged with protecting wildlife, and by political and economic elites in these countries, including ivory stock thefts." While the report noted progress, it also recommends that efforts be sustained for the foreseeable future. Indeed, the CITES Secretariat has taken the position that Tanzania's National Ivory Action Plan is not substantially

achieved. (CoP17 Doc.24 (Rev.1) pp.12), suggesting that Tanzania is not out of the woods yet in enforcing ivory related wildlife crime.

A study by Wasser et al. (2015)[3] on DNA analysis of seized ivory confirmed the prominent role of Tanzania in the illegal ivory trade. Wasser examined 28 large ivory seizures (larger than 0.5 tons) made between 1996 to 2014 and genetically assigned origin to all these seizures. The results suggested that major poaching hotpots were concentrated in just a few areas in Africa. Excluding a single seizure assigned to Zambia, all of the 15 savanna elephant seizures during this period were assigned to southern Tanzania and adjacent Mozambique. In particular, "7 out of the first 10 seizures made between 2006 and 2011 were almost entirely concentrated in the cross border ecosystem of the Selous and Nyasa Game Reserves. (pp.3)" Other seizures pointed to Ruaha National Park and the adjacent Rungwa Game Reserve as the source of ivory. The study concluded that "between 86 and 93% of the savanna elephant ivory from that period was predominantly assigned to SE Tanzania and adjacent northern Mozambique."

Multi-year undercover investigations by the Environmental Investigation Agency (EIA) found Chinese-led criminal syndicates operating between East Africa and Shuidong in Southern China. EIA's report documented how the Chinese traffickers led and conspired with their local Tanzanian contacts who were employed as freight agents whose names appeared on shipping documents or were tasked with sourcing the poached tusks and storing ivory until a significant amount had been collected. "The contraband would then be transported to Zanzibar on small vessels…shipments would also be handled by the trusted Tanzanians, as would payments of about $70 per kg of ivory to customs officers and port officials to ensure safe departure."[4]

Tanzania has, commendably, established a National and Transnational Serious Crimes Investigation Unit (NTSCIU) and a Wildlife and Forest Crime Task Force and hosted a wildlife crime conference (in November 2014) with the participation from the East African Community (EAC) and South African Development Community (SADC). The conference's output, the Arusha Declaration, called for "a comprehensive list of activities to strengthen trans-border collaboration on combatting wildlife/environmental crimes and advancing conservation work."[5]

However, EIA's report cautioned that more work must be carried out by the government of Tanzania in order to promote the conservation of elephants. The findings that the Chinese syndicates are shifting their operations to Nigeria and Mozambique are a reminder that the Tanzanian government must remain vigilant and that their effort in combating poaching and trafficking must be persistent, consistent and sustainable.

The tragic murder of conservationist Wayne Lotter, co-founder of the PAMS Foundation, in Dar es Salaam on August 16, 2017 demonstrates that there remains a significant poaching threat to

[3] Wasser SK, Brown L, Mailand C, Mondol S, Clark W, Laurie C, Weir BS, Genetic assignment of large seizures of elephant ivory reveals Africa's major poaching hotpots, Science, June 2015, http://science.sciencemag.org/content/349/6243/84/tab-pdf

[4] EIA, *Exposing the global hub in illegal ivory trade* (July 2017), at 5, https://eia-international.org/wp-content/uploads/EIA-The-Shuidong-Connection-FINAL.pdf.

[5] Kideghesho, J., *The elephant poaching crisis in Tanzania: a need to reverse the trend and the way forward*, Tropical Conservation Science Vol.9(1): 369-388 (2016), https://tropicalconservationscience.mongabay.com/content/v9/tcs_v9i1_369-388_Kideghesho.pdf.

elephants in Tanzania.[6] The PAMS Foundation was instrumental in bringing elephant poachers and ivory traffickers to justice through their partnership with the National and Transnational Serious Crimes Investigations Unit, NTSCIU. According to news reports, Wayne Lotter received numerous death threats over his work and that his laptop, which may contain critical information on wildlife criminals, was stolen from the crime scene.[7]

Elephant Trophy Hunting Negatively Affects Biological Sustainability

Given the threats posed to Tanzanian elephants from poaching and trafficking to supply global ivory markets, as well as the pressures the population faces from habitat loss and human-elephant conflict, this population cannot withstand recreational offtake by American trophy hunters.

Between 2005 and 2014, the United States – the top importer of wildlife trophies in the world – imported trophies of an estimated 374 African elephants from Tanzania. Between 2010 and 2014, 226 elephants were killed and exported from Tanzania as trophies to the U.S. (60%) and EU countries (over 30%). (TAWIRI 2015 Addendum to the 2014 Non-Detriment Finding for African Elephant in Tanzania). The Service's ESA Enhancement Findings in 2014 and 2015 concluded that there is *no* evidence to support that sport-hunting of elephants in Tanzania enhances the survival of the species – the same continues to be true today.

In Tanzania, the trophy hunting season is restricted to the dry months, beginning on July 1st and ending on December 31st. Trophy hunting occurs in Game Reserves, Game Controlled Areas, and Wildlife Management Areas (WMAs) where designated hunting blocks exist. (TAWIRI 2010, pp.52) According to TAWIRI, WMAs are village lands surrounding protected areas and are used by communities for conservation and benefits sharing in conjunction with the Wildlife Division (50% of the hunting revenue is retained by the Wildlife Division, which also sets quotas and tariffs for any hunting in the WMA. TAWIRI 2010, pp.51) Hunting of elephants is permitted only to trophy hunters on payment of a license fee ranging from $7,500 to $25,000, depending upon the tusk size of the animal shot and the type of weapon used. The minimum tusk size for a trophy animal is 15 kg for both males and females. (USFWS Enhancement Finding 2015). In 2014, the minimum requirement for a legal trophy was raised to a weight of at least 20 kg or a length of at least 1.6 meters. (USFWS Enhancement Finding 2015). However, the national quota for export under CITES is "restricted to adult males only with tusk weighing more 20 kg and/or length of 200 cm." (TAWIRI 2015 Addendum to 2014 Non-Detriment Finding for African Elephants in Tanzania, pp.2). The 2010 Management Plan is outdated and still states that female elephants can also be trophy hunted, despite the clear threat that removal of breeding female poses to this imperiled species. (Page 52, TAWIRI 2010). There is no information publicly available on elephant trophy quality analyses and the enforcement of the size, weight, sex of the hunted species trophies required under the Tanzanian laws.

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[6] *See* https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania

[7] *See* https://www.thetimes.co.uk/article/wayne-lotter-the-elephant-conservationist-who-caught-poachers-shot-dead-in-tanzania-8sqdfk7x9

Trophy hunting has been shown to disrupt family groups and social stability, negatively impacting elephant survival.[8] Hunters generally target the biggest and strongest males, meaning that trophy hunting removes these animals from the breeding pool and unnaturally selects for smaller or weaker animals.[9] In addition, as illustrated above, study on the elephant populations in Mikumi National Park shows long-term, negative impacts on the reproductivity of the female elephants. Trophy hunting offtake decreases the likelihood of recovery of the subspecies.

Researchers have found that the selective nature of trophy hunting causes changes in desirable phenotypic traits in harvested species. In particular, trophy sizes for wild herbivores experienced temporal decline in South Africa and Tanzania. "Declines in trophy size over time due to selective harvesting could be attributed to phenotypic plasticity that may result due to a decline in abundance of big tuskers and individuals with big horns or tusks as these are mostly selected by hunters."[10] Further, when trophy hunting is sanctioned, poaching activity increases, likely due to the perception that species authorized for hunting are of diminished value and the perception that legal killing increases the acceptability of poaching.[11]

In Selous Game Reserve, where hunting is permitted, demographic analysis showed a very low calf-to-mother ratio, with only one breeding-age bull to every 20 breeding-age females. (TAWIRI 2010, pp.16). This could have a negative impact on the long term growth rate of the population. The 2010 Elephant Management Plan also showed that the sex ratio of the breeding adults (male-female) were exceptionally low in Selous (0.05%) and Ugalla Game Reserves (0.01%). In addition, it is alarming that the survey found that there were no adult bulls in the hunting blocks of Selous (2.8% in tourism areas), Katavi and Ugalla. (TAWIRI 2010. pp.75, Table 2.)

These findings, combined with the aforementioned research that poaching has negative outputs on the reproductivity of female elephants in Tanzania, show that human-induced factors such as trophy hunting negatively affects the biological sustainability of the hunted species.

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[8] Milner J.M., Nielsen E.B., Andreassen HP, *Demographic side effects of selective hunting in ungulates and carnivores*, Conservation Biology Vol. 21:36-47 (2007), doi: 10.1111/j.1523-1739.2006.00591.x ("Such selective harvesting can destabilize social structures and the dominance hierarchy and may cause loss of social knowledge, sexually selected infanticide, habitat changes among reproductive females, and changes in offspring sex ratio.")

[9] Allendorf, F.W. and Hard, J.J., *Human-Induced Evolution Caused by Unnatural Selection through Harvest of Wild Animals*, 106 Proceedings of the National Academy of Sciences, 9987-94 (2009); Jachmann, H. et al., *Tusklessness in African Elephants: A Future Trend*, 33 African Journal of Ecology, 230-35 (1995); Crosmary, William-Georges et al., *Does trophy hunting matter to long-term population trends in African herbivores of different dietary guilds?*, 18 Animal Conservation, 117-30 (2015); Pigeon, G., Festa-Bianchet, M., Coltman, D. W. and Pelletier, F. (2016), Intense selective hunting leads to artificial evolution in horn size. Evolutionary Applications, 9: 521– 530. doi: 10.1111/eva.12358.

[10] Muposhi VK, Gandiwa E, Bartels P, Makuza SM, Madiri TH, *Trophy Hunting and Sustainability: Temporal Dynamics in Trophy Quality and Harvesting Patterns of Wild Herbivores in a Tropical Semi-Arid Savanna Ecosystem*, PLoS ONE 11(10) (2016), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0164429.

[11] Chapron, G. and Treves, A., *Blood does not buy goodwill: allowing culling increases poaching of a large carnivore*, Proc. R. Soc. B 283 (2016), http://dx.doi.org/10.1098/rspb.2015.2939.

Tanzania's Elephant Trophy Quota is Not Based on Scientific Data

During the height of the recent poaching epidemic, Tanzania's annual CITES export quota of African elephant trophies remained the same, 200 elephants, from 2010 to 2013. Since 2014 the quota has been reduced to 100 animals. (TAWIRI 2015 Addendum to 2014 Non-Detriment Finding of African Elephants in Tanzania. pp2.). The fact that the quota remained unchanged until 2014 despite the concurrent drastic decline of the elephant populations demonstrates that Tanzania's elephant hunting quota is not based on science and does not adapt based on population assessment, structure or trends.

The Service pointed out in its 2015 Non-Detriment Finding that legal offtake of the animals, such as hunting, should be measured against total offtake which includes illegal offtake such as poaching. In the government of Tanzania's response to the Service on January 21, 2015, the government provided a summary of elephant harvests from 2010-2014 which included elephants killed through problem animal control (PAC). Yet, it doesn't appear that the government of Tanzania included illegal offtake or other legal offtake, such as PAC, in its annual review and determination of its export quota.

A January 2016 letter by Tanzania's Director of Wildlife to the Scientific Review Group of the European Commission requested the Commission to allow importation of sport-hunted elephant trophies from Tanzania. The letter stated that the 100 elephants in the CITES export quota represents "only 0.23% offtake, well within the standing guideline of 0.5% - 0.6%." It ignored the illegal offtake (poaching) and other legal offtake (such as PAC).

In 2015 TAWIRI provided an ecosystem-based elephant hunting quota; however, it is not clear how the quota for each ecosystem is determined.

Table 3. Ecosystem-based elephant hunting quota

S/N	Ecosystem	Quota (No. of elephants)
1	Selous-Mikumi and surroundings	36
2	Ruaha-Rungwa and surroundings	19
3	Katavi-Rukwa and surroundings	13
4	Tarangire-Manyara and surroundings	10
5	Malagarasi-Muyovosi and surroundings	7
6	Serengeti and surroundings	15
Total		**100**

(Source: TAWIRI)

The Service requested the Tanzanian government to provide an analysis on trophies taken in the Selous Game Reserve because the Selous Game Reserve General Management Plan (2005) only includes an analysis of trophies taken from the Selous Game Reserve between 1994 and 2004. However, the government of Tanzania was not able to provide such analysis in its January response to the Service. Instead, the government responded that "Tanzania is a leader in maintaining high trophy quality because our added restrictions are designed to protect younger bulls, before they are taken, unlike a trophy quality analysis, which only looks at after-the-fact data."

EU CITES SRG Report Provides No New Information to Show Trophy Hunting Enhances the Survival of the Elephants

A delegation from the EU CITES Scientific Review Group (SRG) visited Tanzania between August 19 and 27, 2016 to follow up on discussions and exchanges with the Tanzanian Wildlife Authorities regarding the sustainability and management of lion and elephant trophy hunting. Subsequently, the SRG recommended a "Positive Opinion" which allows the import to the EU of trophy animals taken from Serengeti, Tarangire-Manyara, Katavi-Rukwa, and Selous-Mikumi ecosystems among other conditions. As for trophy animals taken from Ruhaha-Rungwa and Malagarasi-Muyovozi (and Burigi-Biharamulo) ecosystems, the SRG maintains the position that a confident non-detriment finding for these ecosystems cannot be established at this stage.[12]

The EU recommendations are based among a host of factors, including the current CITES quota of 100 elephants set by the Tanzanian government. The quota represents 0.24 percent of the total elephant population (Chase MJ et al.) and 0.20 percent on the basis of the updated 2015 total estimates by IUCN African Elephant Specialist Group, and doesn't exceed 0.3 percent of managed population which is the minimum off-take to maintain high level trophy quality, and well below the standing population guidelines of the total population. The quota information in the EU SRG report mostly recycles information from TAWIRI's 2015 submission to the Service.

As discussed above, it does not appear that the elephant trophy quota, that of national and each ecosystem, considers illegal offtake and other legal offtake. As the Service notes in its 2015 Non-Detriment Finding, "sustainability is measured against total offtake, including illegal offtake" and that "in order to evaluable whether offtake from trophy hunting is sustainable, all losses to the African elephant population, including illegal offtake, must be considered."

In addition, while the Tanzanian government provided a trophy quota for each of the six ecosystems, there is no information on the estimated offtake, such as natural mortality or problem animal control for each ecosystem and how that is calculated into the total offtake, both illegal and legal, of each ecosystem.

SRG recommends resumption of hunting at worst elephant poaching site

It is particularly concerning that the EU SRG has recommended a Positive Opinion for trophies taken from the Selous-Mikumi ecosystem. The EU report cited elephant population status and trend from a 2016 TAWIRI presentation. In 2009 there were an estimate of 44,806 elephants and in 2014, the number of elephants dropped to 15,217. Trophy hunting has existed in Selous for decades, yet poaching in the Selous-Mikumi ecosystem was among the worst in Tanzania. The high number of poached elephant in the Selous area does not support the claim that trophy hunting revenues were used effectively to combat poaching. It also suggests that the communities were not

[12] "A Report to the EU CITES Scientific Review Group on the EU Experts Mission to Assess the Sustainability and Management of Lion and Elephant Trophy Hunting in Tanzania". http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=33601&no=49 ("EU SRG Report").

benefiting from the trophy hunting revenues and therefore did not see the incentive to conserve the elephants.

We disagree with the approach of EU SRG who issues recommendations for each ecosystem, rather than making a determination for the country as a whole. This approach fails to take into account that elephants are migratory species and some are part of transboundary populations shared with neighboring countries. It can also reward an otherwise corrupt government or industry or remove incentives to improve inadequate country-wide management scheme with trophy hunting authorizations when reform is actually called for. We agree with the Service's approach that considers the overall conservation and management of the species in the country, rather than breaking it up by specific ecosystem.

SRG report prematurely concludes that poaching is stabilized

The EU SRG report finds that "the wave of poaching that hit Tanzania until 2012/2013 has probably decreased" based on carcass count data and population status. The NTSCIU provided carcass counts on the number of new carcasses, showing a decline from 219 carcasses in 2013 to 16 as of June 2016. TAWIRI caveated the 2014 survey results of the Great Elephant Census and commented that the "follow-up 2015 census conducted in Ruaha-Rungwa ecosystem suggests the population may not have declined to such an extent as reported in 2014". However, the same report pointed out that "further studies are required to understand localized migrations…and some populations remain severely threatened and in decline and continued monitoring and research is essential to verify the trend, as well as the theories around the fluctuations in elephant populations." (Page 18-19, EU SRG Report).

As iterated above, the EU SRG maintains a Negative Position on trophy animals taken from the Ruaha-Rungwa and Malagarasi-Muyovozi (and Burigi-Biharamulo). The SRG remarked that even though quota allocated for these two ecosystems "do not exceed 0.3% of the managed population, "the significant declines and high carcass ratio, together with the lack of information on the extent or impact of anti-poaching measure in these regions on illegal killings means a confident non-detriment finding for these ecosystems cannot be established at this stage." (EU SRG Report, p.6)

Tanzania Wildlife Management Authority (TAWA) Wildlife Division responded in April 27, 2017 urging the EU SRG to reconsider its Negative Positions for trophy animals from these three eco-systems. TAWIRI state that the carcass ratio (1+2) was extremely low in these three eco-systems, habitat loss due to hunting blocks' conversion to agro-pastroal lands was a concern, and the weight and length minimum size of the hunted elephants was reasonable. TAWIRI also argued that safari operators can provide increased protection for elephants. However, there is missing information in the TAWA's response as the response put down "xxx hunting blocks totally xxxxx km^2" when referring to the hunting blocks that will be converted to agro-pastoral land after the EU visit. (EU SRG Report, p.6) This incomplete information is a reminder that information provided by the Tanzania government should be subject to verification by a third-party or independent source.

There are contradictions in the EU SRG's decisions on forming a Positive or Negative Position for trophy animals from each ecosystem. The report cited carcass estimated for the six ecosystems in Tanzania in 2014, provided by TAWIRI in August 2016. Selous-Mikumi ecosystem has the highest carcass ratio (39%), followed by Ruaha-Rungwa ecosystem (15.3%). (EU SRG Report, 2016, p.20. Figure 5 (a-f)). Trophy hunting quota for Selous in 2015 was set at 0.23% of the managed population while the quota for Ruaha was set at 0.12%. Yet, Selous, where the EU

delegation visited, was given a Positive Position while Ruaha was given a Negative Position. (EU SRG Report, 2016, p.25. Table 6).

A 2017 paper published in the African Journal of Ecology (Kyando et al. 2017) identifies areas within the Eastern Selous Game Reserve (ESGR) that are at higher risk of elephant poaching and attributes the lack of economic opportunities as a main reason for the involvement in poaching by local people adjacent to the ESGR. The paper analyzed the data on the distribution of poached elephants and the seasons of poaching from 2008 to 2013. Authors found that almost 60% of poaching incidents occurred within 20km inside the reserve from the boundary of the reserve and that there was much higher poaching frequency during the wet season than the dry season. Trophy hunting proponents consistently complained that the prohibitions of Tanzania's elephant trophy imports by the U.S. and the EU, in 2014 and 2015 respectively, removes the local community's incentives to conserve the elephants. Yet, this paper studying the poaching data from 2008 to 2013 showed that the lack of economic opportunities had long existed before the trophy import bans, indicating that trophy hunting revenues repeatedly fail to motivate the local communities to protect the elephants from poaching.

Until there is substantiated or peer-reviewed research findings on updated poaching statistics in Tanzania, it would be premature to conclude that Tanzania's elephants are no longer threatened with extinction by poaching. In addition, a minor fluctuation of the elephant populations towards a possible increase (yet to be substantiated by independent scholars) from 2014 to 2015 does not alter the devastating fact that Tanzania's elephants have drastically declined since 2009 and need significant time and protections to rebound.

The SRG Report lacks input from independent sources, relies heavily on trophy hunting interests and the government's data.

The EU SRG delegation met with numerous groups and government representatives. They visited and received input from trophy hunting outfitters in the Selous Game Reserve. Missing from the list of people that the EU SRG met are independent sources of data that do not depend on trophy hunting revenues and do not fear retribution for disagreement with claims by the government.

One group that the EU SRG delegation met was communities in the Wild Management Areas (WMAs). They are a key stakeholder group of rural development and whose revenues are primarily driven from trophy hunting. There are currently 38 WMAs established, covering an approximately 50,000km^2. In July 2015, the government raised "the game fee-sharing percentage for rural communities in the WMAs to 65%, and 70% of conservation, observation and permit fees from tourist hunting activities. It is also a legal requirement for Hunting Operators within a WMA to contribute a minimum of five thousand USD to the villages, in addition to the block, permit and conservation fees)." (EU SRG Report, p.25) Out of the 38 WMAs, the EU delegation spoke to community leaders and district councilor's from two WMAs near the Selous Game reserve. Given that these communities have a financial interest in receiving funds from trophy hunting revenues, there is little doubt that their views align with the trophy hunting outfitters.

The EU delegation did not appear to meet with those who are not in search of trophy hunting revenues or who hold alternate views, such as those employed in the photographic tourism sectors. In fact, the socio-economic benefits of trophy hunting revenues to the local communities have routinely been exaggerated by the hunting proponents. A 2017 report revealed that for eight countries surveyed (Botswana, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, Zambia

and Zimbabwe), of the $17 billion in annual tourism spending, trophy hunting adds less than $132 million or just 0.78% of that total (Economists at Large 2017, p. 3). Tourism in these countries accounts for between 2.8% and 5.1% of gross domestic product (GDP) (*Ibid*). Trophy hunters contribute only an estimated 0.03 percent of GDP. Finally, non-trophy hunting tourism employs 132 times more people than trophy hunting (*Ibid*).

In addition, corruption has long plagued Tanzania's wildlife management and conservation. Tanzania ranks in the bottom third of all countries with respect to government corruption, and reports have shown inconsistent and arbitrary application of wildlife laws. (Missing the Mark, pp.16) Freedom House notes that "corruption remains a serious problem, and is pervasive in all aspects of political and commercial life, but especially in the energy and natural resources sectors." (Missing the Mark, pp.17). *See also* Declaration of Craig Packer (attached). As discussed further below, the hunting business is one of the most corrupt sectors in a country with increasing public attention on corruption. *(*Benjaminsen et al. 2013). Research by the Library of Congress cautioned, "the process of allocating and monitoring hunting concessions is said to be riddled with widespread corruption. The Minister of Natural Resources and Tourism and top Wildlife Department officials were recently fired for taking bribes in exchange for assigning hunting blocks and allowing for over a hundred live animals to be shipped abroad. Poaching is another, grave problem. Difficulties in collecting evidence and flaws in the criminal justice system make it challenging to prosecute offenders."[13]

Tanzania Disregards and Exceeds its CITES Export Quota Amid Rampant Poaching

From 2014 to present, the annual CITES export quota for the African elephant trophies from Tanzania is 200 tusks (hunting trophies from 100 animals).[14] From 2007 to 2013, the annual quota was set at 400 tusks (hunting trophies from 200 animals). From 2003 to 2006, the annual quota was set at 200 tusks (from 100 animals). From 2000 to 2002, the quota was set at 100 tusks (hunting trophies from 50 animals).[15] Despite alarming levels of poaching and decimated elephant populations, trophy hunting of elephants continues to be permitted.

Even with these very high export quotas, data from the CITES Trade Database demonstrate that Tanzania exceeded its export quota for elephant tusks in 2006 (quota = 200; actual export = 285) and 2009 (quota = 400; actual export = 445) (Table 1).

[13] Wildlife Trafficking and Poaching, January 2013, The Law Library of Congress, Global Legal Research Center, https://www.loc.gov/law/help/wildlife-poaching/index.php

[14] https://cites.org/eng/resources/quotas/export_quotas?field_party_quotas_tid=&field_full_name_tid=&field_export_quotas_year_value%5bvalue%5d%5byear%5d=2017&items_per_page=50&page=18

[15] https://cites.org/sites/default/files/common/quotas/2002/latest.pdf

Table 4. CITES Trade Database, exports of tusks and trophies from Tanzania.

App.	Taxon	Term	Unit	Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
***Loxodonta africana* trophies imported from Tanzania, 2006-2015**														
I	Loxodonta africana	trophies		TZ	66	115	138	130	101	90	87	44	43	9
II	Loxodonta africana	trophies		TZ	0	0	0	2	2	0	1	1	0	2
	TOTAL TROPHIES				**66**	**115**	**138**	**132**	**103**	**90**	**88**	**45**	**43**	**11**
	TOTAL TROPHY TUSKS*				**132**	**230**	**276**	**264**	**206**	**180**	**176**	**90**	**86**	**22**
***Loxodonta africana* tusks imported from Tanzania, 2006-2015**														
I	Loxodonta africana	tusks		TZ	153	45	62	181	138	86	42	25	37	9
II	Loxodonta africana	tusks		TZ	0	0	0	0	0	0	3	2	0	0
	TOTAL TUSKS				**153**	**45**	**62**	**181**	**138**	**86**	**45**	**27**	**37**	**9**
Totals:														
	TOTAL TROPHY TUSKS*				132	230	276	264	206	180	176	90	86	22
	TOTAL TUSKS				153	45	62	181	138	86	45	27	37	9
	GRAND TOTAL TUSKS				**285**	**275**	**338**	**445**	**344**	**266**	**221**	**117**	**123**	**31**
	CITES TUSK EXPORT QUOTA				200	400	400	400	400	400	400	400	200	200

* 2 tusks/trophy

Thus, between 2007 and 2013, when Tanzania's elephant populations were the largest source of ivory in illegal trade according to Wasser et al. (2015), Tanzania also permitted the killing of up to 200 elephants for sport and in 2009 even exceeded their own tusk export quota. This history of noncompliance with CITES export quotas is a major concern for the continued survival of elephants in Tanzania.

Questionable Management of Elephant Trophy Hunting

The government of Tanzania maintains the position that "80% of the funds used for anti-poaching in the areas managed by the Wildlife Division/Tanzania Wildlife Authority comes from trophy hunting." (2016 Letter to EU SRG. Pp.5) However, the fact remains that the worst poaching took place in southern Tanzania in Selous and Ruaha ecosystems where trophy hunting was permitted, again undermining the notion that trophy hunting provides a net benefit to elephants.

According to an International Union for Conservation of Nature ("IUCN") analysis from 2009, Africa's eleven primary big-game hunting countries only contributed an average of 0.6 percent to the national GDP.[16] Of this marginal profit, studies suggest that as little as 3-5 percent of trophy hunting revenues are actually shared with local communities.[17] Indeed, one economic report finds that Safari Club International has grossly overstated the contribution of big game hunting to eight African economies, including Tanzania, and that overall tourism in Africa dwarfs trophy hunting as a source of revenue.[18]

A 2017 study (Economists at Large 2017) that surveyed eight Eastern and Southern African countries found that trophy hunting operators and groups overstated the economic benefits and local employment derived from trophy hunting. Trophy hunting proponents claim that trophy hunting contributes $426 million dollars while in reality it is less than $132 million per year, roughly 0.78% or less of the $17 billion in overall tourism in the focused countries. In addition, trophy hunting employs in the range of 7,500 to 15,500 jobs rather than 53,000 jobs as trophy hunting proponents claim, representing roughly 0.76% or less of average direct tourism employment. With regard to the share of tourist spending from trophy hunting, on average, in Tanzania, trophy hunters' spending represent a mere 0.9 percent of the total tourist receipts.

A multitude of problems impeding Tanzania's effective management and conservation of wildlife have existed for decades. The Service' 2015 NDF noted that "as of June 2010, six out of the ten WMAs with user-rights had entered into business agreements with the private sector worth over $3.3 million, however, it appears that only a small proportion of this money has been made available to the local communities. Overall, the WMAs have had a low capacity for generating income for socio-economic development, and as such, have not provided an incentive to local communities to support or even tolerate wildlife as a potential source of renewable revenue." The

[16] IUCN, *Big Game Hunting in West Africa. What is its Contribution to Conservation?*, Programme Afrique Centrale et Occidentale (2009), https://portals.iucn.org/library/efiles/edocs/2009-074-En.pdf.
[17] Economists at Large, *The $200 Million Question: How Much Does Trophy Hunting Really Contribute to African Communities?* (2013), http://www.ifaw.org/sites/default/files/Ecolarge-2013-200m-question.pdf.
[18] Economists at Large, *The Lion's Share? On the Economic Benefits of Trophy Hunting* (2017), http://www.hsi.org/assets/pdfs/economists-at-large-trophy-hunting.pdf.

Service further noted that the new provisions in the revised Tanzania Wildlife Management Area Regulations 2012 gave WMAs with "approximately 60-65% of the total hunting revenue. Despite the improvements in administering the WMA system, there is information indicating that revenue retention by WMA's is still insufficient to finance and encourage sound management decisions within these areas."

A 2013 Evaluation Report[19] by the USAID found a litany of problems on WMAs, from governance, economic, conservation challenges to challenges in the process of establishing WMAs and challenges to understanding the impacts of WMAs on constituent villages. The report found that problems in wildlife sector governance and structural and economic management have persisted for the past decade. (USAID 2013 Report. Pp.48) For instance, the report pointed out lack of transparency and accountability among WMA stakeholders. "Villagers and even village councils do not know the details of investor contracts or payment terms, let alone when and what income will return to the WMA for distribution." (USAID 2013 Report. Pp 18.) The report found that while "the TAWIRI collects information on changes in wildlife numbers and movement patters, but there has been criticism of how this information is used, especially in relation to issuing hunting quotas. There does not appear to be a clear link between information collected by TAWIRI and decisions on what quotas are issued for different species." (USAID 2013 Report. Pp.26)

Wildlife scientists cautioned many weaknesses in how hunting revenues are distributed. (Nelson, Lindsey and Balme 2013). For instance, revenues from trophy hunting bypassed the communities and landholders. The allocation of hunting blocks give government officials the discretion to assign valuable hunting concessions, "creating conditions conducive to corruption and the use of hunting blocks for political patronage." (Nelson & Agrawal, 2008; Leader-Williams et al., 2009 as cited in Nelson, Lindsey and Balme 2013). There has been a tendency to establish unsustainably high quotas and encouragement of excessive and unselective harvest. Attempts to overhaul the bidding system for hunting concessions in the mid-1990s, which would have reduced corruption and devolved rights over wildlife management and benefits, were blocked by government officials due to lobbying by national and international trophy hunting organizations (Baldus & Cauldwell, 2004 as cited in Nelson, Lindsey and Balme 2013).

Benjaminsen et al. in their 2013 paper, published on behalf the Institute of Social Studies in The Hague, express concerns about the Tanzanian government's increasing control over incomes generating from wildlife utilization in the name of "community-based" conservation. They observe that "This process of reconsolidation of state control over wildlife management is also playing out in contests over control of the two main income-generating activities in the sector: photo safaris and sport hunting…. In addition to control over hunting profits, the management of hunting through the quota system has also been reconsolidated under state control….it seems that the hunting industry is simply too lucrative for decentralization." (Benjaminsen et al. 2013, p.10)

Intimidation of the local non-consumptive proponents by trophy hunting outfitters occurs. For instance, a hunting block in Loliondo area was controlled by Ortello Business Corporation (OBC), a company owned by the royal family of the United Arab Emirates. The local Massai communities did not want to enter or renew the contract with the company because of a series of conservation

[19] United States Agency for International Development, *Tanzania Wildlife Management Areas Evaluation* (2013), http://pdf.usaid.gov/pdf_docs/pdacy083.pdf.

related complaints against the company. For instance, resident were concerned by what they saw as indiscriminate capture and killing of animals. Yet OBC continued to operate with direct connections to and support from the central government, but without the support of villagers. "Massai complained that OBC harassed non-consumptive tour operators working in the area…More serious complaints about OBC included intimidation and threats, harassment and detention, and even torture by the OBC security forces." (Benjaminsen et al. 2013. p.13)

Despite the claim that trophy hunting revenues are used on boosting anti-poaching measures, evidence suggests that these measures did not mitigate the poaching epidemic. Selous Game Reserve is a prime example. Selous Game Reserve is split into 47 operating blocks, of which only four are for photographic tourism while the rest, 43, are assigned for sport hunting. (TAWIRI 2010, pp.14) Prior to 2005 a Revenue Retention Scheme was in operation, whereby 100% of revenue from photographic tourism, and 50% from hunting operations, was retained for management of the Game Reserve. In 1997 the Reserve earned US $2,300,000 annually and retained US $1,703,000, and by 2003 the revenue retained had increased to US $2,800,000. Following National budget reductions in 2004, the amount retained by the Reserve declined dramatically to approximately US $800,000 in 2008. (TAWIRI 2010). The drop in revenue coincides with a period of increased poaching in the Reserve and suggests that anti-poaching operations are severely underfunded. (TAWIRI 2010, pp.15).

According to Chief Warden in Selous Game Reserve during 1994 to 2008 and 2012-2015, Benson Kibonde, import bans on hunting trophies have severe impact on the level of anti-poaching activities because "85% of the Selous retention scheme fund come from hunting. If any amount of the hunting revenue is compromised, the registered success in anti-poaching efforts could be seriously jeopardized." (IUCN Briefing Paper, April 2016. pp15.) However, clearly, given the poaching statistics noted earlier, there is no "registered success" in anti-poaching efforts, driven from trophy hunting revenues, in the Selous Game Reserve.

Habitat loss and fragmentation, in addition to human growth, continue to compound the challenges to preserve the species and their habitat. A study on the Rombo area in North East Tanzania found that 75% of the land in the study area was covered by settlement and seasonal agriculture in the year 2015. The Rombo area had a continued human population increase of 30% over the past 25 years. With this rate of population increase, more agricultural land is likely to be converted to settlement and, thus, reducing elephant dispersal area. (Mmbaga et al. 2017)

A 2017 study examined the implication of upgrading conservation areas from Game Reserves to National Parks on local community livelihoods, drawing on lessons from Saadani National Park in Tanzania. Unlike game reserves where licensed human consumptive uses, such as trophy hunting, are permitted, National Parks allow only controlled non-consumptive uses, such as walking safaris, game driving and photographic tourism. The authors concluded that while there are problems and challenges to be resolved, people's livelihoods after change of status from a Game Reserve to a National Park has been more positive than negative. The study also reported that despite some problems they encounter, villagers were very positive about the national park designation because their life was reported to have improved as a result of the status change. Villagers also reported improved social infrastructure and job opportunities including expanded market for their goods. (Michael E. 2017)

There is no proof that trophy hunting of elephants in Tanzania in 2016 or beyond enhances the survival of the species. On the contrary, given the massive reduction of elephant populations due to poaching, trophy hunting has only added to the staggering loss of the animals in the country. Several reports, including a 2013 report from the U.S. Agency for International Development point out the failure of Tanzanian authorities to manage land and wildlife effectively and show little evidence that trophy hunting is contributing positively to wildlife conservation.[20]

Conclusion

Sixty percent of Tanzania's elephant population has disappeared since 2009. Tanzania is identified as a major ivory trafficking hub, with 86 to 93% of global large ivory seizures coming from concentrated areas in Tanzania in the last few years. Despite the pro-hunting claim the trophy hunting benefits conservation, the worst poaching epidemic took place in Selous Game Reserve where trophy hunting was allowed.

The current Tanzania Elephant Management Plan was drafted during the height of the poaching and ivory trafficking crisis, seven years ago. Tanzania does not have an updated Management Plan in place that reflects its current elephant population status and trends and corresponding management and conservation strategies. In addition, Tanzania's CITES National Ivory Action Plan was deemed not substantially achieved by the CITES Secretariat. The country's national export trophy quota, including quota for each ecosystem, lacks scientific basis and fails to account illegal offtake and other legal in its assessment of quota.

Thus, trophy hunting of elephants in Tanzania cannot be said to enhance the survival of the species, and issuing an import permit for elephant trophies from Tanzania would therefore violate the Endangered Species Act and FWS regulations. We likewise suggest that at this juncture trophy hunting results in a sufficient offtake of elephants that the Service cannot determine that it is not detrimental the survival of the species. If the Service does issue any positive regional findings or any elephant trophy import permits from Tanzania, HSUS, HSI, and CBD will consider seeking judicial review of such decisions. Further, this letter serves as formal opposition to any application for an import permit for a lion trophy from Tanzania and HSUS, HSI, and CBD request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[21]

Sincerely,

[20] United States Agency for International Development. *Tanzania Wildlife Management Areas Evaluation – Final Evaluation Report*. USAID. July 15, 2013. Web. < http://pdf.usaid.gov/pdf_docs/pdacy083.pdf>.

[21] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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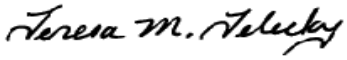

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Annex XII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Imports of African Lion Trophies from Tanzania Must Not Be Permitted; October 5, 2017 (29 pages)

Attached below.

October 5, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Rosemarie Gnam, Ph.D.
Chief, Division of Scientific Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Imports of African Lion Trophies from Tanzania Must Not Be Permitted

Dear Chief Van Norman & Chief Gnam:

Since the Endangered Species Act (ESA) listings went into effect for *Panthera leo leo*[1] and *Panthera leo melanochaita* on January 22, 2016 (80 Fed. Reg. 79999 (Dec. 23, 2015)), not a single lion trophy has been permitted to be imported from Tanzania to the U.S., a necessary reprieve after many years when American trophy hunters imported hundreds of lions trophies per year. On behalf of The Humane Society of the United States (HSUS), Humane Society International (HSI), and Center for Biological Diversity (CBD) we write to strongly urge the U.S. Fish and Wildlife Service ("FWS" or "the Service") to issue a negative enhancement finding for Tanzanian lions, as it cannot be demonstrated that trophy hunting of lions in Tanzania affirmatively benefits the conservation of the species.

Pursuant to the new regulation for *Panthera leo melanochaita* (50 C.F.R. § 17.40(r)), the Service can only issue a permit to import a lion trophy from east or southern Africa if the best available science supports a finding that trophy hunting enhances the survival of this subspecies. It is critical that FWS apply the precautionary principle and strictly scrutinize the impacts that trophy hunting

[1] HSUS, HSI, and CBD fully expect that no permits will be issued to import trophies of endangered *Panthera leo leo*, as this subspecies is on the brink of extinction and cannot sustain recreational offtake. As the U.S. Fish and Wildlife Service (FWS) acknowledged in the lion listing rule, in western and central Africa, "[m]anagement programs do not appear to be sufficient to deter unsustainable offtakes" and "experts agree that there is no level of offtake that would be sustainable for *P. l. leo* populations…" 80 Fed. Reg. at 80040.

has on African lions – indeed, as recently published in *Nature*, overutilization, including trophy hunting, is the biggest threat to biodiversity.[2]

ESA Requirements for Lion Trophy Imports

Pursuant to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with the standard that FWS established in the 4(d) Rule for *Panthera leo melanochaita*, requiring that,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of *P. l. melanochaita*:

> "(a) Biological sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.

[2] Sean L. Maxwell et al., *Biodiversity: The Ravages of Guns, Nets, and Bulldozers*, Nature Vol. 536, 143-145 (Aug. 11, 2016), *at* http://www.nature.com/news/biodiversity-the-ravages-of-guns-nets-and-bulldozers-1.20381.

(c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.

(d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Evidence is Insufficient to Support Claims that Lion Trophy Hunting in Tanzania Enhances the Survival of the Subspecies

The lion population in East Africa is estimated to range between 7,345 and 13,316 (Bauer *et al.* 2016, supplementary material, Table 7). This population accounts for between 39 and 42 percent of the total *Panthera leo* population (Id.), which may be as low as 20,000 remaining lions (Bauer *et al.* 2016). According to the 2016 IUCN assessment, well-studied lion populations in East Africa declined by as much as 59% since 1993 (Bauer *et al.* 2016, supplementary material, Table 2). In Tanzania, the lion population in four well-studied areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) is estimated to have decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer *et al.* 2016, supplementary material, Table 3). Shockingly, in Katavi, the lion population was assessed at 1,118 in 1993 but thought to be closer zero[3] in 2014 (Id.). Only one of these well-studied Tanzania populations, Serengeti, is estimated to have increased during this time, from 232 lions to 314 (*Id*.). According to a December 2015 analysis of lion conservation strategies, "Tanzania is possibly the country with most free-ranging lions in Africa, and several lion populations are contiguous with neighbouring countries. Successful lion conservation in

[3] While there may be some lions in Katavi, as claimed by anecdotal evidence from Tanzanian authorities (Benyr 2017, p. 8), the IUCN assessment reports "the value of published findings which is the value zero" actually "represents non-detection, not absence." (Bauer 2016b). *See also,* Declaration of Dr. Craig Packer (attached), which notes that Tanzania has expelled independent scientists and that sources affiliated with the hunting industry are now dictating alleged survey numbers.

Tanzania can preserve more lions than anywhere else." (Bauer *et al.* 2015). *See also* Mtui et al. 2016.

Therefore, Tanzania's lion population – which is critical to maintaining the species in the wild – has suffered a major decline in recent years and FWS must ensure that American trophy hunters do not contribute to additional decline of the population. Worryingly, a 2015 population modelling assessment led to a 37% probability that lions in East Africa will decline by a further 50% over the next two decades (Bauer *et al.* 2015).

In Tanzania, trophy hunting is prohibited only in the national parks and Ngorongoro Conservation Area (Brink *et al.* 2016, p. 2). An estimated 305,000 km^2, or 85% of protected land, is available to hunters. (Ibid) Hunting blocks are leased to hunting companies, which are then apportioned a quota for specific species for every hunting season (Ibid). As described herein, this management program is insufficient for the Service to rely on to make a finding that trophy hunting enhances the survival of lions in Tanzania.

Tanzania's wildlife management generally operates as follows:

> Management of the wildlife sector is split between management of National Parks by Tanzania National Parks (TANAPA), Forest Reserves by Forest and Beekeeping Division of the Ministry of Natural Resources and Tourism (MNRT), Ngorongoro by the Ngorongoro Conservation Area Authority (NCAA), and the rest of the areas by the Wildlife Division (WD) also of the MNRT. The key legislation allowing for wildlife management are the National Parks Ordinance of 1959, which covers wildlife within National Parks; Ngorongoro Conservation Area Ordinance of 1959; Forest Act of 2002 which covers Forest Reserves; and, the Wildlife Conservation Act of 1974. Overall legislation is now guided by the Wildlife Policy (MNRT, 2007) which confirms the government's overall right of ownership of wildlife . . . (Brink 2010, p. 6).

The following documents published online or submitted by the Tanzanian authorities to other governments (in order of more recent to oldest) represent publicly available information relevant to the Service's enhancement analysis for lion trophy imports from Tanzania:

- A Report to the EU CITES Scientific Review Group on the EU Experts Mission to Assess the Sustainability and Management of Lion Trophy Hunting in Tanzania (2016)
- Comment on ESA Status Review of African Lion. January 27, 2015. Ministry of Natural Resources and Tourism. The United Republic of Tanzania.
- The Tanzania Lion and Leopard Conservation Action Plan. February 20-22nd 2006. Tanzania Wildlife Research Institute (TAWIRI).
- Conservation Strategy for the Lion in Eastern and Southern Africa. 2006. IUCN/SSC Cat Specialist Group.
- 1995 Policy and Management Plan for Tourist Hunting.

As detailed below, these documents do not support a finding that lion trophy hunting in Tanzania enhances the survival of the subspecies.

- **The European Union's Scientific Review Group Assessment of Tanzanian Lion Trophy Hunting is Insufficient to Support an Enhancement Finding by USFWS**

In 2016, an EU-funded expert "study visit" took place in Tanzania and a report (Scientific Review Group or "SRG Report") was completed by three delegates – representing CITES authorities of the United Kingdom, Austria, and Hungary. The SRG Report recommended that the EU Scientific Review Group maintain a "positive opinion" allowing imports of Tanzanian lion trophies "in accordance with their current age-sex based restrictions and a total quota of 207 trophies, allocated in accordance with density recommendations (0.5 lions/1,000 km^2 (with the exception of Selous where 1.0/1,000 km^2))" (Benyr 2016, p. 6). This quota is unsustainable, as discussed further below.

SRG Report's recommendation for a "positive opinion" is unsubstantiated, with major gaps in the findings and proof is absent for the key claims. It would violate the Endangered Species Act and the Administrative Procedure Act for USFWS to rely on this EU position in making an enhancement finding for the import of lion trophies from Tanzania.

The findings are largely based on unpublished data, without the necessary scientific scrutiny

Many of the study's conclusions are based on unpublished reports and data presented by the Tanzanian government to the visiting delegates. Indeed the report itself acknowledges "It has not been possible to personally verify all the unpublished data provided by Tanzanian authorities during the course of the SRG field mission" (Benyr 2017, p. 3). Yet the authors state, "presented facts held up to scrutiny and did not reveal inconsistencies" (Ibid). However, only robust, unbiased, and transparent published research can hold up to scientific scrutiny. In this case, none of these unpublished findings are made available in the SRG Report, meaning it is impossible to establish their veracity or to rely on them with confidence.

The following are just a few examples of statements from the report, which are not supported with actual copies of the cited findings or other forms of evidence to prove the claims:

- "For the Selous Game Reserve, a recent survey revealed that lion densities have remained stable and even increased in some sectors since 2009 (Crosmary et al. 2016)" (Benyr 2017, p. 9).
    - The Crosmary et al. study cited is not available online nor are details of its conclusions cited in the SRG Report. Therefore, it is unclear if its findings have been peer-reviewed and thus verified.
- "A number of recent reforms of the wildlife regulations substantiate the political commitment of Tanzania to adopt best practice models and contribute to their improvement" (Benyr 2017, p. 9).
    - The SRG Report does not further explain what these recent reforms are or offer any details about them, thus not providing any support for this claim.

- "Currently, the international marketing of lion bones seems to be no serious problem in Tanzania" (Benyr 2017, p. 11).
    - The authors offer no evidence to back up this statement in the SRG Report. Therefore, on what grounds is this assumption made? A recent report from the Environmental Investigation Agency titled "The Lion's Share: South Africa's Trade Exacerbates Demand for Tiger Parts and Derivatives" cites to an April 2017 arrest in Vietnam of a suspected criminal network leader, Nguyen Mau Chien, known for trafficking of lion parts with an arrest history in Tanzania (Environmental Investigation Agency 2017, p. 8). The SRG Report too quickly dismisses lion bone trade as a low threat to Tanzania's lions.

The study lacks input from sources independent of the Tanzania authorities, including key lion biologists

The authors of the SRG Report met with numerous Tanzanian government representatives, managers of the Selous Game Reserve, other regional game officers, representatives of Wildlife Management Areas, hunting outfitters, tourism operators, and villagers, among others. The SRG Report states "[e]ssentially everyone we spoke to in Tanzania, which included representatives of all main stakeholders (even those that were critical of the governments past efforts to conserve the species), agreed that trophy hunting has a clear conservation benefit for lions" (Benyr 2017, p. 12). Yet input from additional key stakeholders is altogether missing.

Missing from this list of stakeholders are independent sources of input that do not depend on trophy hunting revenues and do not fear retribution for disagreeing with claims by the government. Indeed, in listing the African lion under the Endangered Species Act, the U.S. Fish and Wildlife Service stated that Tanzania's "transparency (in terms of trophy quality data) and the scientific objectivity of the evaluating body has been questioned." 80 Fed. Reg. at 80042.

For example, input is missing from various members of the African Lion Working Group, affiliated with the Cat Specialist Group, other than Dennis Ikanda who is a government employee (working for the Tanzania Wildlife Research Institute (TAWIRI)) and thus not an impartial voice. Further, the SRG Report questions the findings of lion experts – as in the case of the Hans Bauer et al. 2015 publication titled *Lion (Panthera leo) populations are declining rapidly across Africa, except in intensively managed areas* (Benyr 2017, p. 7) – without an opportunity for Dr. Bauer and the co-authors to explain the conclusions.

Additionally, it is well known that Dr. Craig Packer, who spent decades researching lions in Tanzania was expelled from the country after exposing corruption, especially within the lion trophy hunting industry (Packer 2015;[4] Declaration attached). Jerry Belant of Mississippi State University – who is directly affiliated with Safari Club International (SCI)[5] – is now in charge of

[4] Packer, C. Lions in the Balance: Man-Eaters, Manes and Men with Guns. University of Chicago Press (2015). ISBN 13: 978-0-226-09295-9.

[5] Dr. Belant's "research is a collaborative effort among MSU, SCI Foundation, Tanzania Wildlife Research Institute, and Tanzania National Parks, with primary funding provided by the SCI Foundation" (http://www.cfr.msstate.edu/wildlife/documents/WFA_Newsletter_summer2016.pdf). SCI Foundation is

lion population research in the Serengeti after Dr. Packer's forced removal from the project. Dr. Belant's research on dental characteristics in estimating the age of African lions is cited in the SRG Report, but Dr. Belant's relationship with SCI taints the veracity of his work, since SCI has a clear incentive to continue trophy hunting unfettered in Tanzania.

Population data provided in the SRG Report contradicts findings of top lion scientists and has not been peer-reviewed

In the discussion on "Population Size" (Benyr 2017, p. 6), the SRG document reports on a variety of unpublished surveys and population estimates. None of the drafts or final versions of these surveys are currently discoverable online and therefore presently not transparent. Determinations of trophy hunting sustainability cannot rely on data that has not undergone the process of scientific review. These unpublished and unavailable documents quoted in the SRG Report include:

- Crosmary, W.-G., D. Ikanada, F. A. Ligate, Kasanga Imani, Mkuburo Lameck, Lyamuya Richard, Ngongolo Kelvin, Sandini Pietro, and C. Philippe. 2016. The Selous Game Reserve is still a stronghold for African lions, Tanzania.
- TAWIRI Wildlife Division and TAWA. 2016. Non-detriment findings on African lion (*Panthera leo*) in the United Republic of Tanzania, including Enhancement findings June. Ministry of Natural Resources and Tourism - Wildlife Division.
- Dickman (in prep.) [Macdonald (2016) is cited as referencing Dickman, claiming "Our latest data suggest that Tanzania holds approximately 9,900 free-ranging lions in an estimated lion range of 380,000 km^2 (Dickman in prep.)."]

The recently completed Selous population survey using spoor counts is the first time a survey of this sort has ever been completed there, and therefore lacks a baseline for comparison or trend analysis purposes. Given this apparent lack of standardized methodology, it would be arbitrary and capricious to rely on this new data and such data likely does not offer a clear picture of what the anthropogenic impacts have been on the Selous population. Further, it appears that SCI funded this survey, at least in part, which undermines its impartiality.

Moreover, there is currently no population monitoring activity by independent scientists (Packer Declaration), with all data produced either by scientists employed by the government or funded by trophy hunting organizations. For example, as cited above, Dr. Belant's research in the Serengeti is funded by SCI. Further, Selous-based research by Dr. Henry Brink – an independent scientist – was also terminated and replaced by SCI-funded and government-supported researchers.

In the discussion on "Population Trends" (Benyr 2017, p. 7), the SRG Report offers a rebuttal to the published paper by Bauer et al. 2015, which cites to severe lion population declines throughout Africa and predicts dramatic declines in Tanzania. The SRG Report states "whilst this publication presents a valuable compilation of data several problems with the interpretation of the data exist which affects their assessment of trophy hunting in Tanzania" (Benyr 2017, p. 7). Unfortunately,

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the foundation arm of one of the world's largest pro-trophy hunting advocacy groups, Safari Club International.

the report fails to acknowledge responses to such criticisms offered by the authors (Bauer et al. 2016a; Bauer 2016b).

Bauer et al. 2015 predicted a 37% chance that East African lion populations (including Tanzania) would decline by one-half over two decades. To come to this conclusion, the authors explain, "We compiled all credible repeated lion surveys and present time series data for 47 lion (*Panthera leo*) populations. We used a Bayesian state space model to estimate growth rate-λ for each population and summed these into three regional sets to provide conservation-relevant estimates of trends since 1990." (Bauer et al. 2015)

The SRG Report questions the findings in Bauer et al. 2015 findings claiming "unweighted means to summarize population trends emphasizes changes in small populations" and that "extrapolation of trends beyond the information-content of the available data has led to an exaggeration of the threat for a decline," while further concluding that "these considerations include no positive effects that a previous decline might have on the population growth by increasing availability of preferred habitats and food and reducing intraspecific conflicts" (Benyr 2017, p. 7). The paper further goes on to question the findings from one of the assessment sites in Katavi, Tanzania.

The points highlighted above are similar to that of Riggio et al. 2016, to which Bauer et al. 2016a respond as follows:

- Regarding "unweighted means to summarize population trends": "Our regional population analyses include all reported time series data for both increasing and declining populations; we calculated the projected growth rate λT of T years (7), but these metrics were not intended to provide a Bayesian forecast of population sizes (8). Weighting these metrics by population size would introduce a serious bias because sites that had previously suffered the largest declines would contribute relatively little to aggregated projected growth rates." (Bauer *et al.* 2016a)
- Regarding Katavi, Tanzania: "Our paper acknowledges the imprecision inherent in the Katavi time series of ground surveys, which were recently used to report a significant decline in lion numbers from 1995 to 2010 (5). Our Bayesian analysis fully considers uncertainty resulting from observation and process errors, and our conclusions do not depend on the Katavi time series: Excluding Katavi only reduces the probability of a one-half decline in three lion generations in East Africa from 37% to 32%." (Ibid)
- General comment: "Our assessment is based on the widely accepted criteria of the Red List and is entirely consistent with similar trends described for specific sites and for Africa as a whole (e.g., references 1, 4, 5, 23, 31, 32, and 38 of ref. 9)." (Ibid)

Despite Tanzanian authorities questioning the IUCN's assessment of lions, the IUCN Cat Specialist Group and its Lead Assessor – Dr. Hans Bauer – have stood by their initial assessment, as evidenced in a letter attached to this submission. (Bauer 2016b).

The SRG Report fails to identify serious concerns with the implementation of the lion trophy age verification system in Tanzania

As described by the SRG field visit team, "Since 2011, Tanzania has signed a Memorandum of Understanding with IGF Foundation which is a French based International organization for wildlife Conservation. IFG Foundation assists the Wildlife Division and now TAWA in organizing the collection and surveillance of lion trophies" (Benyr 2017, p. 18). The document offers a lengthy description of how the IGF and its government partners age and document the trophies.

This French organization – led by Director Dr. Philippe Chardonnet[6] - is affiliated with the trophy hunting industry. One of its four key objectives is "to safeguard the world's hunting heritage in order to guarantee its sustainability for future generations."[7] Dr. Chardonnet's findings and publications have repeatedly been criticized by independent lion scientists given the obvious bias to favor continuation of lion hunting in Tanzania.

Further, as discussed in the attached Declaration from Dr. Craig Packer, whose research and findings formed the basis for the aging verification system in place today, there are significant issues with the implementation of the age-verification system in Tanzania. Specifically, Tanzania's "age-assessment efforts are secretive: only members of the Tanzanian hunting fraternity are allowed to participate. This secrecy stands in stark contrast to the more transparent age-assessment practices in Mozambique and Zimbabwe. Further, there is also no evidence of penalties for noncompliance (such as reducing quotas)." (Packer Declaration at ¶ 8). This lack of transparency and objectivity make it impossible to be confident that lion "A" was shot by client "B" on date "C," creating ample opportunity for abuse of this system. Thus, the Service cannot be sure that all of the lions killed by trophy hunters in Tanzania are killed in compliance with minimum age restrictions, especially since there is no evidence that Tanzania has facilitated robust training of hunting guides to ensure that they know how to identify a lion's age in the field.

As discussed in the attached comments submitted by HSUS, HSI, and co-petitioners regarding the USFWS lion ESA listing, removing a male lion from a pride has cascading negative impacts on the other members of that pride. "Each male replacement has profound effects on the reproduction of multiple females. Tanzania currently allows about 500 lions and 400 leopards per year to be killed for sport in an area of 300,000 km^2 (1.67 lions and 1.33 leopards/1000 km^2). The proportion of male lions removed by trophy hunters in the mid- to late 1990s was unsustainable (28% /year in some areas)." (Packer 2011).

The field study inaccurately suggests that positive conservation outcomes are primarily dependent on trophy hunting revenues, and therefore availability of lion trophies.

The SRG Report makes the following claim: ". . . the quality of the protection and all anti-poaching activities for a large part of the lion range directly depend on the income generated by hunting. This income dropped by about 30% following the import bans for lion and elephant trophies enacted by the EU and the USA" (Benyr 2017, p. 13). Further, a chart on pg. 28 continues the line of reasoning that the declining hunting industry profits – allegedly the fault of lion trophy import

[6] Dr. Philippe Chardonnet Biography, IUCN 2003 World Parks Congress. https://www.wcs-ahead.org/bios/bio_chardonnet.html.

[7] Fondation François Sommer, The International Foundation for the Management of Wildlife (IGF Foundation). 18 Apr 2016. http://www.emploi-vert.fr/societe/fondation-igf-abritee-par-la-fondation-francois-sommer.

restrictions – have or will lead to a variety of other devastating outcomes: vacant hunting blocks, reduced responsible management, decreased incentives for community wildlife management, competition from other forms of land use, increase occupation by settlers, shortage of resources, increased poaching, and decreased scientific monitoring, etc. (Benyr 2017, p. 28). The SRG Report logic therefore follows that the lifting of the import restrictions by the US and EU will mitigate these concerns.

These claims do not hold water. The issues flagged by the SRG existed long prior to the implementation of any trophy import restrictions, when hunters shot and exported hundreds of African lions annually.

According to the SRG Report "Currently, 47 out of 157 hunting bock *[sic]* are vacant in Tanzania and therefore the auctions fetch suboptimal results and demands to lower the prices for hunting licenses arise. *Even more detrimental* for the conservation of lions could be the option to hunt unsustainably and move to another plot when the game population is depleted" (Benyr 2017, p. 27) (emphasis added).

The SRG document links the vacant lots, at least in part, to the lion trophy import restrictions and a 30% profit decline (Benyr 2017, p. 28). However, reports from as far back as 2012 indicate that at that time 19% of the hunting areas were *already* financially unviable (Campbell 2012, p. 5). Using the current estimate that 305,000 km^2 of the land is available to hunters (Brink et al. 2016, p. 2), 19% would in the present day represent 57,950 km^2 of unviable land.

The reasons for the unviability must therefore lie with other factors. One such factor is absence of wildlife because the outfitters, and consequently the government, are failing to protect these areas. Another factor is that blocks are allocated at such a low price that the fees fail to cover the costs of effective management, perpetuating corruption in the system. Indeed, the SRG Report itself acknowledges the money trophy hunting generates may never actually trickle down to benefit conservation ("TAWA also has the agenda to develop tourism and under this mandate the income from sustainable wildlife management can still be diverted into projects that do not benefit conservation or even counteract this objective" (Benyr 2017, p. 13)).

With respect to community incentives, such incentives were already extremely low when lion trophy imports were at their peak, because the communities received little of the money generated by trophy hunting (with much of that revenue inuring to the personal benefit of government officials and hunting guides). (Packer Delcaration) One study found that:

> Of the district allocation, officially 60 percent was budgeted for investment in villages near the blocks. In reality, few benefits filtered to local communities (Barrow 1996: 11); probably closer to 3-5 percent of hunting revenues actually reached villages where hunting occurred (Sachedina 2003: 7). Actual expenditure included projects more convenient to the District Council than villages supporting wildlife. Hunting revenue allocations may have been driven by political considerations. For example, infrastructure investments in Ruvu Remiti and Msitu wa Tembo, densely populated villages with large voting blocs . . . (Sachedina 2008, p. 150)

The SRG Report also claims that poaching may increase as a consequences of continued lion trophy import restrictions. Yet, if one examines elephant trophy hunting in Tanzania – which was at its peak when the U.S. made the decision to suspend elephant trophy imports from Tanzania – this argument does not hold. Because of poaching, Tanzania's elephant population is estimated to have fallen by 60% between 2009 and 2014. Clearly, the measures taken by the trophy hunting industry to prevent poaching were wholly insufficient and the industry's allegations that anti-poaching efforts will improve only if lion trophy import restrictions are lifted lack merit.

The SRG Report fails to take into account the detriment trophy hunting causes to photographic tourism and therefore local communities

Tourists who care about wildlife are less likely to visit regions or places with a reputation for not caring for their wildlife. Thus, when shocking trophy hunting news stories gain global attention (e.g. video exposing egregious trophy hunting cruelty by the company Green Mile Safari in Tanzania (Green Mile Press Release, 2016;[8] Fernholz, 2016[9])), photographic tourism also pays the price. Tanzanian tourism companies must spend resources on marketing themselves to stand apart from the negative press (Buckley 2014, p. 321).

Communities also incur costs when trophy hunters kill animals that are already in decline due to habitat destructions, human-wildlife conflict, disease, etc. A study on conservancy management quoted a Tanzanian villager from Emboreet as follows:

> We're more closely allied with the photographic operators than the hunters. They are finishing off the wildlife before we've had a chance to realize a profit from it. Hunters don't recognize us; they only recognize the government… 25 percent of hunting fees goes into the hole at the district. We're supposed to get 5 percent: we don't even see that. The WD controls everything. (Sachedina 2008, p. 152)

In fact, a 2017 report revealed that for eight countries surveyed (Botswana, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe), of the $17 billion in annual tourism spending, trophy hunting adds less than $132 million or just 0.78% of that total (Murray 2017, p. 3). Tourism in these countries accounts for between 2.8% and 5.1% of gross domestic product (GDP) (Ibid). Trophy hunters contribute only an estimated 0.03 percent of GDP. Finally, non-trophy hunting tourism employs 132 times more people than trophy hunting (Ibid). Therefore, Tanzania has much more to lose – in terms of funds dedicated to conservation and communities, its economy, and jobs – from the damage trophy hunting can cause to Tanzania's tourism brand.

[8] Humane Society International. Tanzania urged to rescind hunting concession to Green Mile, a company accused of reckless, atrocious animal abuses. Press release. June 24, 2016. Available at: http://www.humanesociety.org/news/press_releases/2016/06/tanzania-hunting-green-mile-062416.html?referrer=https://www.google.com/.

[9] Fernholz, Tim. Leaked Videos of Wildlife Abuse Spark Corruption Scandal In Tanzania. Huffington Post July 01, 2016. Available at: http://www.huffingtonpost.com/entry/abusive-safari-company-tanzania_us_57769240e4b04164640fbba8.

- **Tanzania's Comments on the USFWS Status Review of the African Lion Is Inadequate to Support and Enhancement Finding by USFWS**

The most recent publicly available information from Tanzania regarding lion management and regulation of trophy hunting is the country's comment letter submitted to FWS during the ESA Status Review of African Lion (dated January 27, 2015, hereinafter ESA Comment). The submission addresses lion biology, range, and populations trends; remarks on the status review of the Africa lion; and management and monitoring of lion trophy hunting in Tanzania. However, the following analysis reveals serious gaps and questionable conclusions in the submission.

Tanzania cites to populations estimates that are now outdated and current numbers are much lower

According to the ESA Comment, the latest population estimates put the lion population in Tanzania at 16,800 individuals (ESA Comment 2015, p. 5; Mesochina *et al.* 2010). However, the latest IUCN analysis of *Panthera leo*, which post-dates these sources, estimates the total lion population in all of Eastern Africa to range between 7,345 and 13,316 lions (Bauer *et al.* 2016 supplementary materials, p. 17). Tanzania's population may therefore be even fewer than 7,345 lions because this East Africa assessment includes other East African countries like Kenya.

Further, the ESA Comment suggests that lion abundance is stable or increasing within protected areas, relying on anecdotal perceptions from "informants." (ESA Comment 2015, p. 5) The IUCN assessment directly contradicts this, stating that the lion population in four well-studied areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer *et al.* 2016, supplementary material, Table 3). The information also notes that abundance outside of protected areas is decreasing.

As far as the continental data on which Tanzania basis its lion management decisions, there are likely discrepancies between Tanzania's estimates and globally accepted lion population numbers. The ESA Comment cites to Riggio *et al.* for the estimate that the global wild African lion population is 32,000 to 35,000 lions (ESA Comment 2015, p. 14). Yet it is now clear that there are probably as few as 20,000 African lions remaining continentally (Bauer *et al.* 2016). Although Tanzanian authorities wrote the ESA Comment prior to the publication of the 2016 IUCN assessment, Tanzania's lion management cannot be said to enhance the survival of the species when it doesn't rely on the best available science and accept the latest IUCN assessment.

The ESA Comment is missing details on methodology for lion hunting quota determination, which is likely unsustainable if the authorities are using outdated population data

In the five years prior to Tanzania's 2015 submission, Tanzania sold approximately 500 lion hunting permits each year. (ESA Comment 2015, p. 7) There is no detailed explanation in the document of how the Tanzanian government determined that this extremely high quota is sustainable. This number of lions is approximately 6.8% of the *entire* estimated lion population in East Africa (500 lions is 6.8% of 7,345).

A recent study proposed that a sustainable offtake level for lions in Tanzania is ≤ .92 lions per 1000 km^2 (Brink *et al.* 2016, p. 7). This is a generous allotment because a 2011 study recommended that the Tanzania lion quota be limited to .5 lions per 1000 km^2 (Packer *et al.* 2011, p. 142) and a 2016 Zambia study confirmed a similar recommendation (Creel *et al.* 2016). With the generous .92 lion limit, the total *potentially* sustainable take of lions for each single hunting block (estimated by the Tanzanian government to span the total of 304,399.95 km^2) would amount to only approximately 280 lions. (ESA Comment 2015, p. 7) If the more precautionary .5 lion limit is used, then the total quota would amount to only approximately 152 lions.

Both suggested limits are by far lower than the 500 permits sold annually. Further, considering that management issues on each hunting block are unique and it is impossible that each 1000 km^2 will contain huntable lions and that other causes of removal such as human-lion conflict and disease must be taken into account, the quota of 500 lions cannot be sustainable.

Of the 500 permits sold annually, in the 2011/2012 hunting season 85 lions were killed, in the 2012/2013 season 51 were killed, and in the 2013/2014 season 54 were killed (ESA Comment 2015, p. 21-22).

The ESA Comment understates the value of photographic tourism to its economy and conservation

The submission from Tanzania suggests, "[t]rophy hunting, including lions, is the main source of revenues for the Wildlife Division. . ." (ESA Comment 2015, p. 7) As one example, the ESA Comment states that for the financial year 2013/2014, the revenue accrued from tourist hunting was 16.7 million and from photographic tourism only 5 million (ESA Comment 2015, p. 8). This raises questions about the way tourism revenues are allocated in Tanzania, whether they are distributed appropriately, and if sufficient tourism dollars are diverted into conservation. Tourism's overall contribution to Tanzania's GDP was a whopping 5.1% of total GDP in 2014. (TanzaniaInvest 2014)[10] The ESA Comment offers no explanation as to why so few photographic tourism dollars are channeled into the Wildlife Division.

Tanzania's comment offers inconsistent information on the distribution of funds from trophy hunting to communities

In one part of the ESA Comment, the Tanzania authorities state that Wildlife Management Authorities (WMAs) get around 60-65% of the revenue from trophy hunting, whereas in another section the claim is that 75% of the block fees are disbursed to WMAs (ESA Comment 2015, p. 7). With inconsistent facts and absence of detailed breakdown of the distribution process followed to ensure that local communities accrue sufficient financial benefits from the trophy hunting operations, it is impossible to determine whether Tanzania's trophy hunting management offers the necessary socio-economic-cultural benefits to meet ESA enhancement criteria.

The ESA Comment claims trophy hunting is critical because it is viable in remote areas, but many blocks are adjacent to protected spaces

[10] TanzaniaInvest, TanzaniaInvest is happy to announce that its Newsletter Database of registered users recently surpassed the 10,000 mark. Sep 23, 2014. http://www.tanzaniainvest.com/economy/tanzaniainvest-10000-registered-newsletter-users

ESA Comment states "[h]unting is able to generate revenues under a wider range of scenarios than ecotourism, including remote areas lacking infrastructure, attractive scenery, or high densities of viewable wildlife." (ESA Comment 2015, p. 8) Yet the 1995 draft management plan said that protected areas, like national parks where photographic tourism thrives, are "core areas providing wildlife that can be hunted in surrounding areas once it voluntarily moves one kilometre outside" (Policy and Management Plan, p. 12). Therefore, many of the hunting blocks are actually in key ecoutourism hotspots, meaning there is potential these areas are attractive to tourists and therefore could remain protected and well-funded even if hunting was not permitted there. Further, unsustainable trophy hunting that occurs in the areas adjacent to protected areas can have a detrimental impact on the viability of these parks as hunting depletes wildlife and diminishes tourism's draw.

In fact, 60% of the lion's range lies in "core protected areas" and 80% of the estimated individuals "range inside National Parks, Game Reserves, Wildlife Management Areas, etc." (ESA Comment 2015, p. 9). Therefore, lions are trophy hunted in areas that would be very attractive for photographic tourism.

Tanzania mistakenly claims that trophy hunting does not contribute to lion overutilization

The ESA Comment concludes, "Trophy hunting is highly conservative and strictly controlled and thus does not constitute [sic] to the overutilization of the population." (ESA Comment 2015, p. 12) This is not accurate, in fact a 2016 study reveals, "trophy hunting of lions is having a negative impact on populations" (Brink *et al.* 2016, p. 9; Packer *et al.* 2011; Packer *et al.* 2009; Kiffner *et al.* 2009; Loveridge *et al.* 2006). The hunting blocks that killed the greatest number of lions, likely incentivized by a system that penalizes outfitters that utilized less than 40% of the quota (see above discussion), eventually showed the steepest drop in lion hunts (Brink *et al.* 2016, p. 10). The drop may be an indicator of falling lion population numbers in those blocks. It appears the penalty system is still in place (Brink *et al.* 2016, p. 10). Further, overhunting on one property can lead to population sinks in neighboring property, as lions from the un-hunted or under-hunted properties cross into the over-hunted blocks (Brink *et al.* 2016, p. 11). See detailed discussion below.

Problematic implementation of age identification requirements

Age-based lion hunting restrictions are in effect in Tanzania since the 2012/2013 hunting season (ESA Comment 2015, p. 15). Although the Tanzanian government has provided training to the hunting industry on identification of age appropriate lions as well as related guidelines, the ESA comments do not indicate that hunters have to pass any type of examination to prove their ability to age the lions. How does the government certify that the professional hunter is prepared to follow the guidelines? Further, the training must be continuous to ensure that improved aging methodology is disseminated to all hunting blocks. The ESA Comment provides insufficient information on this type of training and its effectiveness.

- **USFWS Cannot Rely on Tanzania's 2006 Lion and Leopard Conservation Action Plan to Make an Enhancement Finding**

Following upon the recommendation in the Conservation Strategy that each range state implement the 2006 plan at the national level, Tanzania adopted the 2006 Tanzania Lion and Leopard Conservation Action Plan (hereinafter Action Plan). Adapting the same objectives outlined in Table 1 (see above), the Action Plan further details Tanzania-specific actions as well as responsible entities for each action. The plan revealed significant concerns with lion trophy hunting management in Tanzania, enforcement of age limits on hunted lions, and general governance.

The 2006 action plan did not outline a program that would amount to a net conservation benefit

According to the action plan, "Trophy hunting has traditionally been based on a quota system, but lion quotas have never been set scientifically" (Action Plan, p. 70) and "[l]ions are essentially impossible to count, so lion quotas could never be scientifically based." (Action Plan, p. 73) Further, the plan addressed the challenges of conducting population censuses for lions and presented advantages to using "age-minimum" restrictions as a solution. Therefore, any evaluation of Tanzania's lion management must determine whether or not age limits for trophy hunted lions are appropriately complied with.

In 2004, the Tanzania Hunting Operations Association adopted a six-year age minimum for lion trophy hunting,[11] yet the trophy hunting industry failed to implement this requirement with internet advertisements including "numerous photographs of trophy lions shot in 2004 and 2005 that were clearly less than 4 yrs old." (Action Plan, p. 73) Further, lions on Tanzania's hunting reserves were rarely even reaching six years of age, with many trophy hunted at just two years old. (Packer *et al.* 2009, p. 6; Trophy Hunting and Big Cat Conservation Forum 2016, Dr. Craig Packer Slides[12]) Killing lions that are this young can be disastrous, potentially causing long-term declines.

As highlighted in the Action Plan, some of the major challenges to the implementation of the age restrictions were the lack of transparency and compliance from the hunting industry, as well as absence of training on estimating lion ages for the professional hunters. (Action Plan, p. 72, 73, and 77) The plan also reflected that the hunting industry applied inconsistent trophy measurement methods and record keeping at the time the plan was written. (Action Plan, p. 91) In summary, the Action Plan recommended to counter these problems of compliance by 1) requiring training for professional hunters; 2) requiring inspection for all lion trophies prior to export; and 3) requiring that a neutral third-party auditor perform all inspections.

If Tanzania's government authorities and hunting industry never implemented these recommendations, as it appears from available evidence, then the Service cannot lawfully make an enhancement population for lion trophy imports from Tanzania.

[11] In 2010, the six-year age limit was mandated through regulations issued by the Wildlife Division of the Ministry of Natural Resources and Tourism. However, these regulations did not enter into force until the 2012/2013 hunting season (ESA Comment 2015, p. 15).

[12] National Geographic. Trophy Hunting and Big Cat Conservation Forum. August 10, 2016. Available at: https://www.nationalgeographic.org/projects/big-cats-initiative/livestream/.

The 2006 Action Plan revealed significant issues precluding effective management and governance

According to the plan, a variety of impediments exited at the time that precluded the necessary governance structure that would effectively ensure that lion trophy hunting was biologically sustainable. As cited in the plan:

> Many of the threats to lions and leopards, including those listed above, can be linked to issues to do with management. For example, indiscriminate retaliatory killing, such as poisoning, might result because the local district office has not responded sufficiently rapidly to a request for problem animal control. Another example is that the lack of a clear legal framework outside protected areas and outdated laws leaves communities with little say in the way wildlife resources are used in their areas, and little clear benefits. Whilst these are being addressed through the Wildlife Management Area (WMA) framework, few WMAs have yet received formal approval. Many aspects of inadequate management often results from a lack of resources and personnel, as well as insufficient information, such as can be gained by monitoring. (Action Plan, p. 96)

Tanzania must present sufficient information to prove that the management and governance issues raised in the 2006 Action Plan have been resolved. Notably, the 2015 Review of Lion Conservation Strategies for CMS broadly criticized implementation of all 2006 commitments, including the Tanzania Action Plan as follows:

> In contrast, our analysis has shown that the Strategies have had mixed success: implementation of the Strategies has been fragmented and partial. The partial implementation may in some instances have slowed down the declines, but the fact is that the goal has not been achieved and that decline in numbers and range of lions continues across most of Africa. Many countries and organizations have implemented lion conservation projects; these surely mitigated declines and possibly contributed to objectives on conflict mitigation and distribution of benefits, but they were not explicitly implemented within the framework of the Strategies and have not resulted in the achievement of their objectives. We note that follow-up of the implementation of the Strategies has been absent, and we consider this to be an inherent weakness of the strategic planning process as practiced a decade ago. (Bauer *et al.* 2015, p. 16)

Therefore, Bauer *et al.* 2015 confirmed that overall implementation has been partial and that while some activities have slowed lion population declines, follow-up on the implantation is absent.

- **Tanzania's 2006 Conservation Strategy for Lions in Eastern and Southern Africa Has Not Even Been Implemented**

At the Eastern and Southern African Lion Conservation Workshop held in Johannesburg in January of 2006, the attending lion range states, specialists, and other attendees developed the Eastern and Southern African Lion Conservation Strategy (hereinafter Conservation Strategy).

The plan outlined a series of critiques of existing lion management strategies that necessitated the collective regional effort, among which were concerns with trophy hunting and general lion management:

- "Improperly managed trophy hunting was also considered to be adversely affecting several lion populations" (Conservation Strategy 2006, p. 20).
- "There is a widespread lack of government resources and professional capacity to undertake lion population monitoring and management" (Conservation Strategy 2006, p. 20).
- "Trophy hunting is an important revenue generator and management tool for governments, but concerns have been raised in some areas about potentially unsustainable offtakes" (Conservation Strategy 2006, p. 20).
- "Wildlife-integrated land use, policies and planning are non-existent in many places" (Conservation Strategy 2006, p. 22).
- "Multi-lateral Environmental Agreements and International Conventions (CBD, CITES, CMS, etc.) are often poorly integrated into regional and/or national policies, and sometimes contravene the sustainable use of lions" (Conservation Strategy 2006, p. 22).
- "Illegal trade is largely due to ineffective law enforcement, which is in turn due to weak capacity and motivation within law enforcement agencies and a lack of knowledge on this trade" (Conservation Strategy 2006, p. 22).

In ranking the threats to lion survival, the Conservation Strategy actually failed to assess the detrimental impact trophy hunting may have had on lion populations throughout Eastern and Southern Africa. The strategy states that when "[t]he technical session [] ranked a set of factors according to expected impact on the viability of all lion populations in the region," it excluded trophy hunting "due to the difficulty of separating potentially negative biological impacts on lion populations from improperly managed offtakes from potentially positive socio-economic impacts on lion conservation" (Conservation Strategy 2006, p. 20). Therefore this issue was not given the attention it deserves in the drafting of the Conservation Strategy.

The following table outlines the vision, goal, and six objectives of the Conservation Strategy:

Table 1: 2006 Conservation Strategy for the Lion in Eastern and Southern Africa Vision, Goal, and Objectives.

Vision: a sustainable environment for the mutual benefit of lion populations and people in perpetuity.	
Goal: To secure, and where possible, restore sustainable lion populations throughout their present and potential range within Eastern and Southern Africa, recognizing their potential to provide substantial social, cultural, ecological and economic benefits.	
Objectives	
Management:	To ensure effective conservation management of lions, their habitats and wild prey.
Mitigation:	To minimize and, where possible, eliminate human-lion related conflicts.
Socio-economics:	To equitably distribute the costs and benefits of long-term lion management.

Policy and land-use:	To develop and implement harmonious, comprehensive legal and institutional frameworks that provide for the expansion of wildlife-integrated land-use, lion conservation and associated socio-economic benefits in current and potential lion range.
Politics:	To ensure that global policies better reflect the will and intent of regional and national sustainable use policies and practices.
Trade:	To prevent illegal trade in lions and lion products while promoting and safeguarding sustainable legal trade.

Source: Conservation Strategy 2006, p. 24-40.

At the request of the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), subsequent to the adoption of a resolution on lions at the 11th Conference of the Parties to CMS in Quito (November 2014), a group of experts evaluated this and the other regional lion conservation strategy for West and Central Africa. The experts concluded that implementation has been disjointed and incomplete (Bauer *et al.* 2015, pg. 16). The analysis also stated, "[w]e cannot evaluate to what degree these activities were implemented within the framework of the IUCN Regional Lion Conservation Strategies, nor whether or to what extent they contribute to the achievement of their objectives." (Bauer *et al.* 2015).

The May 2016 African Lion Range State Meeting (Entebbe, Uganda) further confirmed these conclusions. The range States stated, "in light of limited technical and financial resources, many Range States struggled to implement and institutionalize the Strategies at the national level" and emphasized "that the lack of resources and capacity has impeded the implementation of lion conservation activities on the ground." (Entebbe 2016, pg. 2).

It is evident that there have been significant impediments to effective implementation of the 2006 Conservation Strategy for the Lion in Eastern and Southern Africa, including Tanzania. Noting this puts into question Tanzania's ability to ensure that any type of lion trophy hunting management program meets the enhancement criteria under the U.S. Endangered Species Act.

- **Tanzania's 1995 Policy and Management Plan for Tourists Hunting Remains Unimplemented and Cannot Support an Enhancement Finding by USFWS**

The proposed 1995 Policy and Management Plan for Tourist Hunting (hereinafter Policy and Management Plan) offered recommendations to improve Tanzania's trophy hunting management. Although the 1995 Director of Wildlife approved the plan, Tanzanian authorities never implemented it (Brink *et al.* 2016, p. 12).

Draft 1995 plan did not meet ESA biological sustainability requirements

The draft plan provides that although trophy hunting is not permitted in National Parks and Ngorongoro Conservation Area, these conservation spaces are "core areas providing wildlife that can be hunted in surrounding areas once it voluntarily moves one kilometre outside" (Policy and Management Plan, p. 12). Such utilization of conservation areas is highly problematic because it may lead to long-term population declines within the protected areas, as animals from the park cross over into hunting blocks.

Another section of the proposed 1995 plan outlines the "kill" target for the quota, where it states that every land owner allocated a block must "ensure that no less than 40% of the prescribed animal quota is utilized" and requires that a penalty be paid in the case this target is not reached (Policy and Management Plan, p. 15). This type of system forces hunting block owners to ignore their own management decisions, which may including hunting fewer lions than 40% of the quota, or face a penalty.

Further, the draft plan outlines that "sustainable" quotas will be determined by the Department of Wildlife based on: "a) Available data from aerial and ground censuses; b) Data from standard questionnaires completed by wildlife and village scouts, who accompany hunting clients, on animal abundance and sightings and hunting success; c) Data from outfitters on all animals hunted, including on trophy size using the standard Safari Club measuring system, and on other biological parameters such as hunting success, body weights and measurements, and age; d) Data from village scouts living within hunting areas, where rural communities have begun to manage wildlife" (Policy and Management Plan, p. 16). However, lion populations are notoriously difficult to estimate. According to the Tanzania Lion and Leopard Conservation Action Plan, "[t]he only reliable method for counting lions is through individual recognition and intensive study . . ." (Action Plan, p. 71). It further confirms that that while the Ngorongoro Crater may be "the easiest ecosystem in the world to count lions," it has been "impossible to obtain comparable data on the Tarangire lions." (Ibid.) Therefore, the four-step plan outlined for quota determinations was unlikely to produce biologically sustainable limits.

Draft plan acknowledges that communities saw little benefit from trophy hunting of lions

First, the draft plan recognized that "to date, the rural communities on whose land tourist hunting takes place, or which border hunting blocks, have received few tangible benefits from the industry." (Policy and Management Plan, p. 4) While the plan proposes that "[t]o effect a general policy of community-based conservation throughout Tanzania, Wildlife Management Areas will be established and managed by rural communities which form Authorised Associations," it also proposes that "interim arrangements" be made for management of hunting blocks whereby "the Director will approve all quotas for, and make all arrangements . . . on behalf of the respective rural communities" and "will continue to collect fees deriving from these hunting blocks" (Policy and Management Plan, p. 18). The draft plan offered no indication on how long this interim phase would last and when the community involvement would increase.

Despite changes in the regulatory framework of Wildlife Management Areas (WMA) since 2012 – which endeavored to strengthen links between wildlife management and communities – the desired outcomes have not been achieved. In fact, the Service has already found that "the revenue retention by WMAs is insufficient to "finance and motivate sound management decisions" and WMAs are "not sufficiently effective to lift rural communities out of poverty." (FWS 2015 NDF, p. 3)

Trophy Hunting in Tanzania is Biologically Unsustainable and Contributes to Long-term Decline

The negative effects of trophy hunting on lion populations in Tanzania are well-documented. According to the latest IUCN assessment, trophy hunting ". . . may have at times contributed to population declines in Botswana, Namibia, Tanzania, Zimbabwe (Packer *et al.* 2009, 2011, 2013), Cameroon (Croes *et al.* 2011) and Zambia (Rosenblatt *et al.* 2014)" (Bauer *et al.* 2016).

Between 1996 and 2008, lion offtakes across Tanzania dropped by 50% (a strong signal of a declining population)[13], with the sharpest decrease in areas where the initial harvest was the highest (Packer *et al*. 2011, p 142). The study found that "[a]lthough each part of the country is subject to some form of anthropogenic impact from local people, the intensity of trophy hunting was the *only* significant factor in a statistical analysis of lion harvest trends" (emphasis added) (Packer *et al.* 2011, p.142). The 2014 analysis from Dolrenry *et al.* (2016) confirms that lions are significantly threatened in Tanzania despite the presence of a "strong trophy hunting sector," in part due to "overexploitation due to poor management of trophy hunting" (Dolrenry *et al.* 2016, p. 1).

Following "dramatic declines in lion harvests that resulted from over-hunting," Tanzania "has taken measures to limit lion offtakes to males that are at least 6 years of age." (CITES Periodic Review AC27 2014, p. 14) Given this threat, the CITES Animals Committee recommended in 2014 that "[g]iven the overall rarity of the species and its extreme sensitivity to habitat loss and problem animal conflict, hunting offtakes should be monitored far more closely so as to minimize the impact of international trade." (Ibid)

Most recently, Brink *et al.* (2016) assessed the Tanzanian lion trophy hunting industry, and determined that financial interests and the temptation of short-term returns have led to unsustainable offtakes of lions from hunting blocks. (Brink *et al.* 2016, p. 3) In Tanzania, some hunting blocks are managed long-term and some are subleased and used short-term. Hunting companies with short-term use blocks (including those available in Msolwa, Ilonga and Matambwe) have a lower incentive to manage the lion population with a long-term view and are documented to have the highest offtake (twice the recommended number). (Brink *et al.* 2016, p. 11) While generating the greatest income for the government, the overharvest has led to declines in annual lion offtake (i.e. a scarcity of lions) at a cost to neighboring unhunted areas from which better-managed populations cross over into the hunting areas. (Brink *et al.* 2016, p. 11)

Significant Issues with Hunting Quota Guidelines, both Historically and Under Current Practice

Tanzania lacks accurate and updated lion abundance information

Sustainable hunting quota allocation requires accurate and current estimates of abundance. Lion abundance can be difficult to monitor because "their biological traits (e.g. low density, cryptic

[13] "[P]revious researchers have suggested that hunting offtake data are a proxy for this population data, principally because hunting companies put a large amount of effort into finding lion trophies, and so any changes in the underlying population are reflected in the number of lions hunted." (Brink *et al.* 2016, p. 6)

colouration and behaviour) make them difficult to monitor and hence wildlife managers rarely have access to reliable information on population trends, and long-term information at the community level is almost completely lacking." (Durant *et al.* 2011, p. 1490) Further, because lion populations can decline very quickly and dramatically, it is recommended that estimates are "frequently up-dated." (Action Plan 2006, p. 72) In the absence of reliable data, the government must err on the side of extreme caution when determining a sustainable offtake quota, which is not the current practice.[14]

The latest Tanzania-specific lion abundance estimate is from Mésochina et al. (2010), seven years ago. January 2015 comments from the Ministry of Natural Resources and Tourism submitted to FWS rely, in part, on data from 321 "informants" in Protected Areas and in Districts (ESA Comment 2015, p. 5). This anecdotal data concludes that lion abundance is "stable or increasing within Protected Areas" and "decreasing outside Protected Areas." (Ibid). Yet the Ministry offers no information about the identity of these informants, nor about the potential basis for these conclusions, meaning there is little transparency and no opportunity for scientific review.

The International Union for Conservation of Nature (IUCN) 2016 assessment for *Panthera leo* contradicts these informant conclusions. According to inferred lion population trends based on interpolated census data from 1993 through 2014 in 47 monitored lion subpopulations, the populations of all but one Protected Area have significantly declined.

Table 1: IUCN 2016 *Panthera leo* Assessment: Supplementary Information (Population Trends)

Sample Tanzania Subpopulation	Estd. Lions (1993)	Est. Lions (2014)	Percent Change
Ngorongoro Crater	61	55	-10%
Katavi*	1,118	0	-100%
Matambwe	124	98	-21%
Serengeti	232	314	+35%
Tarangire	252	141	-44%
Total	**1,787**	**608**	**-66%**

*In Katavi National Park, "[l]ions are extant but at a density so low as not to be detected" and its "population decline remains uncontested." (Bauer *et al.* 2016)

As Table 1 demonstrates, the monitored subpopulations of Ngorongoro Crater, Katavi, Matambwe, and Tarangire, are estimated to have fallen by 10%, 100%, 21%, and 44% respectively between 1993 and 2014. Therefore, it is unclear how the informants were able to determine that populations in Protected Areas are "stable or increasing," when that directly opposes the IUCN findings. Many questions remain unanswered about this conclusion. What was the methodology used to estimate the current population? Were the findings initially made for a smaller segment and then

[14] We further note that Tanzania is in category 3 for national legislation implementing CITES and generally believed to not meet the requirements for implementing CITES. (Available at: https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-22-A3-R1.pdf).

extrapolated to the entire subpopulation site? What is the period of time for which the populations were found to be "stable or increasing"?

Populations outside Protected Areas are poorly monitored and therefore it is impossible to assess the accuracy of the informant conclusion that lion populations outside Protected Areas are decreasing. All of this brings into question the ability of the Tanzania government to monitor trends in populations appropriately and to base lion quotas on best available science. As stated previously, the 2006 Action Plan cites that "lion quotas have *never* been set scientifically" (emphasis added) (Action Plan 2006, p. 70).

The Ministry's submission to FWS explains that the Tanzanian government launched a national large carnivore survey in 2014, predominantly focused on spoor count methodology (ESA Comment 2015, p. 25-26). The Wildlife Division and TAWIRI are carrying out the survey. The findings of this survey are not discoverable online. Regardless, experts suggest that "consistent, rigorous large-scale surveys" must be conducted by independent agencies – neither the Wildlife Division or TAWIRI constitute independent agencies and the findings of this survey may be unreliable (Bauer *et al.* 2015).

Hunting quotas exceed estimated sustainable offtake levels

Hunting quotas are determined by "the Quota Allocation Advisory Committee comprised of wildlife conservation experts from TAWIRI, the University of Dar es Salaam, Sokoine University of Agriculture, University of Dodoma, the College of African Wildlife Management and the Wildlife Division (which is the CITES Management Authority)." (ESA Comment 2015, p. 7) However, it is not clear what role anecdotal population details and input from informants plays in the determinations made by this Committee and whether this determination is available for scrutiny by conservation experts.

Historically, a large percentage of the hunting blocks received quotas that far exceeded estimated sustainable offtake. For example, Caro *et al.* (2009) estimated that a sustainable hunting quota for Tanzania lions is 5.1% of a hunting block's population, or 4.6% if one accounts for incidental take of juvenile males. (Caro *et al.* 2009, p. 919) The same study further concluded that 20, or nearly half, of the 43 Selous Game Reserve hunting blocks leased to hunting safari companies between 1988 and 1997 received quotas that *by far* exceeded the 4.6% offtake (at times representing as much as 10% or 20.5% of block's population). (Caro *et al.* 2009, p. 926-928) Although the actual offtake in that period seldom met the full quota, this demonstrated that some hunting blocks received excessively generous quotas that were not scientifically sound. Note that the Tanzanian government has since designated an additional 14 hunting blocks since 2002. (Brink *et al.* 2016, p. 4)

Further, subsequent recommended sustainable offtakes for lion trophy hunting were .5 lions per 1000 km^2 (Packer *et al.* 2011, p. 142) and $\leq$ .92 lions per 1000 km^2 (Brink *et al.* 2016, p. 7). If the more precautionary .5 lion limit is used, then the total quota would amount to only 152 lions annually for the 304,399.95 km^2 of hunting blocks. With the more generous .92 limit, the total would be 280 lions annually. Both estimates are far below the excessively high 500 lion hunting permits sold by Tanzania each year (ESA Comment 2015, p. 7).

Quotas serve as a target, not a limit, thus incentivizing unsustainable offtake

Dr. Craig Packer is one of the world's foremost lion experts who studied the species in Tanzania since 1978 before the government suddenly withdrew his research permit in 2014, in response to his comments raising concerns about the sustainability of lion trophy hunting and Tanzania's corruption (Packer 2015). In August of 2016, Dr. Packer spoke at the World Lion Day event hosted by National Geographic and commented thus on the issue of lion quotas:

> "You and I might think of quotas as a limit of how many you are allowed to shoot – but to them [in Tanzania] it was a production target. You got to maintain your quotas, and if you didn't shoot enough lions, the government would take away your hunting block and give it to somebody else who promised to shoot more lions. So the only way they could maintain those high quotas, those production targets, was to keep shooting and shooting and shooting all the way down to those younger age classes." (Trophy Hunting and Big Cat Conservation Forum 2016)

In fact, as of 2004, outfitters were obligated to "utilise the wildlife on quota to generate revenue not less than 40% of the value of the total quota allocated" and if the outfitter failed he or she was "required to make a top-up payment to the Wildlife Division to meet the 40% minimum." (Baldus and Cauldwell 2004, p. 6). This is still the case (Brink *et al.* 2016, p. 10) Therefore, even if hunting companies make the management decision that meeting 40% of the quota is not the best approach for their property or the property does not have a sufficient number of lions that fit the age requirements, there is a contrary incentive to overhunt and kill below the age limit.

Further, according to Brink *et al.* (2016), because higher lion offtake leads to higher income for the government, this also creates an incentive to grow the quota beyond sustainable levels, which ultimately lead to declines in lion populations (as evidenced by decreasing offtakes). The study explains:

> [T]he trophy fees for lion are higher than for other animals ($4900/lion in 2009) and this creates pressure for setting higher quotas, as increasing the number of lion on quota greatly increases government income. This leads to higher lion hunting offtakes and then declines in offtake. Thus, the blocks with the greatest declines in lion trophy hunting from 1996–2008 were the same blocks that provided the government with the most income per km^2 from 1996–2003. (Brink *et al.* 2016, p. 10)

Tanzania has not Taken All Necessary Steps to Eliminate Corruption in the Implementation of Trophy-hunting

According to the 2016 Corruption Perception Index (CPI) ranking from Transparency International, Tanzania ranks as 116 out of 176, placing it in the lower 32% of all countries assessed.[15] As detailed in Dr. Craig Packer's attached declaration, corruption is rampant in the

[15] https://www.transparency.org/news/feature/corruption_perceptions_index_2016

trophy hunting industry in Tanzania, and the country has suppressed and expelled independent scientists who publish data that contradicts the country's claims that trophy hunting is sustainable.

According to the Ministry of Natural Resources and Tourism "Hunting companies are allocated hunting blocks for tenure of five (5) years subject to annual review of company's performance. The process of allocating hunting blocks for the 2013 to 2018 [sic] was concluded in 2011" (ESA Comment 2015, p. 7) Described as a "closed-tender system" or a "process of selling a product by inviting a specific group of potential buyers to provide a written offer by a specified date" (80 Fed. Reg. at 80022), allocation of Tanzania's hunting blocks is fraught with corruption. At the 2016 World Lion Day event hosted by the National Geographic, Dr. Packer made the following statement about hunting block allocation:

> "Well in Tanzania, they have about 300,000 km^2 of hunting blocks – that's a huge huge estate for hunting – but it only generates about $15 million a year in hunting revenues, which is $50 per kilometer squared per year. And you need to have about $2,000 per square kilometer, so that's how far the shortfall is from sport hunting. So then you can ask, well wait a minute, you got all this land, you're making such a big deal about it, how come the revenues are so incredibly low? Well they're low because who gets the hunting blocks are the result of a patronage system. *So it's current and recent elected officials who get the blocks.* They are getting the money themselves, its not going to the government and hence it's not back into anti-poaching. It's corrupt insiders - and these are really corrupt people who have these hunting blocks - and because they're corrupt, they don't really care about conservation for the most part; there is no re-investment. And this has shown up very dramatically in Tanzania because in the last dozen years or so, one-third of the hunting blocks have been de-gazetted because they didn't raise any money; there is no wildlife left. So there is nothing. So they've failed to conserve a vast portion of the land that is in their domain" (emphasis added) (Trophy Hunting and Big Cat Conservation Forum).

In 2012, then Minister of Natural Resources and Tourism, Ambassador Khamis Kagasheki, issued a warning to trophy hunters against paying off elected officials to side step hunting rules and procedures (Kimati 2012).[16] Ambassador Kagasheki made the following comments before the Tanzania Safari Outfitters Association (TASOA):

> "You have a lot of cash, that much I know. Some of you have become sources of bad influence to government officials. Please stop bribing them and let them perform their duties professionally. As a result, some of you have their requests attended quickly while others have to wait for so long. This is not proper. It is my duty to prove to President Jakaya Kikwete and the people of Tanzania that I deserve the trust they have put on me. How come an individual is found in possession of more than eight hunting blocks under different names? This is unacceptable and the legislation on hunting blocks allocation is bad and must be revisited." (Kimati 2012)

[16] Kimati, B. (2012). Tanzania: Kagasheki Warns Corrupt Hunters. Tanzania Daily News (Dar es Salaam). Available at: http://allafrica.com/stories/201209060195.html.

The distribution of power and decision-making has also come under harsh criticism, as expressed in the following commentary from "Breakthrough Attorneys"[17], a Tanzanian law firm:

> The Law and its regulations have vested a lot of discretional powers on the Minister and the Director of Wildlife. These powers open a *leeway for abuse of power and corrupt practices*. The Minister personally, has wide powers which include; declaring blocks, granting and cancelling allocations, approve transfers and so forth. The Director on the other hand has powers on issuing licenses, permits, hunting block certificate of grant, setting standards of trophies for each hunting company etc. Breakthrough Attorneys' lawyers having been in the forefront during the 2013 – 2018 tenure grants and its aftermath, opines that most of the existing hunting blocks' disputes (which are more than 20) could have been avoided if the discretional powers of these key executives were thinned. A lot of failed bidders claimed foul play and that the allocation decision were uninformed and one sided. A number of cases are still pending in the High Court of Tanzania and most with injunctive writs invoked to completely.

There is no evidence that the issue of corruption in the trophy hunting industry in Tanzania has abated. For example, as recent as June 2016, The Humane Society of the United States and Humane Society International strongly urged the Tanzanian government to rescind its decision to grant a hunting concession to Green Mile Company Limited, an operator expelled from Tanzania in 2014 for appalling and abusive trophy hunting of wildlife. (Green Mile Press Release, 2016; Fernholz, 2016). Green Mile was inexplicably awarded exclusive hunting rights in the Lake Natron Game Control Area even though in 2014 they were clearly in contempt of the norms of proper wildlife management in Tanzania, as well as civil conduct.

Notably, one of the top elephant conservationists in Tanzania - Wayne Lotter - was recently murdered.[18] He was a key figure fighting international ivory-trafficking networks and his death demonstrates that criminal networks and corruption in Tanzania are at odds with species conservation.

Conclusion

As the home to potentially 39-42 percent of the remaining African lions, it is critical that lions thrive in Tanzania (Bauer et al. 2016). The lion population in four well-studied Tanzanian areas (Ngorongoro Crater, Katavi, Matambwe (Selous GR), Serengeti, and Tarangire) decreased by 66%, from 1,787 in 1993 to only 608 in 2014 (Bauer et al. 2016, supplementary material, Table 3), during which time American trophy hunters imported hundreds of lion trophies from Tanzania.

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[17] Breakthrough Attorneys. 28 New Hunting Block in Tanzania Available to Foreign and Domestic Investors, Analysis and Clarifications by Breakthrough Attorneys. July 10, 2015, http://www.tanzaniainvest.com/law/28-new-hunting-block-in-tanzania-available-to-foreign-and-domestic-investors-analysis-and-clarifications

[18] Tremblay, Sophie. Leading elephant conservationist shot dead in Tanzania. The Guardian. Aug. 17, 2017. Available at: https://www.theguardian.com/environment/2017/aug/17/leading-elephant-conservationist-ivory-shot-dead-in-tanzania.

Lions face significant threats including human-lion conflict, habitat destruction, and unsustainable trophy hunting. The presence of one of the strongest trophy hunting sectors in Africa has not prevented and, in fact, is demonstrated to have contributed to the falling lion numbers.

There are significant issues in Tanzania's lion management system, including: a) excessively high and unsustainable lion hunting quotas that are far beyond recommended levels; b) issues with implementation of the six-year lion age-limit requirement; c) lack of recognition that trophy hunting has and continues to contribute to long-term lion population declines; d) reliance on lion population data that does not represent the best available science; e) understating the value of photographic tourism, especially when contrasted with the limited contribution from trophy hunting; f) inconsistent information on distribution of revenue from trophy hunting to local communities; and g) general management and governance issues, including documented corruption in the hunting block allocation process and more.

Therefore, trophy hunting of lions in Tanzania cannot be said to enhance the survival of the species, and issuing an import permit for lion trophies from Tanzania would therefore violate the Endangered Species Act and FWS regulations. Indeed, the Service has already found that Tanzania is not sustainably managing elephant trophy hunting, and we encourage the Service to apply the same level of scrutiny to Tanzania's mismanagement of lion trophy hunting. If FWS issues any lion trophy import permits from Tanzania, HSUS, HSI, and CBD will consider seeking judicial review of that decision. Further, this letter serves as formal opposition to any application for an import permit for a lion trophy from Tanzania and HSUS, HSI, and CBD request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[19]

Sincerely,

Anna Frostic
Senior Attorney, Wildlife Litigation
The Humane Society of the United States

Teresa M. Telecky, Ph.D.
Director, Wildlife Department
Humane Society International

[19] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

Tanya Sanerib
Senior Attorney
Center for Biological Diversity

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Annex XIII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Imports of African Elephant Trophies from Zimbabwe Should Not Be Permitted; October 6, 2017 (17 pages)

Attached below.

October 6, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Rosemarie Gnam, Ph.D.
Chief, Division of Scientific Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Imports of African Elephant Trophies from Zimbabwe Should Not Be Permitted

Dear Chief Van Norman and Chief Gnam:

The Humane Society of the United States (HSUS), Humane Society International (HSI), and the Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service (FWS or "the Service") to continue prohibiting the import of African elephant trophies from Zimbabwe. As detailed herein, recent evidence demonstrates that elephants in Zimbabwe are threatened with extinction from poaching and habitat loss and Zimbabwe cannot ensure that recreational offtake of elephants is sustainable. Therefore, the Service cannot lawfully make an enhancement finding under the Endangered Species Act (ESA) for imports of elephant trophies from Zimbabwe.

ESA Requirements for Elephant Trophy Imports

Since the African elephant special rule amendment (50 C.F.R. § 17.40(e)) went into effect in June 2016, every import of an African elephant trophy is required to comply with ESA permitting requirements. Pursuant to the ESA (16 U.S.C. § 1538) and implementing regulations (50 C.F.R. § 17.40(e)), before the Service can authorize the import of an African elephant trophy it must be able to make a finding that the take of the animal enhances the survival of the species. According to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened

Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

HSUS, HSI, and CBD agree with FWS that the IUCN provides relevant standards for determining whether elephant trophy hunting meets this conservation goal. *See* 81 Fed. Reg. 36388, 36394 (June 6, 2016). We strongly encourage FWS to conduct this enhancement analysis consistent with how the Service conducts its analysis for determining whether African lion hunting meets the enhancement standard. 80 Fed. Reg. 79999, 80045 (Dec. 23, 2015). Specifically,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival[], the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and CBD also agree that FWS must consider the following factors when making an enhancement finding for importation of sport-hunted trophies of African elephants, as it does for African lions:

> "(a) Biological Sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.
>
> (d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting

programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Further, FWS regulations provide that "No more than two African elephant sport-hunted trophies [can be] imported by any hunter in a calendar year." 50 C.F.R. § 17.40(e)(6)(E).

Strict scrutiny of elephant trophy imports is especially imperative, given that the Service has found that uplisting the species to endangered may be warranted. 81 Fed. Reg. 14058 (March 16, 2016).

There Is No Evidence that Elephant Trophy Hunting in Zimbabwe Enhances the Survival of the Subspecies

Since 2014, the Service has been unable to make the requisite finding that hunting African elephants in Zimbabwe enhances the survival of the species. *See* 79 Fed. Reg. 44,459 (July 31, 2014); 80 Fed. Reg. 42524 (July 17, 2015). Numerous problems with Zimbabwe's elephant management remain unresolved to date: the lack of an elephant management plan; lack of sufficient data on population numbers and trends on which to base management decisions; weak implementation and enforcement; lack of evidence that legal offtake is biologically sustainable, taking into account illegal offtake; lack of information about how money from trophy hunting by U.S. hunters is distributed within Zimbabwe; and lack of a national mechanism, such as government support, to sustain elephant conservation efforts in the country. (USFWS 2014 Enhancement Finding; USFWS 2015 Enhancement Finding). Thus, the Service cannot lawfully make an enhancement finding (or non-detriment finding) for trophy imports from this population for calendar year 2016 or beyond, as detailed herein.

Lack of an elephant management plan

In the 2015 finding, the Service stated, "Zimbabwe's current elephant management plan consists of two primary documents drafted in 1996 and 1997. Although the documents provide a well-developed list of goals and objectives, there is no information on whether these goals and objectives have been met or could be met. This is supported by statements from ZPWMA that the plans are outdated and need to be revised." (USFWS 2015 Enhancement Finding, p. 17)

Subsequent to the 2015 finding, in January 2016, a new Zimbabwe Elephant Management Plan (2015–2020)[1] (hereinafter, the Plan) was signed by relevant Zimbabwean authorities. In addition to a long-term vision and targets at the national level, the Plan includes five key components (protection and law enforcement; biological monitoring and management; social, economic and cultural framework; building conservation capacity; and coordination, collaboration and program management), each with a strategic objective and outputs, as well as key activities, key performance indicators, means of verification, time frames, and responsibility. The Plan includes terms of reference for key committees and staff required to implement the Plan (National Elephant Management Committee, Regional Elephant Management Committees, and the National Elephant Manager). In addition, an Elephant Action Plan was developed for each of the four main regional populations (Northwest Matabeleland (a.k.a. Hwange area), Sebungwe, mid-Zambezi Valley, and South East Lowveld (a.k.a. Gonarezhou area). Finally, and importantly, the Plan notes that the cost of implementing the Plan will be at least $12 million per annum in operational budget alone.

While the highly ambitious new Plan is an improvement over the old plans, there is no publicly available evidence that the Plan is being substantially implemented. Certainly, as noted in the plan itself, without the required $12 million per annum in funding, it is unlikely to be implemented. As the Plan indicates: "Implementing the action plan will also require more human and financial resources than are currently available for the conservation and management of elephant in Zimbabwe" (Plan, p. 32).

The mere presence of a new elephant management plan, in and of itself, surely was not the Service's intended goal. Lack of implementation of the Plan, and lack of funding to undertake the actions in the Plan, means that the Service's conclusion about the previous old Plans (that "although the documents provide a well-developed list of goals and objectives, there is no information on whether these goals and objectives have been met or could be met") remains valid.

Lack of sufficient data on population numbers and trends on which to base management decisions

The Service's 2015 finding noted that preliminary findings from the Pan African Elephant Arial Survey, a.k.a. the Great Elephant Census, indicated that Zimbabwe's elephant population had declined by 6% since 2001, and that poaching had significantly increased. The Service noted the need for evidence that this information has been incorporated into management activities in a scientifically sound manner.

[1] http://www.zamsoc.org/wp-content/uploads/2016/04/ZIMBABWE-ELEPHANT-MANAGEMENT-PLAN-APPROVED-FINAL-1.pdf

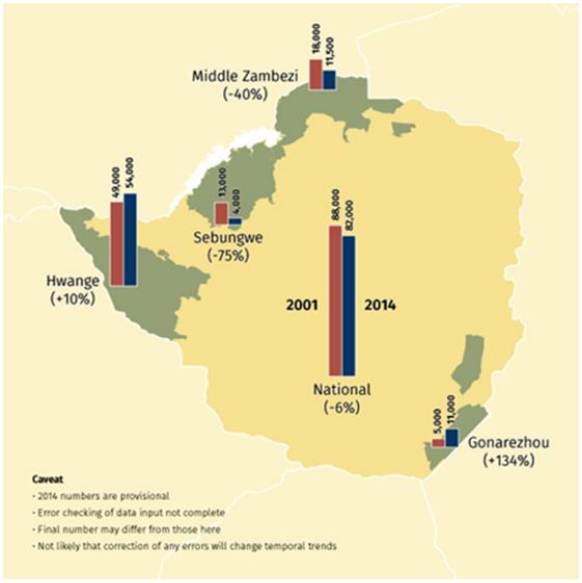

Figure 1. Zimbabwe's national elephant statistics, 2014. From The Zambezi Society Bulletin, February 2015 (http://us10.campaign-archive2.com/?u=f4943277ce971cb1c9028d068&id=50589e3c06).

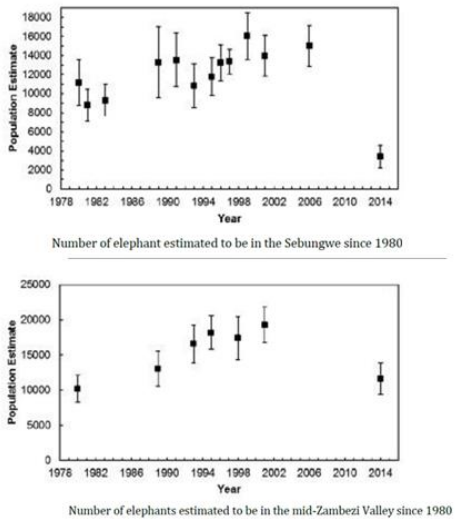

Figure 2. Number of elephants estimated to be in the Sebungwe and mid-Zambezi populations from 1980 to 2014. Source: Zimbabwe Elephant Management Plan (2015–2020), Figures 4 and 5.

Indeed, the Great Elephant Census[2] estimated that Zimbabwe's elephant population was 82,304 ±4,382 with a "carcass ratio" of 8%, meaning the survey recorded one dead elephant for every eight live elephants. The Census found that Zimbabwe's elephant population had declined by 6% overall since 2001, and that there were serious population declines in two of the four main Zimbabwe elephant populations (Figure 1). In Sebungwe, the elephant population decreased by 75%, from about 11,000 to 4,000. And in Middle Zambezi, the population decreased by 40%, from about 18,000 to 11,500. Regarding the other two Zimbabwe elephant populations, the Census found that Hwange's population had increased by 10% from about 49,000 to 54,000, and the population of Gonarezhou had increased by 134% from about 5,000 to 11,000.

While the new Zimbabwe Elephant Management Plan (2015–2020) does not reference the 6% overall elephant population decline in Zimbabwe, it does acknowledge the recent and dramatic elephant population decreases in Sebungwe (Plan, p. 7) and mid-Zambezi (Plan, p. 8) (see Figure 2).

Nevertheless, elephant trophy hunting is still occurring in both Sebungwe and mid-Zambezi,[3] calling into question whether or not the scientific evidence of significant elephant population declines in these areas have been taken into account in setting hunting quotas.

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[2] Chase MJ, Schlossberg S, Griffin CR, Bouché PJC, Djene SW, Elkan PW, Ferreira S, Grossman F, Kohi EM, Landen K, Omondi P, Peltier A, Selier SAJ, Sutcliffe R. (2016) Continent-wide survey reveals massive decline in African savannah elephants. PeerJ 4:e2354 https://doi.org/10.7717/peerj.2354; https://static1.squarespace.com/static/5304f39be4b0c1e749b456be/t/57c71f5fcd0f68b39c3f4bfa/1472667487326/GEC+Results+Country+by+Country+Findings+Fact+Sheet_FINAL_8+26+2016.pdf; http://www.greatelephantcensus.com/final-report.

[3] ZPWMA, *Sebungwe Elephant Management Workshop* (2015), http://www.zamsoc.org/wp-content/uploads/2016/04/Sebungwe_Elephant_Mgmt_Proceedings_29May_Compressed.pdf; https://www.bookyourhunt.com/elephant-hunting-in-zimbabwe

In Sebungwe, hunting blocks in both Chirisa and Chete Safari Areas, were auctioned in 2015 (ZPWMA 2015a, ZPWMA 2015b), with four male elephants on offer in each Area, plus two tuskless elephants in Chirisa. Hunting company Sitatunga Zimbabwe currently offers elephant hunts in Chirisa stating, "Average bull size being in the region of 40 – 45 pounds a side, occasionally 50 lbs can be achieved."[4] Elephant hunting is also curently offered in the Gokwe rural area in Sebungwe: "Elephant hunts in these areas for trophy bulls will produce ivory from around 30-35 pounds per side upwards; tuskless elephant hunting is very good in this area."[5]

There are five Safari Areas in the mid-Zambezi area: Sapi, Chewore, Hurungwe, Dande, and Doma.[6] Together, Mana Pools National Park, and Sapi and Chewore Safari Areas are a World Heritage Site. The 40th meeting of the World Heritage Committee, held 24-26 October 2016, adopted Decision 40 COM 7B.84,[7] which included:

> "4. Notes with significant concern that the 2014 national aerial survey of key wildlife species has revealed a decline in the Zambezi Valley populations of elephants and other mammals which are key attributes of the Outstanding Universal Value (OUV) of the property, and that the threat of poaching is currently too high to consider a feasibility study for a possible reintroduction programme of black rhinoceros;
>
> 5. Notes the development of an anti-poaching strategy for the property and a broader elephant management plan for the Zambezi Valley, and also requests the State Party to ensure that they are fully resourced and effectively implemented so as to restore and maintain the property's OUV;
>
> 6. ***Regrets that the State Party has not been able to complete the new management plan for the property due to lack of funds*** and encourages it to apply for International Assistance to support this work;" **(emphasis added)**

The 2016 Report on the Monitoring of Illegal Killing of Elephants (MIKE) to CITES COP17 noted that the percentage of illegal killing of elephants or "PIKE also increased substantially in . . . Chewore (Zimbabwe; by 69%, from 0.17 to 0.29)."[8] Therefore, it is clear that Zimbabwe has not completed the new management plan for the mid-Zambezi area. Given the lack of funding to complete a new management plan, it seems unlikely that even if such a plan were prepared, it would be fully resourced and effectively implemented.

Nonetheless, elephant trophy hunting is continuing in the Safari Areas in the mid-Zambezi, calling into question whether or not the significant elephant population decline in this area has been taken into account in setting hunting quotas. Charlton McCallum Safaris took numerous

[4] https://www.bookyourhunt.com/Tour/8709
[5] http://www.zingelasafaris.com/zimbabwe/area/
[6] http://whc.unesco.org/en/list/302/
[7] World Heritage Convention, Decision 40 COM 7B.84, *Mana Pools National Park, Sapi and Chewore Safari Areas (Zimbabwe)* (2016), http://whc.unesco.org/en/decisions/6749
[8] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

clients on elephant hunts in the Dande Safari Area of the mid-Zambezi in 2017.[9] In March 2016, the Zimbabwe Parks and Wildlife Management Authority auctioned off hunting blocks that included elephants in Sapi, that included four male elephants and one tuskless elephant.[10] In April 2015, a professional hunter was killed while guiding a client on an elephant hunt in Chewore.[11]

Furthermore, despite the significant elephant population declines in the Sebungwe and mid-Zambezi areas, and the 6% population decline overall, all of which have been publicly known since 2014, Zimbabwe has made no change since 2004 to its voluntary African elephant export quota established under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This export quota stands at 1000 tusks from 500 animals,[12] exported as trophies (as export for commercial purposes is not allowed).

Therefore, the Service's concern, as stated in the 2015 finding, that information from the Great Elephant Census of 2014 has been incorporated into management activities in a scientifically sound manner, remains valid.

Weak implementation and enforcement

The Service's 2015 finding notes that, while strong laws and regulatory mechanisms for the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) and its programs have been established, lack of funding for ZPWMA from the government means they are inadequately implemented and enforced. According to a letter received by the Service from ZPWMA in December 2014, the annual operating budget for ZPWMA is "in excess of US$28 million," yet, with the exception of a few projects, ZPWMA is "funded solely from trophy hunting conducted on state and private lands" (USFWS 2015 Enhancement Finding, p. 9). In the 2015 finding, the Service laments that they lack information about the amount of money generated by elephant trophy hunting specifically, how these funds are distributed, and how these funds enable ZPWMA to enforce and implement laws and regulations.

According to the 2016 report on the Elephant Trade Information System (ETIS) at CITES CoP17 Doc. 57.6 (Rev. 1),[13] "Zimbabwe is the country that pulls the rule of law score down, indicating far greater governance challenges exist in that country" (*id.*, p. 16). The World Justice Project (WJP) Rule of Law Index 2016 ranked Zimbabwe at 108 out of 113 countries and jurisdictions, meaning that Zimbabwe has the sixth worst rule of law.[14] According to WJP, "Effective rule of law reduces corruption, combats poverty and disease, and protects people from injustices large

[9] http://www.cmsafaris.com/zimbabwe-dande-hunt-trophy-gallery/gallery.htm
[10] http://www.desiredauctioneers.co.zw/downloads/ParksSapi.pdf
[11] https://africageographic.com/blog/hunter-killed-bull-elephant-musth/
[12] https://cites.org/eng/resources/quotas/export_quotas?field_party_quotas_tid=&field_full_name_tid=&field_export_quotas_year_value%5Bvalue%5D%5Byear%5D=2017&items_per_page=50
[13] CITES, Report on the Elephant Trade Information System (ETIS), CoP17 Doc. 57.6 (Rev. 1) (2016), https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf
[14] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf

and small. It is the foundation for communities of peace, opportunity, and equity—underpinning development, accountable government, and respect for fundamental rights."[15]

The ETIS report also found that Zimbabwe had the tenth largest ivory market of any country in the analysis, and stated that there is "increasing evidence of direct Chinese involvement in Africa-based ivory processing operations" in Zimbabwe "with production (primarily bangles, name seals and chopsticks) being shipped to Asia using courier companies as well as individuals who sometimes carry contraband on their bodies using purposefully built clothing" (ETIS p. 20).

Indeed, instead of effectively implementing and enforcing wildlife laws and regulations, ZPWMA personnel have been implicated in the illegal ivory trade. In 2015, three ZPWMA staff members were arrested for involvement in the theft of ivory from a government stockpile held at Hwange National Park.[16] The arrests came after a shipment of 62 tusks on its way to China was seized at the international airport in Harare. Serial numbers on the tusks were traced to the Hwange government stockpile. An alleged Chinese smuggler, who claimed he represented the Chinese government, had obtained export permit signed by the most senior of the three ZPWMA people arrested. All three were released from custody, the senior ZPWMA person after paying a $600 bail; none appeared in court again. Allegedly, the investigation was stopped after senior ZPWMA officials in Harare intervened in order to cover the involvement of other ZPWMA officials in the smuggling. The investigation seems to implicate senior parks and Ministry of Environment, Water and Climate officials. Allegedly, the ZPWMA trio had been exporting ivory from the stockpile since 2012. They had the assistance of ZPWMA security personnel and police units who guarded the trucks carrying the ivory over the 880 km from Hwange to the airport.

Corrupt government officials allegedly have been involved in both poaching of elephants and illegal export of ivory tusks, and involvement in a transnational syndicate.[17] Edson Chidziya, the former Director General, Zimbabwe Parks and Wildlife Management Authority, and one-time regional representative for Africa on the Animals Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),[18] was fired in May 2017 for his alleged involvement in the disappearance of rhino horns worth $3 million two years before.[19]

Of further concern is that the ZPWMA operates without a board which, as noted by Mupfiga and Chirimumimba (2015),[20] creates "a leadership vacuum and also legal constraints for the validation of policy decisions and approval or authorization of programmes" and it is "worrying for State entities to operate without boards for long periods because management are then left to

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[15] *Id.*

[16] https://oxpeckers.org/2016/04/how-to-steal-an-ivory-stockpile/

[17] http://globaljournalist.org/2017/02/zimbabwe-journalist-fights-charges-poaching-report/

[18] https://cites.org/sites/default/files/eng/com/ac/22/E22-05-01.pdf

[19] http://www.thezimbabwean.co/2017/05/zim-wildlife-boss-fired-3m-rhino-horn-goes-missing-report/

[20] Mupfiga, P. and Chirimumimba, M., 2015. Challenges to the implementation of IT Governace in Zimbabwean Parastatals. The International Journal of Engineering and Science 14(12): 1-6. ISSN (e): 2319 – 1813. https://www.researchgate.net/profile/Paul_Mupfiga/publication/286871326_Challenges_to_the_Implementation_of_IT_Governance_in_Zimbabwean_Parastatals/links/566eb41108aea0892c52a40d/Challenges-to-the-Implementation-of-IT-Governance-in-Zimbabwean-Parastatals.pdf

operate without accountability, a situation which may compromise the efficiency and effectiveness of an entity due mainly to the absence of an effective oversight function" (p. 4).

The report on Monitoring the Illegal Killing of Elephants (MIKE) to CITES COP17 further flagged several Zimbabwe monitoring sites for capacity building indicating the need for support to improve patrolling, managing, and monitoring at Mana Pools, Sapi and Chewore World Heritage Site.[21]

Thus, the concern stated in the Service's 2015 finding, that Zimbabwe's wildlife laws and regulatory mechanisms are inadequately implemented and enforced, remains valid.

Furthermore, on the subject of law enforcement, the 2015 finding states that the Service has been told by safari outfitters and hunting guides that the presence of U.S. trophy hunters, and their outfitters and guides, are the major deterrent to poaching in Zimbabwe and that, therefore, such hunting enhances the survival of the species. However, recent data demonstrates that this claim is invalid. For example, between 2006 and 2014, elephant poaching increased substantially in both the Chirisa and Chete Safari Areas where elephant hunting occurs, while elephant densities decreased (Figure 3). Moreover, we agree with the Service's 2015 finding that, even if true, this assertion would do nothing to reduce poaching in places where hunting does not occur, such as National Parks, which have experienced substantial elephant poaching.

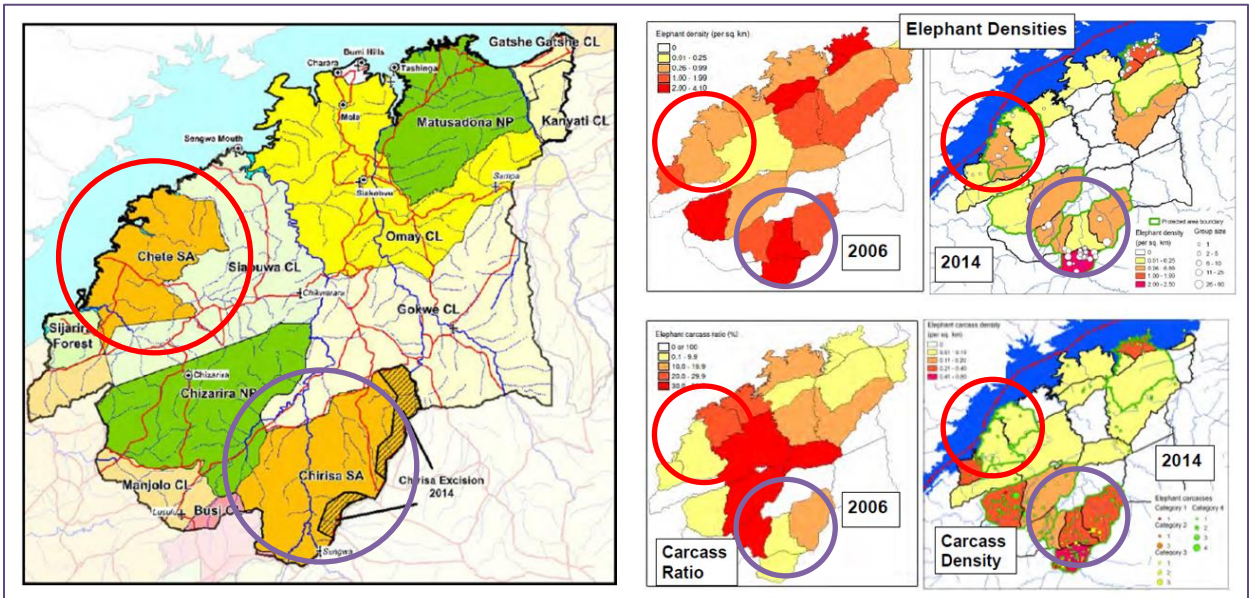


Figure 3: Current land classification of the Sebungwe and survey data. From: Sebungwe Elephant Management Proceedings, p. 10 and 11.

Lack of evidence that legal offtake and quotas are biologically sustainable

The Service's 2015 finding expressed the concern that there is no way to know if legal offtakes are biologically sustainable given that, at that time, there were no up-to-date population

[21] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

estimates, no information on the number of elephants legally taken each year, and no credible information on other sources of elephant mortality (such as legal "cropping", natural mortality, accidents, poaching, problem animal control and "management offtake").

The scientific basis for the establishment of elephant hunting and export quotas in Zimbabwe, in light of the recent and significant declines noted above, remains unknown.

Supposedly, quota setting for wildlife in Zimbabwe is a consultative process involving workshops with wildlife farmers, hunters, local authorities, tour operators and photographers and a scientific review that looks at poaching, trophy quality and size, natural mortality, and problem animal control in surrounding communities.[22] However, the reality is something quite different.

A 2016 paper by Muposhi et al.[23] presented the results of a study on the impact of trophy hunting on large herbivores, including elephants, in the Matetsi Safari Area near Hwange National Park. They found that trophy tusk sizes of hunted African elephants declined significantly from 2004-2015 possibly indicating, according the researchers, that elephant trophy hunting in the area is not sustainable. Furthermore, the authors found that, despite the existence since 2014 of data on elephant populations generated from the Great Elephant Census, quotas "may have been based on previous experiences and individual opinions and not based on scientific principles" (Muposhi p. 15). On the general topic of quota-setting in the area, the authors stated, "There seems to be over-reliance on questionable and subjective personal opinions in the quota setting process which in actual sense is supposed to be based on scientific evidence and ecological principles" (Muposhi p. 12). Finally, the authors note the obvious conflict of interest that exists when the ZPWMA, which relies on trophy hunting as income for its operations, is also in charge of setting quotas, posing the question "who will police the regulator" (Muposhi p. 15), noting that it may cause problems when "economic benefits to take precedence over regulatory policy framework" (Muposhi p. 15). In other words, the scientific component of quota setting is lacking.

Selier et al. (2014)[24] found that elephant hunting in the Greater Mapungubwe Transfrontier Conservation Area, which includes Botswana, South Africa and Zimbabwe, was unsustainable and predicted that "trophy bulls will disappear from the population in less than 10 years."

Politics and corruption also play roles in trophy hunting in Zimbabwe. A 2012 news article explained how officials from Zimbabwe's ruling party since 1980 sought to cash in on trophy

[22] http://www.chronicle.co.zw/elephants-hunting-quota-set-at-500/

[23] Muposhi, V. et al., 2016. Trophy Hunting and Sustainability: Temporal Dynamics in Trophy Quality and Harvesting Patterns of Wild Herbivores in a Tropical Semi-Arid Savanna Ecosystem. PLoS One 11(10). http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0164429&type=printable

[24] Selier, S.A.J., Page, B.R., Vanak, A.T. and Slotow, R., 2014. Sustainability of elephant hunting across international borders in southern Africa: A case study of the greater Mapungubwe Transfrontier Conservation Area. The Journal of Wildlife Management, 78(1), pp.122-132. https://www.researchgate.net/publication/259539652_Sustainability_of_Elephant_Hunting_Across_International_Borders_in_Southern_Africa_A_Case_Study_of_the_Greater_Mapungubwe_Transfrontier_Conservation_Area.

hunting by taking over hunting concessions.[25] A 2015 news article quoted Mary-Jane Ncube of a Zimbabwe NGO that monitors corruption, Transparency in Zimbabwe, as stating "In the area of conservation, I think it [the government] has behaved like a predatory state, going after big investments, giving them to cronies, family, and really not having any concern for communities that are dependent on that land …"[26] Furthermore, she was quoted as saying, "National Parks was the authority in charge of concessions and licensing, but because of the corruption … concessions and licenses are now given according to who you are and who you can pay the highest dollar to." A June 2017 news article described how the Tsholotsho Rural District Council sold permits to a safari hunting company, Lodzi Hunters, to hunt 50 elephants in order to get money to fund the construction of a football stadium. This reportedly came about after Higher and Tertiary Education, Science and Technology Development Minister Professor Jonathan Moyo, who is the MP for the area, made a deal with then Minister of Water, Climate and Environment, Saviour Kasukuwere, who then issued the hunting quota of 50 to the Council. Of relevance, according to Transparency International, in 2016 Zimbabwe was the 22nd most corrupt country, ranking 154 of 176.[27]

Regarding poaching, as noted earlier, it is evident from the Great Elephant Census of 2014 that Sebungwe lost at least 7,000 elephants between 2001 and 2014, and mid-Zambezi lost 6,500 over the same period. (Chase et al. 2016). And the MIKE report to COP17 documented a 69% increase in PIKE (from 0.17 to 0.29) in Chewore.[28] This is roughly equivalent to 13,500 elephants over a 13-year period or 1,350 per year just in these two populations alone. Yet, according to information provided to the Service by ZPWMA, as cited in the 2015 finding, poaching on a national basis averaged only 190 per year from 2009 to 2013; and according to information provided to the Service by safari operators, as noted in the 2015 finding, about 160 elephants are killed by trophy hunters annually. Clearly, there is a large and unexplained discrepancy between these figures that underscores the lack of credible information on all sources and quantity of elephant mortality, without which there is no way to ascertain if legal offtakes are biologically sustainable.

Elephant poaching has continued in Zimbabwe in the three years following the Great Elephant Census of 2014. In October 2015, 22 and possibly as many as 78 elephants were poisoned with cyanide in Hwange National Park, and their tusks removed.[29] Reportedly, 159 elephants were poached in Zimbabwe in 2016.[30] In June 2017 it was reported that ten elephants, including a mother and her young calf, were poisoned and tusks removed in Hwange National Park and in the state forestry land outside the northern part of the Park.[31]

[25] https://mg.co.za/article/2012-09-07-00-big-bucks-trigger-zimbabwe-scramble
[26] https://mg.co.za/article/2015-10-22-hunters-feed-corrupt-zim-officials
[27] https://www.transparency.org/news/feature/corruption_perceptions_index_2016#table
[28] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf
[29] http://www.cnn.com/2015/10/27/africa/zimbabwe-elephant-poaching/
[30] http://www.zbc.co.zw/2017/06/15/elephant-poaching-cases-on-the-decline/
[31] https://www.theguardian.com/environment/2017/jun/20/ten-more-elephants-poisoned-by-poachers-in-zimbabwe

Therefore, the Service's concern, as expressed in the 2015 finding, that there is no way to know if legal offtakes are biologically sustainable, given no credible information on other sources of elephant mortality, remains valid.

Lack of information about how money from trophy hunting by U.S. hunters is distributed within Zimbabwe

The Service's 2015 finding stated: "While CAMPFIRE [Communal Areas Management Programme for Indigenous Resources, a Zimbabwe community-based natural resource management program] has provided conservation benefits in the past and improved tolerance of wildlife in rural communities, the program has more recently come under criticism relating to excessive retention of generated funds by district councils, resulting in diminished benefits to communities. Sport-hunting may be an important tool that gives these communities a stake in sustainable management of the elephant as a natural and economic resource and offsets the costs of conflict with wildlife. However, without current information on how funds are utilized and the basis for hunting off-takes, the Service is unable to confirm whether revenue generated through sport-hunting actually provides an incentive to local communities to conserve elephants." (USFWS 2015 Enhancement Finding)

Indeed, Harrison et al. (2014)[32] provided a recent analysis of the CAMPFIRE program. The theory behind CAMPFIRE is to empower community members at a village level to control wildlife and its revenue, and to thus create an economic incentive for communities to conserve wildlife. But, according to Harrison et al., this is not actually happening. According to Harrison et al., although CAMPFIRE had a reputation of success in its early days, over time this perception eroded and by the late 1990s it was criticized for lack of participation, lack of empowerment and lack of participation of local communities in management of natural resources. The main problem with the way that CAMPFIRE was designed is that it established the rural district council, which represents numerous local communities, as the 'local' body in charge of natural resource management, rather than the local communities themselves. Harrison et al. state, "Failure to provide benefits to the local communities and to successfully devolve management are just two of the many common criticisms" (p. 8). Among these criticisms is "insufficient action to tackling problems of elite-capture of resources and wildlife-based tourist revenues within RDCs" (Harrison et al. p. 9).

Harrison et al. (2014) studied the CAMPFIRE program in the Binga district, which is part of Sebungwe, and the Chiredzi district, which is part of Gonarhezou; as noted previously, the elephant populations of both Sebungwe and Gonarhezou have experienced dramatic elephant population declines in recent years. The authors found that CAMPFIRE failed as a governance system for community involvement and empowerment and that the "community-based" terminology is merely rhetoric. They warn that new "community-based" natural resource management projects need to "be aware of the disconnect between the local citizens (as their key stakeholders) and what the RDC may believe and be happy to approve" (Harrison et al. p. 30).

[32] Harrison, E., Stringer, L., and A. Dougill. 2014. The importance of the sub-district level for community-based natural resource management in rural Zimbabwe. Centre for Climate Change Economics and Policy Working Paper No. 183, Sustainability Research Institute Paper No. 69. https://pdfs.semanticscholar.org/1e0e/b71b4b6ce9429abca5ad41738f24978ba915.pdf

They conclude "The lack of understanding and attention paid to the sub-district governance system for natural resource management has meant that project implementation has negatively affected the system as a whole, including the people within it, as well as the project outcomes" (Harrison et al. p. 31). They said, "CAMPFIRE has continued to try and operate in a system it increasingly did not understand and thus its structures did not map appropriately onto those operating at the sub-district level. As a partial result of this, the programme has largely collapsed in many parts of the country" … "including in the four case study villages. The benefits experienced by the communities involved over the projects' lifespans have been negligible" (Harrison et al. p. 32).

Two news reports by Debra Patta looked at local perspectives in Zimbabwe on the claim that trophy hunting benefits local communities. One news report quoted Emmanual Fundira, who heads Safari Operators Association of Zimbabwe as saying that although part of the hunting fees paid by trophy hunters is supposed to go to conservation and community projects, in fact it rarely does.[33] In another article, Fundira stated, "If you talk to communities today and say 'Campfire' they don't want to hear [it]. They say Campfire is not benefitting them at all and that in itself is a disaster."[34] The article also quoted a CAMPFIRE rural district council CEO named Phindile Ncube as saying that his community earned $158,000 in a year for infrastructure and "feeding schemes." However, the article quoted a villager named Edward Ngwenya who said he hadn't received anything from the RDC. This was confirmed in another report which said that, while money from trophy hunting is promised to poor communities, they are only getting poorer.[35] Another news article quoted a local chief, Victor Nekatambe, commenting on the fact that local rural district councils manage CAMFIRE and that communities do not receive funding: "They are getting nothing, absolutely nothing."[36]

Therefore, the Service's concerns about CAMPFIRE and the lack of evidence to confirm that revenue generated through elephant sport-hunting actually provides an incentive to local communities to conserve elephants, remains valid.

Lack of a national mechanism, such as government support, to sustain elephant conservation efforts in the country

The Service's 2015 finding expressed concern that, without a national mechanism, such as government support, elephant conservation efforts in Zimbabwe could not be sustained.

As noted above, according to the ZPWMA, the annual operating budget for ZPWMA is in excess of US$28 million and the new Zimbabwe Elephant Management Plan (2015–2020) states that the cost of implementing the Plan will be at least US$12 million per annum in operational budget alone. Yet, the government of Zimbabwe provides no financial support to the ZPWMA, and indeed, according to ZPWMA itself "no amount is budgeted for conservation in the national

[33] http://www.cbsnews.com/news/zimbabwe-corruption-trophy-hunting-cecil-lion-conservation/
[34] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/
[35] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/
[36] *Id.*

budget,"[37] leading to inadequate enforcement and implementation of laws and regulatory mechanisms. Lack of government funding also leaves the ZPWMA to rely on trophy hunting, even when unsustainable, to pay its bills.

Lack of funding for ZPWMA has limited anti-poaching efforts and this has had negative effect on elephant conservation. Mana Pools National Park and neighboring safari areas, which are located in the mid-Zambezi area, is one of the areas hardest hit by poaching, as noted above. At a 2015 workshop held by ZPWMA to develop an anti-poaching strategy for the Park,[38] the Area Manager for the Park, Marvellous Mbikiyana, was quoted in a workshop report as having stated, "While the ideal staffing level for rangers is 110 for the Park, 75 have been approved, and only 38 are on site. Of the 38 on site, only 13 are deployable at any one time, due to a number of other commitments, such as driving duties, serving in the front office, and so on." The workshop report noted that the effectiveness of enforcement was negatively affected by low manpower.[39]

Therefore, the Service's concern that there is a lack of a national mechanism to sustain elephant conservation efforts in Zimbabwe, remains valid.

Conclusion

As the home to one of the largest remaining populations of African elephants, it is critical that elephants thrive in Zimbabwe; unfortunately, elephants in Zimbabwe face significant threats including human conflict, habitat destruction, and unsustainable trophy hunting. For the aforementioned reasons, concerns expressed about elephant management in Zimbabwe contained in the Service's 2015 finding remain valid today, and the Service's finding that the import of trophies from elephants hunted in Zimbabwe will not enhance the survival of the species, remains valid. The presence of one of the strongest trophy hunting sectors in Africa has not prevented and, in fact, is demonstrated to have contributed to decreases in the elephant population.

Therefore, trophy hunting of elephants in Zimbabwe cannot be said to enhance the survival of the species, and issuing an import permit for elephant trophies from Zimbabwe would therefore violate the Endangered Species Act and FWS regulations. If FWS issues any elephant trophy import permits from Zimbabwe, HSUS, HSI, and CBD will consider seeking judicial review of that decision. Further, this letter serves as formal opposition to any application for an import permit for a elephant trophy from Zimbabwe and HSUS, HSI, and CBD request that FWS

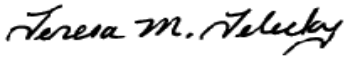
[37] http://www.zimparks.org/index.php/mc/279-zimbabwe-parks-and-widlife-management-authority-zimparks-successfully-exports-35-african-elephants-to-china

[38] ZPWMA, Workshop to Develop an Anti-Poaching Strategy for Mana Pools National Park and Neighbouring Safari Areas (2015), http://www.zamsoc.org/wp-content/uploads/2016/04/MPNP-Anti-Poaching-Workshop-Summary-Report-15-April-2015.pdf

[39] Similarly, the MIKE report to COP 17 noted a lack of data managers with the associated MIKE sites in Zimbabwe. Table 2 https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-05.pdf

provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[40]

Sincerely,



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[40] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African elephant activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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Annex XIV

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Imports of African Lion Trophies from Zimbabwe; November 20, 2017 (45 pages)

Attached below.

November 20, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Re: Imports of African Lion Trophies from Zimbabwe

Dear Chief Van Norman:

On October 11, 2017, the U.S. Fish and Wildlife Service ("FWS" or "the Service") issued a positive enhancement finding for African lion trophies from Zimbabwe. That finding is not based on the best available science and the conclusions made in the finding are not supported by the information relied on by the agency. On behalf of The Humane Society of the United States ("HSUS"), Humane Society International ("HSI"), and Humane Society Legislative Fund ("HSLF"), we write to strongly urge the U.S. Fish and Wildlife Service ("FWS" or "the Service") to rescind the enhancement finding for Zimbabwean lions, as it cannot be demonstrated that trophy hunting of lions in Zimbabwe affirmatively benefits the conservation of the species. Issuing any import permits for lion trophies from Zimbabwe in reliance on this finding would violate the Endangered Species Act ("ESA").

ESA Requirements for Lion Trophy Imports

The Endangered Species Act (ESA) listings for *Panthera leo leo*[1] and *Panthera leo melanochaita* went into effect on January 22, 2016 (80 Fed. Reg. 79999 (Dec. 23, 2015)). Pursuant to the Section 4(d) regulation for *Panthera leo melanochaita* (50 C.F.R. § 17.40(r)), the Service can only issue a permit to import a lion trophy from east or southern Africa if the best available science supports a finding that trophy hunting enhances the survival of this subspecies. Pursuant to the plain language of this statutory term (16 U.S.C. § 1539(a)(1)), "enhancement" permits may only be issued for

[1] HSUS, HSI, and HSLF fully expect that no permits will be issued to import trophies of endangered *Panthera leo leo*, as this subspecies is on the brink of extinction and cannot sustain recreational offtake. As the U.S. Fish and Wildlife Service (FWS) acknowledged in the lion listing rule, in western and central Africa, "[m]anagement programs do not appear to be sufficient to deter unsustainable offtakes" and "experts agree that there is no level of offtake that would be sustainable for *P. l. leo* populations…" 80 Fed. Reg. 79999, 80040 (Dec. 23, 2015).

activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect"). It is critical that FWS apply the precautionary principle and strictly scrutinize the impacts that trophy hunting has on African lions – indeed, as recently published in *Nature*, overutilization, including trophy hunting, is the biggest threat to biodiversity.[2]

HSUS, HSI, and HSLF agree with the standard that FWS established in the 4(d) Rule for *Panthera leo melanochaita*, requiring that,

> "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service will examine the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies). In that review, we will evaluate whether the import contributes to the overall conservation of the species by considering whether the biological, social, and economic aspects of a program from which the specimen was obtained provide a net benefit to the subspecies and its ecosystem" (emphasis added).

HSUS, HSI, and HSLF also agree that FWS must consider the following factors when making an enhancement finding for importation of hunting trophies of *P. l. melanochaita*:

> "(a) Biological sustainability: The hunting program cannot contribute to the long-term decline of the hunted species. It should not alter natural selection and ecological function of the hunted species or any other species that share the habitat. The program should not inadvertently facilitate poaching or illegal trade in wildlife by acting as a cover for such illegal activities. The hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity.
>
> (b) Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed. The program should produce income, employment, and other benefits to create incentives for reducing the pressure on the target species. The program should create benefits for local residents to co-exist with the target species and other species. It is also imperative that the program is part of a legally recognized governance system that supports conservation.
>
> (c) Socio-Economic-Cultural Benefit: A well-managed hunting program can serve as a conservation tool when it respects the local cultural values and practices. It should be accepted

[2] Sean L. Maxwell et al., *Biodiversity: The Ravages of Guns, Nets, and Bulldozers*, Nature Vol. 536, 143-145 (Aug. 11, 2016), *at* http://www.nature.com/news/biodiversity-the-ravages-of-guns-nets-and-bulldozers-1.20381.

by most members of the community, involving and benefiting local residents in an equitable manner. The program should also adopt business practices that promote long-term economic sustainability.

(d) Adaptive Management: Planning, Monitoring, and Reporting: Hunting can enhance the species when it is based on appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available. Adaptive management of quotas and programs based on the results of resource assessments and monitoring is essential. The program should monitor hunting activities to ensure that quotas and sex/age restrictions of harvested animals are met. The program should also generate reliable documentation of its biological sustainability and conservation benefits.

(e) Accountable and Effective Governance: A biologically sustainable trophy-hunting program should be subject to a governance structure that clearly allocates management responsibilities. The program should account for revenues in a transparent manner and distribute net revenues to conservation and community beneficiaries according to properly agreed decisions. All necessary steps to eliminate corruption should be taken and to ensure compliance with all relevant national and international requirements and regulations by relevant bodies such as administrators, regulators and hunters."

Evidence is Insufficient to Support Claims that Lion Trophy Hunting in Zimbabwe Enhances the Survival of the Subspecies

(1) Unfenced lion populations in Zimbabwe have declined over the past decade and today fewer than 300 truly wild adult male lions remain in the country

As acknowledged in the Service's October 2017 enhancement finding (USFWS 2017), it is critical that lion management, quotas, and assessments should be based on sound science and it is "vital" to have data on population numbers and trends. Specifically, the finding states that: "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. l. melanochaita*, the Service examines the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies)" (p. 3, emphasis added); hunting should be based on "appropriate resource assessments and monitoring (e.g., population counts, trend data), upon which specific science-based quotas and hunting programs can be established. Resource assessments should be objective, well documented, and use the best science available" (p. 4, emphasis added); and "to manage any population to ensure an appropriate population level and determine whether sport hunting is having

a positive effect, it is vital to have sufficient data on population numbers and population trends on which to base management decisions" (p. 9, emphasis added).

The Zimbabwe enhancement and non-detriment finding document (ZPWMA 2016) provides a table with "estimated minimum" population sizes by subpopulation, and gives a total estimated minimum population size in Zimbabwe of 1,917 lions (p. 6) (Figure 1, below). The source of the data is said to have been "compiled from a variety of reports" (p. 6). As ZPWMA did not provide the source of the data contained in the table, or the methodology employed to obtain the estimates, or the year in which the data were collected, the data cannot be considered by the Service to be objective, well-documented or to be made using the best science available. Later in the Zimbabwe document it is stated that population estimates are determined through "carnivore spoor surveys, systematic lion collaring and call-up surveys" and also "patrol reports, field observations by ZPWMA rangers and other sightings by tour operators and tourists" and in Safari Areas, "resident safari operators, including those operating in CAMPFIRE areas" (p. 15). While the "carnivore spoor surveys, systematic lion collaring and call-up surveys" may be made using the best science available (although the document itself does not make that clear), the other sources of population estimates listed are not. Random, unplanned sightings by patrols, rangers, tour operators and tourists cannot meaningfully contribute to population estimates.

REGION	AREA	AREA (km²)	Estimated Number of Lions	Percentage
Western	Hwange NP	14,900	559	38%
	Matetsi Units 1-5	1,934	59	
	Matetsi Units 6-7 and Zambezi NP	1,585	67	
	Kazuma Pan NP	313	20	
	Kazuma Forest	240		
	Panda Masuie Forest	355		
	Matetsi ECA	1,556	15	
	Ngamo and Sikumi Forest	1,386	6	
	Gwaai Conservancy	927	22	
	Hwange Communal Land	392	2	
	Tsholotsho buffer adjacent HNP	1,275	7	
Subtotal		**24,863**	**737**	
Central	Chizarira NP	1,948	31	4%
	Chirisa SA	1,713		
	Omay	1,865	10	
	Matusadona NP	1,427	31	
Subtotal		**6,953**	**72**	
Northern	Chewore North and South	1,648	45	11%
	Dande	1,155	21	
	Hurungwe (Nyakasanga and Rifa)	1,709	32	
	Charara/Mukuti	1,692	20	
	Mana Pools	1,287	94	
Subtotal		**7,491**	**212**	
Southern	Gonarezhou National Park	5,053	125	48%
	Malilangwe	400	37	
	Bubye Valley Conservancy	3,440	450	
	Save	3,442	284	
Subtotal		**12,335**	**896**	
Overall Total		**51,642**	**1,917**	

Figure 1. Enhancement and Non-Detrimental Findings for Panthera leo in Zimbabwe (ZPWMA 2016, Table 2, p. 6)

The ZPWMA (2016) national lion population size estimate of 1,917 is much higher than other published estimates, including studies cited in the Service's 2015 final rule listing lions under the ESA. Bauer and Van Der Merwe (2004) estimated a national population size of 987; Chardonnet (2002) estimated 1,686; and Bauer et al. (2016, IUCN Red List assessment) estimated 703 in five well-studied populations (Bubye, Gonarezhou, Hwange, Malilangwe, and Save Valley) in 2014.

ZPWMA (2016) provides information indicating that several of the population estimates come from scientific studies that used appropriate methodologies; these are populations of Gonarezhou National Park, Save Valley Conservancy, Bubye Valley Conservancy, Mana Pools National Park,

Hwange National Park, Zambezi National Park, Units 6 and 7 of the Matetsi Safari Area, and Chizarira National Park and Chirisa / Sengwa Safari Area.

Assuming the population estimates for these areas given in the table are accurate, when added together they total 1,610 which is 307 (16%) fewer lions than the 1,917 estimate. As there appears to be no scientific basis for the existence of these 307 lions, the Service cannot consider the number to be objective, well-documented or to have been made using the best science available. Therefore, it is arbitrary and capricious for the Service to conclude that the national population of lions in Zimbabwe is any greater than 1,610. According to Loveridge et al. (2007), "Almost all lion populations show a bias towards females and have an adult population sex ratio of 1:2;" given this, there are, at most, 536 adult male lions in all of Zimbabwe.

Most of Zimbabwe's lion population sizes have decreased in the past decade (Table 1). The only exceptions are those in Save Valley Conservancy and Bubye Valley Conservancy, which are fenced and have increased, and Hwange, which has stayed the same. Comparing the population sizes estimated by Chardonnet (2002) to those estimated by ZPWMA (2016), there is a 32% decrease in Gonarezhou, an 81% decrease in Mana Pools, and a 55% decrease in Zambezi National Park and Units 6 and 7 of the Matetsi Safari Area. Comparing the Chizarira National Park and Chirisa / Sengwa Safari Area population size estimated by Bauer and Van der Merwe (2004) to that estimated by ZPWMA (2016), there is a 69% decrease; this decrease is acknowledged in Zimbabwe's "enhancement and non-detriment" finding (ZPWMA 2016), but was not acknowledged by USFWS (2017). USFWS (2017) did not acknowledge any lion population decreases in Zimbabwe, contrary to the information before the agency at the time of its finding.

Table 1: Zimbabwe lion population size trends.

Population	Chardonnet 2002	Bauer and Van Der Merwe 2004	ZPWMA 2016	Trend
Gonarezhou National Park	183	130	125	32% decrease
Save Valley Conservancy		-	284	100% increase
Bubye Valley Conservancy	-	-	450	100% increase
Mana Pools National Park	495	97	94	81% decrease
Hwange National Park	543	120	559	same
Zambezi National Park and Units 6 and 7 of the Matetsi Safari Area	150	85	67	55.5% decrease
Chizarira National Park and Chirisa / Sengwa Safari Area	-	100	31	69% decrease

Returning to Bubye Valley Conservancy and Save Valley Conservancy, as noted in ZPWMA (2016), these are fenced areas that were formerly used for cattle, where the owners decided to pursue a new business model based on raising wildlife to sell them to trophy hunters. Both Conservancies are multi-million dollar a year businesses that plow revenue back into the management of the Conservancies; this is not surprising, as these are businesses that must take necessary measures to ensure that their investment is protected. These lion populations started with the introduction of a small number of lions and the populations have grown exponentially. As noted above, this contrasts starkly with the populations in the National Parks which are mostly decreasing.

The contribution of fenced lion populations to the conservation status of lions is highly questionable, particularly when they are not part of a metapopulation management program that mimics, to the extent possible, natural genetic exhange. Indeed, according to Bauer et al. (2015), "Fenced reserves in Kenya and southern Africa are very effective, but these reserves include many small populations that require metapopulation management, euthanasia, and contraception and only make limited contributions to ecosystem functionality and conservation outcomes" (p. 14897). Instead of implementing the management protocols noted by Bauer et al. (2015), these conservancies have allowed the lion population density to increase to abnormal levels, presumably in order to be able to sell more lions to hunters. The population density in Save Valley Conservancy is 11.7 lions/100km² and that of Bubye Valley Conservancy is 19 lions/ 100km^2, which is much higher than the average population density estimate of 9.6 lions/100km² for some other lion populations (Kruger, Hwange, Selous and Serengeti) (du Preez et al. 2015). This high lion density negatively impacts other species, not only their prey species, but also competitors such as leopard, cheetah, and wild dog (du Preez et al. 2015). It is also likely that the lions on these conservancies are highly inbred as they started from a small number of lions. And while the Conservancies reportedly provide benefits to people in the local communities (including meat, jobs, schools, and community projects), since the lions are fenced in, this does not offset livestock loss to Conservancy lions and make people more tolerant of lions; thus, the management of these lion populations cannot be said to benefit the conservation of the species.

The Service has committed to using the IUCN Species Survival Commission (SSC) Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incenties when making enhancement findings. The first of these principles is "biological sustainability" including that "it should not alter natural selection and ecological function of the hunted species or any other species that share the habitat" and "the hunting program should also not manipulate the ecosystem or its component elements in a way that alters the native biodiversity." (USFWS enhancement finding, p. 4). Clearly, Bubye Valley Conservancy and Save Valley Conservancy have violated these principles. Accordingly, the Service must conclude that lion hunting on these Conservancies is not enhancing the survival of the species, contrary to the positive finding it made in October 2017.

With regard to Hwange National Park, Loveridge et al. (2016) estimated to the total number of lions to be approximately 120 in 2012 (Figure 2F). By comparison, Zimbabwe estimates the current population to be "over 550" (ZPWMA 2016, p. 18). It would seem impossible for the Hwange lion population to have nearly quadrupled in four years. Even the lion population at Bubye Valley Conservancy only doubled over a four year period between 2008 and 2012 (du Preez et al. 2016, Figure 7). The document from Zimbabwe does not provide any details on the source of the "over 550" figure. If the true population size is much lower, it would mean that the population has decreased as compared to the population figure of Chardonnet (2002).

In summary, although the current national lion population size estimate, based on studies that use appropriate scientific methodology, is similar to that in 2002 (Chardonnet 2002), wild lion populations in Zimbabwe have decreased over approximately the past decade, while two fenced populations have increased over this time. Truly wild (not fenced in) lions in Zimbabwe number only 876 and, given a typical female:male ratio of 2:1, this means there are only 292 truly wild male lions in Zimbabwe, far less lions that assumed in the Service's enhancement finding.

(2) Zimbabwe's lion hunting quotas are not science-based, and age restrictions are poorly implemented and do not apply to all lion hunting areas in the country

Another one of the IUCN Species Survival Commission (SSC) Guiding Principles on Trophy Hunting as a Tool for Creating Conservation Incenties principles is "Net Conservation Benefit: The biologically sustainable hunting program should be based on laws, regulations, and scientifically based quotas, established with local input, that are transparent and periodically reviewed" (USFWS 2017, p. 4, emphasis added).

According to ZPWMA (2016), a new system for quota setting, the "points system for adaptively managing lion quotas", commenced in 2015 (ZPWMA 2016, p. 37). This new system, based on a study that modelled the impact of age-based lion hunting restrictions on a Tanzania lion population (Whitman et al. 2004), aims to ensure that only male lions five years of age and older are hunted. The system "rewards operators with increased quotas if they hunt animals of six years and older, but it does not penalize them if they hunt animals of five years. Neither are they penalised if they do not shoot a lion that they have on quota, however, the quotas will be reduced if they hunt animals younger than five years or if they failed to complete hunt returns" (ZPWMA, p. 40).

However, there are several major flaws with this quota setting system.

First, as pointed out by Loveridge et al. (2007), who studied lions and lion hunting in Hwange National Park, because male lions in Zimbabwe mature later than their counterparts in Tanzania, the 5 year age limit is not appropriate there. The authors said, "Measures of maturity of males in HNP (mane size, testicle size) suggest that lions in this population reach physical maturity at around 6–7 years old. These data accord with those from Kruger National Park, South Africa, showing that testicle weight, seminiferous tubule diameter, body weight and size peak between 5

and 9 years (Smuts et al., 1978b) and mean age of pride males was 6.5 (range 5–9) years (Smuts, 1978). It appears that male lions in southern Africa mature later than conspecifics in East Africa (Tanzania), where male lions reach maturity at 4 years (West and Packer, 2002; Whitman et al., 2004). If an age threshold is used to determine harvests of male lions then the 6 year minimum that Whitman et al. (2004) suggest may need to be reviewed and adjusted to take into account what is apparently later maturation of males in southern Africa. Off-take of males aged between 7 and 8 years might be more appropriate" (p. 553).

Second, the starting point for establishing quotas under this new system was the previously existing quotas (ZPWMA 2016, p. 37); however, the scientific basis for the previously existing quotas is not provided by ZPWMA (2016). ZPWMA states, "Zimbabwe implements an adaptive quota setting quota system that uses inputs from monitoring data and input from a variety of stakeholders including ZPWMA field and research staff, local communities, hunting operators, and independent biologists. Quotas are set based on population estimates or trend analyses, monitoring data, hunt return data, research work and indices as may be reflected in various reports by field personnel" (ZPWMA 2016, p. 56). It seems from this statement that some science may inform the setting of quotas but this does not mean the final outcome is science-based. Indeed, the Service concedes in its finding that quotas are not science based in some situations: "In CAMPFIRE areas, incidences of human-lion conflict are also taken into consideration where survey information is not readily available, when determining quotas for those areas (ZPWMA 2014). The quota setting process involves all stakeholders, including the ZPWMA, landowners, safari operators, and CAMPFIRE managers and their representatives. During the annual quota-setting workshop, presentations are made by the proponents who then make proposals for quotas. Where it is felt that not enough information has been presented, however, a precautionary quota will still be issued (ZPWMA 2014). The Service is not aware of how precautionary quotas are treated after they are issued, or if there is a protocol for obtaining necessary information when a precautionary quota is put in place" (USFWS 2017, p. 13).

Third, quotas do not take into account all forms of lion mortality including retaliatory killing and snaring. Indeed, the number of lions killed as a result of human-lion conflict exceeds the number killed by trophy hunters: ZPWMA states, "The exact number of lions killed in this way is difficult to assess, but may number over 50/year" (ZPWMA 2016, p. 44). Loveridge et al. (2007), who studied lion mortality in Hwange 1999-2004, found that, in addition to hunting, the population "also experienced mortality from other anthropogenic sources, including illegal snaring and killing. Lions are often inadvertently caught in snares set for other wildlife. While this only accounted for 11.8% of all mortality of [62] marked animals, we know of at least seven additional unmarked lions killed in snares during the study. It is possible that this source of mortality is under-represented as this is difficult to measure because evidence of illegal killing is often concealed. Conflict mortality needs to be taken into account when setting hunting quotas, as this mortality is additive and it is possible that even conservative hunting off-takes coupled with high levels of illegal killing could make a population vulnerable to decline" (p. 555). ZPWMA (2016) states that

21 lions were killed illegally 2013-2015, although this is likely an underestimate because the full scope of illegal activities are usually not known to government authorities.

Another form of lion mortality that may not be adequately accounted for in the quota setting process is official Problem Animal Control. Groom et al. (2014), who studied lions in Gonarhezou, said "Another important cause of lion mortality in Gonarezhou was the destruction of lions considered to be problem animals. Problem animal control incidences are poorly recorded and the responsibility is often handed over to hunting operators, with apparently little record-keeping (RJG, pers. obs.). However, we acquired records of at least 18 lions being shot as problem animals between 1993 and 2009 around the southern half of Gonarezhou. In many cases the sex of the lion killed was not recorded but at least five of them were females and one was a cub. This is likely to affect the population negatively, as regular removal of even small numbers of reproductive females can expose a population to decline (Van Vuuren et al., 2005). Moreover, as reproductive success is closely related to pride size, and prides of three or more adult females are significantly more successful at rearing cubs than smaller prides (Packer et al., 1988), removal of adult females may result in lower cub survival. Since 2009 there has been virtually no lethal problem animal control for lions around Gonarezhou, although lions are still reported to be killing livestock and there is evidence that communities poison them. Exact figures are unknown but presumed to be higher than recorded" (p. 6).

Fourth, CAMPFIRE areas are exempt from age-based quotas. ZPWMA (2016) states "the CAMPFIRE areas in which lions occur are currently exempted from the age restrictions. This approach was adopted as a means of ensuring that impoverished communities obtain the opportunity to benefit from the presence of lions, recognising the potential negative impacts the species has on the livelihoods of livestock farmers" (p. 41). This exemption is acknowledged by the Service (USFWS 2017, p. 14) but later in the document the Service arbitrarily states, "The adaptive quota management system for lion hunting based on the ages of lions hunted has been accepted and embraced by all stakeholders" (USFWS 2017, p. 17). The Service downplays the importance of this exemption by stating, "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas; if so, the Service is not aware if sport hunters are exempted from the age restriction in this case, and how this exemption in CAMPFIRE areas is taken into consideration when setting quotas for other portions of the country" (p. 14). It is unclear why the Service would think that American trophy hunters would not be exempt from the age restrictions if they hunted lions in CAMPFIRE areas, and it is unreasonable for the Service to make an enhancement finding based on such a presumption.

As to the question of whether American trophy hunters hunt lions in CAMPFIRE areas, the Service repeatedly argues later in the document that American hunters do hunt lions in CAMPFIRE areas and that this is an important source of income. For example, the Service states, "Across all CAMPFIRE districts, from 2010 to 2015, there was a total quota of 140 lions, with actual offtake equaling 45 animals. During this same period, U.S. trophy hunters apparently accounted for 51% of Zimbabwe's trophy hunting clients; trophy fees represented 74% of CAMPFIRE income, of

which lions play a small role" (USFWS 2017, p. 17). Using these figures, it can be hypothesized that of the approximately eight lions killed annually from 2010-2015, four were killed by Americans. The fact that Zimbabwe is willing to forgo age-restrictions for lions hunted in CAMPFIRE areas, means that hunting in these areas is potentially detrimental to the lion populations therein because younger lions will be killed. Consequently, it would violate the Endangered Species Act for the Service to issue import permits for lions killed in CAMPFIRE areas based on the October 2017 finding and without evidence that they were at least five years old when killed.

Fifth, the age restrictions are poorly implemented. According to du Preez et al. (2016), in 2015, 16% of lions hunted were under 5 years of age; this means that, of the 49 lions hunted that year (ZPWMA 2016, p. 38), seven were under age. Furthermore, the implementation of the restrictions varied between the three main lion-hunting areas in 2015: In Zambezi Valley, about 50% of lions hunted were less than 5 years old, compared to about 20% in Lowveld and about 5% in Matland North (Du Preez et al. 2016, Table 6, p. 11); thus, certain areas of the country is more prone to violating the age restrictions. Hunting of lions under the age of 5 is detrimental of lion populations. Consequently, the Service cannot lawfully issue import permits for lions from Zimbabwe hunted in areas that are prone to violating the age restrictions.

In summary, although the current national lion population size estimate, based on scientific surveys, is similar to that in 2002 (Chardonnet 2002), wild lion populations in Zimbabwe have decreased over approximately the past decade, while two fenced populations have increased over this time. Truly wild (not fenced in) lions in Zimbabwe number only 876 and, given a typical female:male ratio of 2:1, this means there are only 292 truly wild male lions in Zimbabwe. Given that the 2016 hunting quota was 81 male lions (ZPWMA 2016, p. 38), and subtracting the 15 lion quota for Bubye (du Preez et al. 2016, p. 13) and 10 lion quota for Save (du Preez et al. 2016, p. 18), the 56 wild lions remaining on quota represent 19 percent of the wild male population. This exceeds the recommendation of Loveridge et al. (2007, p. 556) that quotas should be reduced "to realistic levels (no more than 10% of adult males) based on robust population estimates would ease excessive off-takes of male lions." Therefore, the Service's positive enhancement finding is not in accordance with law and import permits cannot lawfully be issued pursuant to this finding.

(3) Zimbabwe's 11-year-old lion management plan still has not been substantially implemented

The Service states, "when making a determination of whether an otherwise prohibited activity enhances the propagation or survival of *P. I. melanochaita*, the Service examines the overall conservation and management of the subspecies in the country where the specimen originated and whether that management of the subspecies addresses the threats to the subspecies (i.e., that it is based on sound scientific principles and that the management program is actively addressing the current and longer term threats to the subspecies)" (USFWS 2017, p. 2)

The Service further states, "When evaluating whether the importation of a trophy of *P. I. melanochaita* would be authorized pursuant to 50 CFR 17.32, in accordance with our threatened species issuance criteria, we will examine how a country's management program for lions addresses the three main threats that have led to the decline of the subspecies: habitat loss, loss of prey base, and human-lion conflict. When examining a management program and whether trophies taken as part of that program meet the issuance criteria, we study a number of factors. Some of the factors we consider include whether the program is based on sound scientific information and identifies mechanisms that would arrest the loss of habitat or increase available habitat (i.e., by establishing protected areas and ensuring adequate protection from human encroachment). We consider whether the management program actively addresses the loss of the lion's prey base by addressing poaching or unsustainable offtake within the country. A component of a management plan from which trophy imports would meet the issuance criteria would be whether there are government incentives in place that encourage habitat protection by private landowners and communities and incentives to local communities to reduce the incursion of livestock into protected areas or to actively manage livestock to reduce conflicts with lions. We examine if the hunting component of the management program supports all of these efforts by looking at whether hunting concessions/tracts are managed to ensure the long-term survival of the lion, its prey base, and habitat" (USFWS 2017, p. 5).

Finally, the Services states, "Management programs for *P. I. melanochaita* are expected to address, but are not limited to, evaluating population levels and trends; the biological needs of the species; quotas; management practices; legal protection; local community involvement; and use of hunting fees for conservation. In evaluating these factors, we will work closely with the range countries and interested parties to obtain the information. By allowing entry into the United States of *P. I. melanochaita* trophies from range countries that have science-based management programs, we anticipate that other range countries would be encouraged to adopt and financially support the sustainable management of lions that benefits both the species and local communities. In addition to addressing the biological needs of the subspecies, a scientifically based management program would provide economic incentives for local communities to protect and expand *P. I. melanochaita* habitat" (USFWS 2017, p. 5).

The Service has previously stated, "We evaluate whether a country has a valid national or regional management plan and if the country has the resources and political will to enact the plan. If there is a plan, what government entities implement the plan and how often is it reviewed and updated? Does the plan have clear, achievable objectives? Are the objectives measurable and are they being achieved? Is there an adaptive management approach within the plan so that enacting agencies can quickly respond to changing environmental or social issues?" (USFWS 2015, p. 1-2).

The Service concedes that the most recent lion management plan for Zimbabwe is the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe (USFWS 2017). The plan aims to: ensure the persistence of key lion populations and other important populations including those of doubtful viability; reduce human and livestock loss; and optimize wildlife

conservation-related net benefits to local communities. The plan contains seven objectives, each with several targets; each target has activities to be conducted to achieve the target. If fully implemented, the plan could address the three main threats that have led to the decline of the subspecies: habitat loss, loss of prey base, and human-lion conflict. However, data in the Service's possession reveals that the plan has not been fully implemented.

ZPWMA (2016) provided an update on implementation of the plan (Table 2, below). According to the information provided by ZPWMA (2016), after eleven years, none of the seven identified outputs in the plan have been completed. Of the 24 identified targets in the plan, only one, Target 1.4 (develop and implement a national lion captive breeding management policy), is completed, but this is irrelevant to the Service's finding regarding enhancement based on hunting of wild lions in Zimbabwe. Of the 108 activities in the plan, evidence presented by ZPWMA (2016) indicates that only 26 have been completed. Therefore, Zimbabwe has not made substantial progress on implementation of the plan over the past eleven years and it is arbitrary and capricious for the Service to issue an enhancement finding based on this outdated plan.

Instead of conducting a thorough analysis of whether or not the plan has been implemented over the past eleven years, using the information provided by ZPWMA (2016) – as we have in Table 2 below – the Service instead examined implementation of only three outputs which the Service states "are most relevant to determining if the implementation of the strategy enhances the propagation or survival of the species, as required by the ESA for the issuance of import permits" (USFWS 2017, p. 10); these are Output 1 (lion populations, their habitats and wild prey effectively conserved and managed in collaboration with local stakeholders), Output 3 (human-lion related conflicts minimized and, where possible, eliminated), and Output 4 (the costs and benefits of long-term lion management equitably distributed). However, even the Service's analysis of these outputs is flawed.

For each Output, the Service (USFWS 2017) copied and pasted information provided by ZPWMA (2016) about the output's targets with no analysis. Furthermore, the Service failed to analyze whether or not the activities in plan to meet the targets had been undertaken or completed. Our analysis of Outputs 1, 3 and 4 (Table 2) indicate that these outputs have not been completed. Specifically, for Output 1, only one of the six targets have been completed (on captive breeding management), and only 12 of 28 activities have been completed (and six of these relate to captive lions). Yet, the Service finds that "ZPWMA is actively working toward meeting the target areas for this output" (USFWS 2017, p. 11). For Output 3, none of the six targets have been completed, and only 2 of 21 activities have been completed. Yet, the Service finds that "information submitted in the ZPWMA update suggests that they have met one target, and are in the process of implementing the remaining two" (USFWS 2017, p. 11). For Output 4, three of the four targets have not been completed and the remaining target has been partially completed, and only 3 of 18 activities have been completed. Yet, the Service finds that "ZPWMA has made progress toward this output's targets" (USFWS 2017, p. 11).

In summary, the information provided by ZPWMA and adopted without independent analysis by the Service, clearly demonstrates a lack of progress toward meeting the stated targets and undertaking the stated activities in the plan. Without such evidence, principally this is a plan on paper only, and it is entirely arbitrary and capricious for the Service to have made a positive enhancement finding based on this information.

Table 2. Implementation status of the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe.			
Outputs and Targets	**Information Provided in ZPWMA (2016) Regarding Target Completion**	**Analysis of Progress on Completing Targets and Activities** (underscored text)	
		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
Output 1. Lion Management - Lion populations, their habitats and wild prey effectively conserved and managed in collaboration with local stakeholders			
Target 1.1 Establish a baseline survey and monitoring programme for identified lion populations and their range inside and outside the Parks & Wildlife Estate	Baseline surveys have been completed for the Parks Estate using monitoring protocols for key variables (populations, habitats, prey). Selected surveys undertaken of areas outside National Parks in conservancies and some communal land and forest areas.	Not completed.	1) Undertake baseline surveys, and where necessary, identify populations outside Parks & Wildlife Estate. Not completed (only partially completed). 2) Design, develop and set up simple but robust monitoring protocols for key variables (populations, habitats, prey). No details provided to substantiate this has been concluded. 3) Set up systems for carrying out collaborative surveys and monitoring across boundaries with shared lion populations (National Park, Safari Area, Forest Area, Communal Land, Large/Small Scale Commercial Farming and/or International). No information provided.
Target 1.2 Maintain and strengthen capacity for lion conservation, management, monitoring and research	Carnivore research programmes undertaken by NGOs (Mana, Matusadona, Gonarezhou, Zambezi and Hwange NPs,	Not completed.	1) Undertake training needs assessment. No information provided. 2) Identify and secure funding resources. No information provided.

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within PWMA and amongst other key stakeholders	Matetsi, Chirisa SA) and research institutions (Bubye and Save Conservancies) in various parts of the country. Personnel trained in data collection and capture, management, lion aging and analysis.		3) Provide training and capacity strengthening within PWMA and amongst other key stakeholders e.g. RDCs. No information provided. 4) Train personnel in data capture, management and analysis. No details provided to substantiate this has been concluded.
Target 1.3 Identify and implement best management standards and practice for all trophy hunted lion populations, ensuring their viability and sustainable, equitable and adaptively managed trophy quotas	Quota setting methodology reviewed and annual quotas and offtakes analysed considering population changes, trophy quality and levels of PAC over time. Trophy hunting database in place and in process of being refined to provide cost-effective system for collation, entry, analysis, reporting and feedback to key stakeholders in the wildlife industry (ZPWMA, RDCs, SOAZ, ZPHGA, conservation NGOs, Researchers etc.). System of fixed and optional quotas reviewed and age- based	Not completed.	1) Implement Quota Setting Methodology rigorously and consistently across all hunting areas. No information provided to address rigorousness or consistency across all hunting areas. 2) Review and analyse annual quotas and offtakes to ensure these are adaptive and responsive to population changes, trophy quality and levels of PAC over time. Insufficient details provided to substantiate this has been concluded.. 3) Allocate quotas at a scale reflective of lion ecological and biological functionality which invariably differs

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	criteria for male trophy animals in place and functioning.		across different land unit sizes or land uses. No information provided. 4) Refine and update the hunt return form [TR2] and the trophy hunting database and review annually thereafter. Annual review, and TR2 not addressed in information provided. 5) Ensure centralised database and cost-effective system for data collection from hunting areas and subsequent collation, entry, analysis, reporting and feedback to key stakeholders in the wildlife industry (PWMA, RDCs, SOAZ, conservation NGOs, Researchers etc). Apparently in progress. 6) Replicate Matetsi Safari Area hunt data collection system in all Parks and non-Parks hunting areas and train PWMA, RDC and other relevant field staff to gather and collate hunting data as per the Matetsi system. No information provided.

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			7) Train PWMA, RDC and other relevant field staff in the Quota Setting Methodology. No information provided. 8) Review system of fixed and optional quotas (and auctioned hunts) to improve incentives to hunt trophy male lion only, including quota-based incentives/disincentives. Reportedly completed. 9) Review trophy fees to maximise benefit and generate additional revenue. No information provided. 10) Review and put in place criteria for age-based identification of male trophy animals. Reportedly completed.
Target 1.4 Develop and implement a national lion captive breeding management policy	Policy in place.	Reportedly completed; policy is available.	1) Identify captive breeding enterprises and establish purpose 2) Consult with stakeholders including breeders, ZNSPCA, IUCN Captive Breeding Specialist Group, and others e.g. Tikki Hywood Trust (THT) 3) Establish destination and role of captive bred lions upon reaching maturity

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			4) Relate captive bred lions to existing captive breeding policies for crocodiles, ostriches and operations for other captive bred wild species, e.g. Lion & Cheetah Park, Chipangali 5) Review existing policies and/or guidelines 6) Appoint Working Group to develop captive lion breeding policy as appropriate or necessary e.g. WWF-SARPO, NSPCA, THT, Captive Breeders, Wildlife Veterinary Unit.
Target 1.5 Develop and implement co-management frameworks for wildlife management	Collaborative national lion action plans to co-management lion populations in place for NW Matabeleland and SE Lowveld, including three conservancies (Bubye Valley, Save and Malilangwe).	Not completed.	1) Develop a national lion action plan that articulates collaborative co-management of lion populations amongst different land categories and users in the four major wildlife areas of the country: NW Matabeleland, Sebungwe Region, Zambezi Valley and SE Lowveld. Partially completed. 2) Ensure adoption and implementation of co-managements plans by stakeholders

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			including conservancies. No information provided. 3) Develop and implement participatory monitoring of implementation of plans. No information provided.
Target 1.6 The geographic distribution range of the lion population expanded	Conservancies and neighbouring communities are working together to maintain existing geographic distribution of lion populations. Zimbabwe proactive in the KAZA and GLTFCA programmes.	Not completed. Information provided relates to maintaining existing geographic distribution, rather than expanding the distribution.	1) Conservancies and neighbouring communities to work together and incorporate neighbouring communal lands into conservancies where possible. Reportedly completed, but lack of details makes it impossible to evaluate. 2) TFCAs to develop programmes to increase jointly managed lion populations. No information provided on all programs.
Output 2. Lion Research - Information for effective and adaptive lion conservation management generated			
Target 2.1 Initiate targeted research on lion ecology, management and mitigation of conflict	Extensive research programmes focussing on lion ecology and biology undertaken in Hwange, Bubye, Save, Malilangwe, Matusadona, Chizarira and Chirisa. ZPWMA have cooperated with NGOs, such as Panthera, to	Not completed.	1) Identify gaps in knowledge of lion ecology and biology that require research. No information provided. 2) Identify areas where collaborative (including cross boundary/border) research is required. No information provided.

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	develop cost-effective age determination methods for lions. Key threats to lion populations, with focus on human-lion conflict, snaring and poisoning, undertaken and continually monitored.		3) Standardise methodology where collaborative research is required. No information provided. 4) Develop cost-effective age determination methods for lions. Reportedly completed. 5) Identify population ecology research questions in key lion populations. No information provided. 6) Explore predator-prey relationships. No information provided. 7) Identify socio-ecological research needs. No information provided. 8) Assess the impact of key threats to lion populations in Zimbabwe at present, with particular focus on human-lion conflict, snaring (both direct mortality of lions in snares and depletion of prey populations), and the sustainability of hunting quotas. Reportedly completed.

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Output 3. Mitigation - Human-lion related conflicts minimized and, where possible, eliminated			
Target 3.1 Develop and establish databases on lion/human conflict	Data on Problem Animal Control (PAC) reports on lion related problems collated.	Not completed.	1) Collect PAC (Problem Animal Control) reports on lion related problems. Reportedly completed, although whether this is national or more limited in scope is not clear. 2) Analyse reports & produce evaluation matrix. No information provided. 3) Produce report with recommendations on appropriate PAC monitoring system, e.g. MOMS Oriented Monitoring Systems). No information provided. 4) Undertake community training on MOMS. No information provided.
Target 3.2 Identify and implement methods to reduce and mitigate livestock losses and lion attacks on humans	Approaches to mitigate livestock losses and lion attacks on humans being tested and implemented in Hwange. Methods to mitigate lion attacks on livestock being implemented as appropriate at selected sites (e.g. Tsholotsho).	Not completed.	1) Undertake participatory planning on how to mitigate livestock losses and lion attacks on humans. No information provided. 2) Undertake field work to identify weakness in livestock husbandry in relation to mitigation. No information provided. 3) Review literature, capitalise on experiences and lessons learned

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			elsewhere, e.g. Namibia, and undertake community leadership exchange visits. No information provided. 4) Examine and design appropriate farmer-based compensation schemes, e.g. HACSIS, Namibia. No information provided. 5) Provide training on lion mitigation methods. Limited efforts underway in a few places, according to information provided. 6) Implement mitigation methods as appropriate at selected sites. Reportedly completed.
Target 3.3 Trained and properly staffed PAC Units established to conduct rapid response, restrained and precisely targeted problem animal control	PAC Units at ZPWMA field station and/or RDC levels partially established.	Not completed.	1) Undertake needs assessment and capacity for managing PAC Units at PWMA field station and/or RDC levels. No information provided. 2) Define the role and responsibility of Units. No information provided. 3) Train and equip Units. No information provided. 4) Training and capacity building for PAC to be delegated to the responsible

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			appropriate authority (RDC) and sub-district levels. No information provided. 5) Collaborative and effective PAC techniques developed and implemented within 5 years. No information provided.
Target 3.4 Incidents of human-lion conflict reduced by at least 30% in 5 years while also reducing retaliatory killing	Specific awareness and education package on lion conservation and management developed and implemented in Matusadona, Hwange and Gonarezhou regions.	Not completed. Answer does not address target percent reduction or timeline.	1) Specific awareness and education package on lion conservation and management developed and implemented within 5 years. Partially implemented, according to information provided. 2) Mechanisms developed with the livestock sector to reduce livestock predation by lions by at least 35% from the current level within 5 years. No information provided.
Target 3.5 Number of lions killed through indiscriminate killings reduced by at least 30% in 5 years after baseline established.		Not completed. Target missing from ZPWMA (2016).	1) Country specific awareness and education package on lion conservation and management developed and implemented within 5 years. No information provided. 2) Develop incentives for communities to use legal PAC in identified 3 hotspots within 5 years. No information provided.

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Target 3.6 Incidences of lion attacks on humans reduced by at least 30% from the current levels in 5 years		Not completed. Target missing from ZPWMA (2016).	1) Develop and implement collaborative and effective PAC techniques. No information provided. 2) Develop appropriate educational and awareness programmes to promote avoidance of potentially lethal encounters between humans and lions. No information provided.
Output 4. Socio- Economic - The costs and benefits of long-term lion management equitably distributed			
Target 4.1 Complete an inventory of stakeholders directly affected by lion conservation	Stakeholder groups (e.g. local communities, CAMPFIRE RDC representatives, commercial safari hunting operators (SOAZ, ZPHGA), tourism operators (ZATSO) identified. Financial impacts of lion conservation and extent and magnitude of socio-economic impacts on each stakeholder group completed.	Partially completed.	1) Identify stakeholder groups (e.g. local communities, CAMPFIRE RDC representatives, commercial safari hunting operators (SOAZ, ZPH&GA), tourism operators ZATSO) at the appropriate scale. Reportedly completed. 2) Identify the financial impacts of lion conservation on each stakeholder group. Reportedly completed. 3) Determine extent and magnitude of socio-economic impacts on each stakeholder group. Reportedly completed.

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			4) Prioritise groups for intervention based on extent and magnitude of socio-economic impacts. No information provided.
Target 4.2 Deliver appropriate training and capacity building to prioritised stakeholders	Representative stakeholder groups in some regions identified (Hwange, Matusadona, Gonarezhou). Limited training undertaken. Implement adaptive programme across four wildlife regions	Not completed.	1. Identify representative stakeholders groups per wildlife region. Partially completed according to information provided. 2. Identify training needs in consultation with identified stakeholders. No information provided. 3. Develop training materials and implement training programmes. No information provided. 4. Review effectiveness of training material and programme in consultation with identified stakeholders. No information provided. 5. Implement adaptive programme across 4 wildlife regions. No information provided.
Target 4.3 Agree and implement collaboratively	In progress. Hwange NP Management Plan approved.	Not completed.	1) Consult identified stakeholders. No information provided.

Table 2. Implementation status of the 2006 Conservation Strategy and Action Plan for the Lion (*Panthera leo*) in Zimbabwe.			
Outputs and Targets	**Information Provided in ZPWMA (2016) Regarding Target Completion**	**Analysis of Progress on Completing Targets and Activities** (underscored text)	
		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
developed area-specific lion management plans with identified stakeholder groups in each wildlife region within 5 years			2) Determine the scope and scale of the key activities of the management plan. No information provided, although reportedly a management plan for one area, Hwange NP, is approved. 3) Identify and integrate 'best practices', making provisions for: • Ownership issues • Zoning for wildlife • Mutually binding agreement • Verifiable compliance • Suitable wildlife utilization plan (e.g. tourism, trophy hunting) • Income flows and cost distribution (including rainy-day funds to anticipate uncertainties in tourist revenues) • Appropriate husbandry techniques • Conflict-mitigation measures • Regulation of human immigration • Adequate wildlife and conflict monitoring • Annual environmental audits No information provided.

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			4) Implement management plan. No information provided. 5) Review plan annually and amend where necessary. No information provided.
Target 4.4 Implement transparent mechanisms to equitably distribute lion-related/generated income to identified stakeholders (groups and/or communities)	Scale of income generated from lion conservation reviewed and use of funds to encourage protection of lion populations reach local stakeholders undertaken (see CAMPFIRE generated revenues)	Not completed.	1) Identify income generated from lion conservation (see CAMPFIRE generated revenues). No detailed information provided. 2) Ensure that benefits of protecting lion populations reach local stakeholders. No information provided. Zimbabwe document does not provide enough details to evaluate if this activity occurred and its scope (national or local). 3) Distribute generated income according to intensity of lion impact (Apply CAMPFIRE Producer Community/Ward principles). No information provided. 4) Provide appropriate incentives, e.g. implementation of mitigation measures

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			and/or local re-location of people in high-conflict areas to low-conflict areas. No information provided. 5) Provide appropriate incentives e.g. participatory land use planning, to discourage immigration into lion and other wildlife range. No information provided.
Output 5. Regulations - Effective regulation of consumptive lion utilisation ensured			
Target 5.1 Implement approved policy and practice at national and local levels regarding problem animal control (PAC) of lions within 2 years	Current policy and practice regarding problem animal control of lion reviewed, at national and local levels. PAC offtakes reconciled with trophy hunting quota offtake to ensure that the overall offtake (i.e. total quota) is sustainable.	Not completed. ZPWMA (2016) did not address timeline in target.	1) Review, and revise where necessary, current policy and practice at national and local levels regarding problem animal control of lions (PAC). Reportedly completed. 2) Identify key responsibilities of the Appropriate Authority (AA), i.e. the land occupier in respect of problem animal control of lions, given the vulnerable status of lions and recent changes in land tenure. No information provided. 3) Incorporate PAC offtakes with trophy hunting quota offtake to ensure that the

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			overall offtake (i.e. total quota) is sustainable. Reportedly completed, but lack of details makes it impossible to analyze. 4) Determine need for regulation of PAC, including the provision of incentives/disincentives. No information provided. 5) Establish database for lion PAC (see Targets 1.5 & 3.1 above). Reportedly completed. 6) Ensure PAC policy and practice conforms to the appropriate scale of lion ecological functionality, temporally and spatially, and that this is recognised as an AA responsibility with respect to hunting and PAC offtakes. No information provided.
Output 6. Communication, Awareness and Information Dissemination			
Target 6.1 To carry out awareness programmes in 50% of the districts in	Awareness programmes initiated at a national level, with professional hunters, communities and NGO community. Awareness	Not completed. ZPWMA (2016) did not address percentage and	1) Identify target groups that need awareness. Reportedly completed.

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Zimbabwe within the next three 3 years	campaigns being carried out by the Extension and Interpretation Unit in all the regions.	timelines in the target.	2) Identify awareness needs for different target groups e.g. hunters, politicians, farmers. No information provided. 3) Develop and package awareness materials for different target groups, e.g. multi-media tools, TV, internet, radio. No information provided. 4) Implement awareness programmes. Information provided indicates that awareness programs have been 'initiated,' but no information is provided on whether this reached 50% of districts in three years, as per the target. 5) Create feedback mechanisms for target groups. No information provided. 6) Provide extension, information and interpretative services to surrounding communities. Reportedly completed.
Target 6.2 Create lion conservation and management information units within one year	Databases established at some key research centres using dedicated external research programmes (e.g. WILDCRU).	Not completed. ZPWMA (2016) did not address target of	1) Facilitate flow of information from various sources. No information provided.

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		establishing lion conservation and management units in one year.	2) Document and process information from various sources. No information provided. 3) Create information database. Reportedly completed. 4) Use Mushandike Natural Resources College as a training centre. No information provided. 5) Define personnel needs and resource requirements. No information provided. 6) Training, M&E, Research. No information provided.
Output 7. Regional and Trans-Boundary Collaboration			
Target 7.1 Undertake an inventory of national strategies for lion management	Done.	Not completed. Reportedly "done"; however, no information is provided on activities for this target.	1) Make a presentation at the AWCF Meeting in November 2006. Reportedly completed, but outcome not reported. 2) Develop a budgeted proposal seeking funds to undertake the inventory. No information provided. 3) Appoint 1/. a consultant or 2/. design questionnaire or 3/. use TFCA Conservation Committee or a combination of 2 & 3. No information provided.

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Target 7.2 Encourage the development of national lion conservation strategies where these are missing &/ or incomplete	National lion conservation strategies discussed at AWCF (meeting held under auspices of KAZA).	Not completed. ZPWMA (2016) did not report on outcome of activities for this target.	1) Seek consensus from the AWCF for the development & implementation of national lion conservation strategies. No information provided on outcome. 2) Contact counterparts before the AWCF Meeting. No information provided. 3) Present national lion strategies where applicable and/or available. No information provided on whether presentations were made. 4) Obtain support from neighbouring countries for the development of national lion conservation strategies. No information provided. 5) Persuade neighbours to develop national lion conservation strategies. No information provided.
Target 7.3 Develop an integrated and harmonised lion management strategy for Transfrontier Conservation Areas (TFCAs)	Lion conservation strategies for SADC discussed at AWCF meeting held under auspices of KAZA.	Not completed. ZPWMA (2016) did not report on activities for this target.	1) Within 2-3 years (medium term) develop the SADC strategy for lion conservation and management. No information provided; no information on outcome or whether time-frame in activity was met.

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		Targets (targets cannot be considered "completed" unless all activities are completed)	**Activities** (activities cannot be considered "completed" unless they are thoroughly completed; partial completion is not considered to be completed)
			2) Develop appropriate framework: − Develop National strategies − Seek consensus through AWCF Incorporate into TFCA Treaties − Develop SADC strategy No information provided on outcome of discussions held at meetings.
Target 7.4 Implement lion conservation strategy and management plan	Strategy under review.	Not completed. ZPWMA (2016) did not report on activities for this target.	1) Incorporate strategy into TFCA Conservation Committee workplans [& other stakeholder workplans]. No information provided. 2) Seek funding as required. No information provided. 3) Carry out half-yearly compliance reviews. No information provided. 4) Report back annually to all stakeholders especially those not involved in implementation. No information provided.

(4) ZPWMA lacks funding to enforce existing laws

As noted by the Service, "only revenues generated through sport-hunting conducted on state and private lands are used to finance ZPWMA; to our knowledge, no other government funding is provided, and only limited outside funding from NGOs or other governments appears to be available" (USFWS 2015, p. 8). ZPWMA (2016) confirmed this remains the case, and stated that it is unable to generate adequate revenue to cover both the capital and operating requirements (p. 26). In 2015, ZPWMA incurred a loss of US$5.4 million including depreciation (ZPWMA 2016, p. 26). The Service has expressed concerns about "the ability of ZPWMA to generate sufficient funds to support adequately their stated mission" and "if Zimbabwe has adequate resources to enforce existing laws and regulations" (USFWS 2015, p. 10-11). According to ZPWMA itself "no amount is budgeted for conservation in the national budget,"[3] leading to inadequate enforcement and implementation of laws and regulatory mechanisms. Lack of government funding also leaves the ZPWMA to rely on trophy hunting, even when unsustainable, to pay its bills, creating an inherent conflict of interest for the wildlife management agency. Therefore, the Service's concern – expressed in its 2015 finding concluding that Zimbabwe does not sustainably manage its elephant populations – that there is a lack of a national mechanism to sustain wildlife conservation efforts in Zimbabwe (USFWS 2015) remains valid.

ZPWMA (2016) noted that enforcement efforts have been hampered by lack of funding:

- "The current remuneration levels have remained low with the lowest paid worker receiving a gross salary of $375 per month. The last salary increase of 23% was in January, 2014. A comparison with other Parastatals within the same parent ministry, shows that the Authority has the lowest salary scales" (p. 20).
- "Only 70% of the Authority's vehicle fleet are in "sound condition" and, of three aircraft owned by the Authority, only one is in operation (p. 20).
- At the end of 2015, there were only 67% of rangers in post (1,448 out of 2,146), and only 1,004 of these were deployable for anti-poaching operations (p. 20).
- "Commercial wildlife poaching involving both local and foreign nationals continues to plague Zimbabwe, especially with respect to elephant and rhino located in the Zambezi Valley, Sebungwe, North-West Matabeleland, South-East Lowveld" (p. 21) "Note that 21 lions were killed illegal between 2013 – 2015, with 6 animals killed through snaring in the area adjacent to Hwange National Park in 2015." (p. 21).

In its October 2017 finding, the Service acknowledged the lower number of rangers in post, but ignored these other enforcement problems (USFWS 2017, p. 7).

[3] http://zimparks.org/zimbabwe-parks-and-widlife-management-authority-zimparks-successfully-exports-35-african-elephants-to-china/ (viewed 5 October 2017)

Lack of funding for ZPWMA has limited anti-poaching efforts and this has had negative effect on wildlife conservation. Mana Pools National Park and neighboring safari areas, which are located in the mid-Zambezi area, is one of the areas hardest hit by poaching. At a 2015 workshop held by ZPWMA to develop an anti-poaching strategy for the Park,[4] the Area Manager for the Park, Marvellous Mbikiyana, was quoted in a workshop report as having stated, "While the ideal staffing level for rangers is 110 for the Park, 75 have been approved, and only 38 are on site. Of the 38 on site, only 13 are deployable at any one time, due to a number of other commitments, such as driving duties, serving in the front office, and so on." The workshop report noted that the effectiveness of enforcement was negatively affected by low manpower.

Furthermore, according to the 2016 report on the Elephant Trade Information System (ETIS) at CITES CoP17 Doc. 57.6 (Rev. 1),[5] "Zimbabwe is the country that pulls the rule of law score down, indicating far greater governance challenges exist in that country" (p. 16). The World Justice Project (WJP) Rule of Law Index 2016 ranked Zimbabwe at 108 out of 113 countries and jurisdictions, meaning that Zimbabwe has the sixth worst rule of law.[6] According to WJP, "Effective rule of law reduces corruption, combats poverty and disease, and protects people from injustices large and small. It is the foundation for communities of peace, opportunity, and equity—underpinning development, accountable government, and respect for fundamental rights."[7]

Indeed, instead of effectively implementing and enforcing wildlife laws and regulations, ZPWMA personnel have been implicated in the illegal wildlife trade. In 2015, three ZPWMA staff members were arrested for involvement in the theft of ivory from a government stockpile held at Hwange National Park.[8] The arrests came after a shipment of 62 tusks on its way to China was seized at the international airport in Harare. Serial numbers on the tusks were traced to the Hwange government stockpile. An alleged Chinese smuggler, who claimed he represented the Chinese government, had obtained export permit signed by the most senior of the three ZPWMA people arrested. All three were released from custody, the senior ZPWMA person after paying a $600 bail; none appeared in court again. Allegedly, the investigation was stopped after senior ZPWMA officials in Harare intervened in order to cover the involvement of other ZPWMA officials in the smuggling. The investigation seemed implicate senior parks and Ministry of Environment, Water and Climate officials. Allegedly, the ZPWMA trio had been exporting ivory from the stockpile since 2012.

[4] http://www.zamsoc.org/wp-content/uploads/2016/04/MPNP-Anti-Poaching-Workshop-Summary-Report-15-April-2015.pdf
[5] https://cites.org/sites/default/files/eng/cop/17/WorkingDocs/E-CoP17-57-06-R1.pdf (viewed 5 October 2017)
[6] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf (viewed 5 October 2017)
[7] https://worldjusticeproject.org/sites/default/files/documents/ROLIndex_2016_Zimbabwe_en.pdf (viewed 5 October 2017)
[8] https://oxpeckers.org/2016/04/how-to-steal-an-ivory-stockpile/ (viewed 5 October 2017)

They had the assistance of ZPWMA security personnel and police units who guarded the trucks carrying the ivory over the 880 km from Hwange to the airport.

Corrupt government officials allegedly have been involved in both poaching of elephants and illegal export of ivory tusks, and involvement in a transnational syndicate.[9] Edson Chidziya, the former Director General, Zimbabwe Parks and Wildlife Management Authority, and one-time regional representative for Africa on the Animals Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES),[10] and who has supported Safari Club International's lawsuit against the U.S. Department of the Interior regarding the prohibition of elephant trophies from Zimbabwe,[11] was fired in May 2017 for his alleged involvement in the disappearance of rhino horns worth $3 million two years before.[12]

Of further concern is that the ZPWMA operates without a board which, as noted by Mupfiga and Chirimumimba (2015), creates "a leadership vacuum and also legal constraints for the validation of policy decisions and approval or authorization of programmes" and it is "worrying for State entities to operate without boards for long periods because management are then left to operate without accountability, a situation which may compromise the efficiency and effectiveness of an entity due mainly to the absence of an effective oversight function" (p. 4).

Politics and corruption also play roles in trophy hunting in Zimbabwe. A 2012 news article explained how officials from Zimbabwe's ruling party since 1980 sought to cash in on trophy hunting by taking over hunting concessions.[13] A 2015 news article quoted Mary-Jane Ncube of a Zimbabwe NGO that monitors corruption, Transparency in Zimbabwe, as stating "In the area of conservation, I think it [the government] has behaved like a predatory state, going after big investments, giving them to cronies, family, and really not having any concern for communities that are dependent on that land …"[14] Furthermore, she was quoted as saying, "National Parks was the authority in charge of concessions and licensing, but because of the corruption … concessions and licenses are now given according to who you are and who you can pay the highest dollar to." A June 2017 news article described how the Tsholotsho Rural District Council sold permits to a safari hunting company, Lodzi Hunters, to hunt 50 elephants in order to get money to fund the construction of a football stadium. This reportedly came about after Higher and Tertiary Education, Science and Technology Development Minister Professor Jonathan Moyo, who is the MP for the

[9] http://globaljournalist.org/2017/02/zimbabwe-journalist-fights-charges-poaching-report/ (viewed 10 August 2017)
[10] https://cites.org/sites/default/files/eng/com/ac/22/E22-05-01.pdf (viewed 5 October 2017)
[11] https://www.courtlistener.com/docket/4212662/safari-club-international-v-jewell/ (viewed 5 October 2017)
[12] http://www.thezimbabwean.co/2017/05/zim-wildlife-boss-fired-3m-rhino-horn-goes-missing-report/ (viewed 5 October 2017)
[13] https://mg.co.za/article/2012-09-07-00-big-bucks-trigger-zimbabwe-scramble (viewed 5 October 2017)
[14] https://mg.co.za/article/2015-10-22-hunters-feed-corrupt-zim-officials (viewed 5 October 2017)

area, made a deal with then Minister of Water, Climate and Environment, Saviour Kasukuwere, who then issued the hunting quota of 50 to the Council. Of relevance, according to Transparency International, in 2016 Zimbabwe was the 22nd most corrupt country, ranking 154 of 176.[15]

Thus, the Service's concern – expressed in its negative enhancement finding for Zimbabwe elephants in 2015 – that Zimbabwe's wildlife laws and regulatory mechanisms are inadequately implemented and enforced (USFWS 2015) remains valid.

(5) There is no evidence that revenue from lion hunting enhances the survival of lions

The Service states "Hunting, if properly conducted and well managed, can generate significant economic benefits that may contribute to the conservation of lions. In looking at whether we are able to authorize the import of a trophy under the issuance criteria of 50 CFR 17.32, we will examine if the trophy hunting provides financial assistance to the wildlife department to carry out elements of the management program and if there is a compensation scheme or other incentives to benefit local communities that may be impacted by lion predation" (USFWS 2017, p. 5). It is clear from this statement that no amount of economic benefit from hunting will offset the detrimental effect on lion populations of unsustainable, poorly managed trophy hunting. Thus, any economic benefit from hunting alone is not sufficient evidence that hunting is enhancing the survival of lions.

As noted previously, Zimbabwe's wild lion populations have declined since 2002 and fewer than 300 truly wild (not fenced in) male lions remain; Zimbabwe's lion hunting quotas are not science-based and age restrictions are poorly implemented; Zimbabwe's lion management plan has not been substantially implemented after eleven years; and the ZPWMA does not receive funding from the Zimbabwe government and consequently has insufficient funds to enforce existing laws. Given this situation, lion hunting in Zimbabwe clearly is not properly conducted or well managed and it is irrelevant that there is economic benefit from such unsustainable hunting.

Yet, the Service ignores the poor management of lion trophy hunting in Zimbabwe and states, "While, over the years, ZPWMA has failed to generate adequate revenue for its operations, U.S. sport hunters play a large role in the hunting industry of Zimbabwe. The Service anticipates that by granting the importation of sport-hunted lion trophies, there would be an increase in funds provided to Zimbabwe's conservation initiatives through this program by U.S. sport hunters" (USFWS 2017, p. 19).

As noted above, the Service states that it will examine "if there is a compensation scheme or other incentives to benefit local communities that may be impacted by lion predation" (USFWS 2017, p. 5). The Service explains, "we recognize that in many parts of the world, wildlife exists outside

[15] https://www.transparency.org/news/feature/corruption_perceptions_index_2016 (viewed 5 October 2017)

of protected areas and must share the same habitat and compete with humans living in these areas for space and resources" and "if communities that share these resources with wildlife do not perceive any benefits from the presence of wildlife, they may be less willing to tolerate the wildlife. However, under certain circumstances, trophy hunting can address this problem by making wildlife more valuable to the local communities anti encourage community support for managing and conserving the hunted species, as well as other species." Further, "A component of a management plan from which trophy imports would meet the issuance criteria would be whether there are government incentives in place that encourage habitat protection by private landowners and communities and incentives to local communities to reduce the incursion of livestock into protected areas or to actively manage livestock to reduce conflicts with lions" (USFWS 2017, p. 5). The Service states, "Co-existence of lions and people is promoted through giving value to lions, through tourism and hunting in CAMPFIRE areas" (USFWS 2017, p. 8).

First, the evidence before the Service demonstrates that the government of Zimbabwe is not actively mitigating human-lion conflict. Although one of the Outputs of Zimbabwe's lion management plan is "Mitigation - Human-lion related conflicts minimized and, where possible, eliminated," and this includes the target of "Incidents of human-lion conflict reduced by at least 30% in 5 years while also reducing retaliatory killing," this output and target have not been met. In its analysis of this output and target, the Service copies and pastes information from ZPWMA's (2016) that "approaches to mitigate livestock losses and lion attacks on humans are in the process of being tested and implemented in Hwange and methods to mitigate lion attacks on livestock are being implemented as appropriate at selected sites (e.g. Tsholotshe)" (USFWS 2017, p. 11; and ZPWMA 2016, p. 12). Further, the Service states, "Additionally, to mitigate human-lion conflict, the "Long Shields Guardian Programme" was initiated whereby communities are notified of movements of collared lions into their areas via cell phone, and then have the opportunity to take appropriate action, such as moving cattle. In 2013 alone, 1,850 warnings were passed to the "Long Shields"" (USFWS 2017, p. 12).

However, as explained in ZPWMA (2016), human-lion conflict mitigation being conducted in the country is limited to an Oxford University WildCru Lion Research project in the Hwange area, which includes the aforementioned Long Shields Guardian Programme and efforts to improve livestock husbandry to avoid lion attacks; this is not a government program and it is not implemented in all lion areas in Zimbabwe. The program is limited to the Hwange area and is the only such program noted in ZPWMA (2016) despite their acknowledgement that "The main source of illegal killing of lions is a result of Human-Lion conflict" (ZPWMA 2016, p. 44). Indeed, as noted previously, the number of lions killed as a result of human-lion conflict exceeds the number killed by trophy hunters. ZPWMA states, "The exact number of lions killed in this way is difficult to assess, but may number over 50/year" (ZPWMA 2016, p. 44); this compares to 49 lions trophy hunted in 2015, and 33 in 2016 (ZPWMA 2016, p. 38).

It must also be noted that the government of Zimbabwe does not compensate farmers for livestock lost to lions. According to a May 2017 news article by Jeffrey Moyo,[16] "Villagers in this Southern African nation say despite the threat the lions pose to their livestock, national parks and wildlife authorities here are doing nothing to help them, as stray lions roam freely, and it takes park officials too much time to round them up. "Our lives are in danger. We can't kill the lions even if we see them attacking our livestock because the law doesn't let us; if you do it they put you in jail," said Ezra Ncube, 37, a local villager. "But if our cows are eaten by lions, no one goes to jail and nobody even bothers to compensate us, yet the lions stray from parks and some private safaris."

One human-lion conflict mitigation effort conducted by a foreign university research team is not evidence that the government of Zimbabwe is making a serious effort to address human-lion conflict.

Second, there is no evidence that there is flow of money from American lion trophy hunting in CAMPFIRE areas. According to ZPWMA (2016), "The potential and real loss of habitat and the fragmentation of range and conflicts with people in the absence of effective incentive mechanisms to maintain such habitat is probably the second greatest threat to lions after retaliatory killings" and "integrating income from lions into rural economies, and demonstrating that lions contribute to the welfare and development of people is regarded as one strategy to mitigate against this" (ZPWMA 2016, p. 44). ZPWMA states that 2010-2015, eight lions were hunted on CAMPFIRE land per year on average, and this generated US$ 40,000 per year (ZPWMA 2016, p. 31). Although it is stated that American hunters contribute 51% of all revenue generated by hunting in CAMPFIRE areas (not lion hunting specifically) (ZPWMA 2016, p. 31), the Service admits "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas" (USFWS 2017, p. 14). Consequently, the Service cannot reasonably conclude that U.S. hunter revenue is contributing to lions or their habitat on CAMPFIRE land.

Third, there is no evidence that financial flow from lion hunting in CAMPFIRE areas has increased people's tolerance of lions and has resulted in enhancement of the survival of lions. ZPWMA asserts that "The involvement and empowerment of rural people in natural resource management through the CAMPFIRE programme that strives to provide economic and financial incentives through sustainable use, is one of the main driving forces behind changes in attitudes towards wildlife in communities where lion-livestock conflicts occur" (ZPWMA 2016, p. 44). The Service similarly claims, citing to ZPWMA, that "co-existence of lions and people is promoted through giving value to lions, through tourism and hunting in CAMPFIRE areas" (USFWS 2017, p. 8). The Service further claims that "the participation of communities in CAMPFIRE has heralded a reversal in wildlife declines on private land. When the benefits of CAMPFIRE were extended to RDCs, it further aided in the equitable distribution of benefits from trophy hunting to local communities, which incentivizes them to conserve the African lion" (USFWS 2017, p. 15).

[16] http://aa.com.tr/en/africa/stray-zimbabwe-lions-pit-villagers-vs-conservationists/818598

Harrison et al. (2014) provided a recent analysis of the CAMPFIRE program. The theory behind CAMPFIRE is to empower community members at a village level to control wildlife and its revenue, and to thus create an economic incentive for communities to conserve wildlife. But, according to Harrison et al., this is not actually happening. According to Harrison et al., although CAMPFIRE had a reputation of success in its early days, over time this perception eroded and by the late 1990s it was criticized for lack of participation, lack of empowerment and lack of participation of local communities in management of natural resources. The main problem with the way that CAMPFIRE was designed is that it established the rural district council, which represents numerous local communities, as the 'local' body in charge of natural resource management, rather than the local communities themselves. Harrison et al. state, "Failure to provide benefits to the local communities and to successfully devolve management are just two of the many common criticisms" (p. 8). Among these criticisms is "insufficient action to tackling problems of elite-capture of resources and wildlife-based tourist revenues within RDCs" (p. 9).

Harrison et al. (2014) studied the CAMPFIRE program in the Binga district, which is part of Sebungwe, and the Chiredzi district, which is part of Gonarhezou; as noted previously, the elephant populations of both Sebungwe and Gonarhezou have experienced dramatic elephant population declines in recent years. The authors found that CAMPFIRE failed as a governance system for community involvement and empowerment and that the "community-based" terminology is merely rhetoric. They warn that new "community-based" natural resource management projects need to "be aware of the disconnect between the local citizens (as their key stakeholders) and what the RDC may believe and be happy to approve" (p. 30). They conclude "The lack of understanding and attention paid to the sub-district governance system for natural resource management has meant that project implementation has negatively affected the system as a whole, including the people within it, as well as the project outcomes" (p. 31). They said, "CAMPFIRE has continued to try and operate in a system it increasingly did not understand and thus its structures did not map appropriately onto those operating at the sub-district level. As a partial result of this, the programme has largely collapsed in many parts of the country" … "including in the four case study villages. The benefits experienced by the communities involved over the projects' lifespans have been negligible" (p. 32).

Two news reports by Debra Patta looked at local perspectives in Zimbabwe on the claim that trophy hunting benefits local communities. One news report quoted Emmanual Fundira, who heads Safari Operators Association of Zimbabwe as saying that although part of the hunting fees paid by trophy hunters is supposed to go to conservation and community projects, in fact it rarely does.[17] In another article, Fundira stated, "If you talk to communities today and say 'Campfire' they don't

[17] http://www.cbsnews.com/news/zimbabwe-corruption-trophy-hunting-cecil-lion-conservation/ (viewed 9 August 2017)

want to hear. They say Campfire is not benefitting them at all and that in itself is a disaster."[18] The article also quoted a CAMPFIRE rural district council CEO named Phindile Ncube as saying that his community earned $158,000 in a year for infrastructure and "feeding schemes." However, the article quoted a villager named Edward Ngwenya who said he hadn't received anything from the RDC. This was confirmed in another report which said that, while money from trophy hunting is promised to poor communities, they are only getting poorer.[19] Another news article quoted a local chief, Victor Nekatambe, commenting on the fact that local rural district councils manage CAMFIRE and that communities do not receive funding: "They are getting nothing, absolutely nothing."[20]

Indeed, most wildlife poachers are from local communities that are receiving financial benefits from trophy hunting. Gandiwa et al. (2014) studied law enforcement in Gonarezhou NP by interviewing law enforcement staff from Feb-May 2011. They found "Nearly all respondents (95%; n = 40) reported that most poachers were residents of villages adjacent to GNP (≤ 20 km); whereas about 5 % (n = 2) reported that only the commercial poachers were those living far away from GNP (> 20 km)" (p. 122-123). The Service ignored these readily available sources of pertinent information in making its October 2017 enhancement finding.

Therefore, it is erroneous for the Service to conclude that revenue generated through trophy hunting of lions actually provides an incentive to local communities to conserve lions. Simply, lion hunting revenue cannot be found to enhance the survival of lions when lion hunting is being poorly managed in Zimbabwe.

Conclusion

The Service's enhancement finding for lions taken as hunting trophies in Zimbabwe during 2016, 2017 and 2018 is the result of a lack of critical analysis of information contained in documents submitted to the Service by the government of Zimbabwe and others (and the Service failed to solicit comment from knowledgeable stakeholders, contrary to its assertion in the October 2017 finding). The Service repeatedly cites to information contained in ZPWMA (2016) and du Preez et al. (2016), often copying and pasting the text from these documents in the finding, although the original documents lack evidence to support the claims made. As a result, the finding is the product of a lack of scientific rigor, in violation of the Endangered Species Act.

[18] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)
[19] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)
[20] https://zimbabwe-today.com/corrupt-government-officials-and-cabals-profit-from-trophy-hunting-riches-in-zimbabwe/ (viewed 9 August 2017)

Further, there are numerous, inexplicable internal inconsistencies in the Service's finding. For example, the Service concludes that "Based on the information available to the Service, the funds generated by hunting trophies contribute to the ZPWMA's ability to manage the country's lion populations as well as the success of CAMPFIRE" (p. 16, emphasis added); but earlier in the finding, the Service states, "While hunting is allowed in CAMPFIRE areas, it is unclear if American sport hunters conduct lion hunts in these areas" (p. 14). Thus, the facts found by the agency do not match the conclusions drawn and the finding is therefore arbitrary and capricious.

Numerous recent studies in the Service's possession have demonstrated that Zimbabwe has poorly managed lion trophy hunting. For ecample, Groom et al. (2014) found that unsustainably high trophy hunting quotas in the concessions, mostly CAMPFIRE areas, around Gonarezhou in 2009-2010 caused the population to collapse; and, similarly, Loveridge et al. (2016) provided quantitative evidence that uncontrolled trophy hunting of lions in areas around Hwange National Park in 2000-2012 was a cause of population decline. Thus, information provided to the Service from Zimbabwe must be subject to scrutiny and carefully examined for veracity, but the Service failed to do so in issuing its finding.

An objective analysis of this information must lead to conclusions that:

- Unfenced lion populations in Zimbabwe have declined over the past decade and today fewer than 300 truly wild adult male lions remain in the country.
- Zimbabwe's lion hunting quotas are not science-based, and age restrictions are poorly implemented and do not apply to all lion hunting areas in the country.
- Zimbabwe's 11-year-old lion management plan still has not been substantially implemented.
- ZPWMA lacks funding to enforce existing laws.
- There is no evidence that revenue from American lion hunting enhances the survival of lions.

For these reasons, we strongly urge the Service to rescind its determination that the import of lions taken in Zimbabwe in 2016, 2017 and 2018 would meet the issuance criteria under 50 C.F.R. § 17.32. Issuing any import permits for lion trophies from Zimbabwe pursuant to this finding would violate the Endangered Species Act and FWS regulations. This letter serves as formal opposition to any application for an import permit for a lion trophy from Zimbabwe and HSUS, HSI, and HSLF request that FWS provide ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of any such permits. *See* 50 C.F.R. §§ 17.22(e), 17.32.[21]

[21] HSUS has previously called on FWS to publish notice in the Federal Register of threatened species permit applications, and we reassert that such action is essential to create transparency in FWS' enhancement analysis for African lion activities, consistent with the intent of ESA Section 10. Similarly, it is arbitrary

Respectfully,

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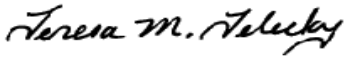

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for the Service to explicitly apply the notification requirements of 50 C.F.R. § 17.22(e) to certain types of threatened species permits (i.e., those for Safe Harbor Agreements and Candidate Conservation Agreements with Assurances) but not to other threatened species permits (i.e., for incidental take and import).

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Annex XV

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Cape Mountain Zebra (Equus zebra zebra) Trophy Import Permit; April 21, 2017 (10 pages)

Attached below.

April 21, 2017

Mr. Timothy Van Norman
Chief, Branch of Permits
U.S. Fish and Wildlife Service
5275 Leesburg Pike
Falls Church, VA 22041

Re: Cape Mountain Zebra (*Equus zebra zebra*) Trophy Import Permit

Dear Chief Van Norman,

The Humane Society of the United States (HSUS), Humane Society International (HSI), and Center for Biological Diversity (CBD) strongly urge the U.S. Fish and Wildlife Service to deny the permit application from Alex Cisneros (PRT-07645C) to import a Cape Mountain Zebra hunting trophy from South Africa. *See* 82 Fed. Reg. 14741 (March 22, 2017). There is simply no evidence to support an Endangered Species Act ("ESA") enhancement finding for this application, and granting this permit would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R §§ 17.21, 17.22. Thus, the Service must deny this application.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the *Equus zebra zebra* over 40 years ago (41 Fed. Reg. 24062 (June 14, 1976)), the species is protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific purposes consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that the trophy import permits should only be issued if the Service finds "that the [animal] is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that

an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Permits issued under Section 10(a)(1) must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an enhancement permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Notably, when this animal was killed by Mr. Cisneros in August 2015 (and when Mr. Cisneros submitted his application for import on September 14, 2016), the Cape Mountain Zebra was listed on Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora ("CITES"). However, the species' CITES status was downgraded to Appendix II during the 2016 CITES Conference of the Parties, effective January 2, 2017. For species listed on Appendix II, international trade can only be authorized if the Scientific and Management Authorities of the exporting country make the requisite findings for issuance an export permit. CITES Art. IV. Those conservation and animal welfare findings include: (1) the export will not be detrimental to the survival of the species, and (2) the specimen was

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

not obtained in contravention of the laws of the country of origin. Thus, while FWS is not required to issue a CITES import permit for this trophy as they would have had to do if the species remained on Appendix I, the fact that this hunt occurred while the species was listed on Appendix I underscores the need for strict application of the ESA enhancement standard in this case.

Threats to the Continued Survival of Cape Mountain Zebra

Equus zebra zebra is endemic to the two most southern provinces of South Africa, the Eastern Cape and Western Cape Provinces (Boshoff, Landman & Kerley 2016), and the wild population is very small, has a highly fragmented distribution, and has low genetic diversity (Dalton et al. 2017), endangering the continued existence of the subspecies.

At the turn of the twentieth century, due to over-hunting and habitat loss, only 58 Cape Mountain Zebra remained in three isolated areas (Cradock, Kammanassie and Gamkaberg) (Birss et al. 2016). Increased efforts to conserve the subspecies allowed the population to increase to 2,790 individuals in 52 subpopulations by 2013 (Hrabar and Kerley 2013). More recently, the government of South Africa stated: "In August 2015 the population of Cape Mountain Zebra comprised a minimum of 4,791 individuals in no less than 75 subpopulations" (Government of South Africa 2016, p. 3). There are an estimated 1,714-3,247 mature individuals in the population; however, of these, only 753-1,027 are certainly genetically pure (*i.e.,* definitely not hybridized) (Hrabar et al. 2016).

Despite this population increase, Hrabar and Kerley (2013, p. 403) warn that "the long-term security of the subspecies is still uncertain" due to a number of factors. Firstly, most of the population is at risk for inbreeding because all of the reintroduced populations, except one, originated from one of the relic populations and "the subspecies cannot be considered secure until the full genetic diversity is conserved and represented throughout the metapopulation" (Hrabar and Kerley 2013, p. 407).

Secondly, about a third of the subpopulations within the natural range of the subspecies are privately-owned and of a small size; these small populations tend to have low reproductive output, suffer from inbreeding depression and genetic drift, and are more susceptible to diseases than larger populations (Hrabar and Kerley 2013, p. 406-7).

Thirdly, and of high relevance to this import permit application, Hrabar and Kerley (2013, p. 407) stated that decreasing international protection for the subspecies (as happened through the CITES down-listing in 2016) would encourage private owners to establish even more small subpopulations, exacerbating the existing genetic problems. These researchers also said that the "hunting of selected individuals in small populations could have a significant negative effect on this socially complex species; e.g. removal of bachelor males would prevent the formation of new breeding herds with new genetic input." *Id.*

More recently, Birss et al. (2016, p. 15) identified hybridization with other equids e.g. plains zebra (*Equus quagga burchelli*), as a threat to the Cape Mountain Zebra. At present, the only relic Cape Mountain Zebra population not threatened with hybridization is the population at the Gamka Nature Reserve (Dalton et al. 2017). Of further concern, Lea et al. (2016) recently discovered that twelve of 21 subpopulations within the historic range of the species exist in suboptimal habitat and that this is having a negative consequence on population performance.

The recommended conservation efforts for the Cape Mountain Zebra are (Hrabar and Kerley 2013, p. 407): "(1) increasing the size of existing small subpopulations, (2) ensuring the genetic diversity of subpopulations, (3) gaining a better understanding of the effect of hunting and predation on demographics, (4) determining the effective population size in subpopulations and the metapopulation, (5) determining the potential population size for the available habitat, and (6) identifying the minimum viable population size". Hrabar et al. (2016) note that, unfortunately, all of these recommendations were not implemented and as a result little metapopulation management is practiced, founder populations are often small, genetic exchange between subpopulations is poor, and there are poor hunting and offtake management practices.

More recently, Dalton et al. (2017) recommended a further conservation effort to include the removal of all plains zebra from all locations where both species are managed sympatrically in order to prevent hybridization. They caution that these removals should ideally be done in one operation to avoid fragmentation of breeding herds, which may increase the risk of hybridization as a result of social disruption.

Furthermore, in South Africa, there is no formal management plan for Cape Mountain Zebra (Birss et al. 2016). In 2016, the government of South Africa stated, "A Biodiversity Management Plan (BMP) in terms of the National Environmental Management: Biodiversity Act (NEMBA) 2004, currently under development, will further improve the management and monitoring of Cape mountain zebra and address the major threat to the subspecies, which is a loss of genetic diversity" (Government of South Africa 2016, p. 3). Although a draft BMP was published in December 2016 (Birss et al. 2016), the BMP has not yet been finalized to date.

This Import Would Not Enhance the Survival of the Species as Required by Law

Mr. Cisneros has failed to demonstrate that his 2015 kill of an endangered Cape Mountain Zebra enhanced the survival of the species and, therefore, FWS must deny this permit application.

The zebra at issue in this permit application was killed on a private game reserve in the Limpopo Province of South Africa; however, there is no information in the application regarding the animal's origin, whether it is wild-born or captive-bred, nor is there any

information indicating that the game reserve's breeding efforts could or would enhance the survival of wild zebras. *See* 77 Fed. Reg. 431, 434 (Jan. 5, 2012) ("While the Service does believe that captive breeding can provide a significant benefit to endangered species, such benefits can only be realized when the breeding program is scientifically based and conducted in a manner that contributes to the continued survival of the species….However, breeding just to breed, without adequate attention to genetic composition and demographics of the breeding population, may not provide a clear conservation benefit to an endangered species.").

The applicant's claims that hunting this zebra on the Limpopo Province game reserve benefits conservation are highly dubious. First, the draft South Africa BMP described above is focused on "actions and strategies to strengthen the overall population performance, distribution and genetic diversity to ensure overall population fitness and resilience of the meta-population within the natural distribution range (and including protected areas with populations outside the natural distribution range) (Birss et al. 2016, p. 7). While the draft BMP includes "sustainable, non-detrimental harvest and off-take as an economic incentive for private land owners participating in the meta-population strategy," in context this clearly does not apply to Cape Mountain Zebra in non-protected areas outside of the natural distribution range, such as the animal that is the subject of this permit application which was killed outside the natural distribution of the species, in Limpopo Province and not in a formal protected area.

Further, while Cape Mountain Zebra populations occur on private land outside of the natural distribution range, according to the draft BMP, these are located in Eastern Cape, Western Cape, Northern Cape and the Free State Provinces (Birss et al. 2017, p. 20) and not Limpopo Province. This means that the Limpopo Province property where the animal that is the subject of this permit application does not contain a Cape Mountain Zebra population recognized in the draft BMP. Therefore, any activities with Cape Mountain Zebra in Limpopo Province are highly unlikely to enhance the survival of the species.

In 2015, the Scientific Authority of South Africa published a Non-Detriment Finding (NDF) for the export of Cape Mountain Zebra live animals and hunting trophies. The NDF states "effects of harvesting (e.g. on heterozygosity and fitness) are not currently monitored" and there is only "medium confidence in the current monitoring of the harvest" (Scientific Authority of South Africa 2015, p. 12). The NDF states that there "no conservation incentives for either the subspecies or its habitat are derived from hunting Cape mountain zebra within the Western Cape. In the Eastern Cape, hunting has potentially benefited the Cape mountain zebra, but has not necessarily incentivized habitat conservation" (Scientific Authority of South Africa 2015, p. 12). The NDF states, "legal local and international trade in live animals and the export of hunting trophies at present poses a moderate to high risk to the survival of this subspecies in South Africa" (Scientific Authority of South Africa 2015, p. 12). The NDF concluded that exports could proceed only if a small hunting quota could be determined through population viability analysis that considers genetic diversity and if the quota is

monitored through a research project; and if a BMP is developed and implemented to improve metapopulation management. However, to date, these measures are not in place. Therefore, it would be unlawful for South Africa to issue a CITES export permit for the Cape Mountain Zebra addressed in this permit application. Indeed, according to Hrabar et al. (2016, p. 7), "the CITES hunting quota is zero and thus there is no international trade."[2]

The application attempts to rely on the South African government's proposal at CITES CoP17 to transfer the Cape Mountain Zebra from Appendix I to II, which stated that "private land owners are responsible for the increase of Cape Mountain Zebras." However, as noted above, this refers to private owners within the natural range of the species and part of the meta-population strategy, not a game reserve in Limpopo Province where this zebra was killed. Thus, the record is devoid of any information to support a finding that hunting Cape Mountain Zebra in Limpopo Province enhances the survival of the subspecies.

Captive hunting of endangered animals and the trade of the animals' body parts as trophies can have a negative impact on wild populations. The Service itself has recognized that "uses of captive wildlife can be detrimental to wild populations" because "consumptive uses," including captive hunting, can "stimulate a demand for products which might further be satisfied by wild populations." 44 Fed. Reg. 30,044, 30,045 (May 23, 1979). Indeed, for trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

There is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt)

[2] A search of the CITES trade database for imports of Cape Mountain Zebra to the U.S. from 2006-2015 confirms that the U.S. did not report imports in the past decade (although South Africa recorded that two skins were exported to the U.S. for hunting trophy purposes during this period).

("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*, WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

The ESA requires a direct link between the authorized action (the import) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of the hunter and the private game ranch.

While any conservation justification is absent from his initial application, Mr. Cisneros claims that "Obviously the funds that I paid for the Mountain Zebra would be used to help with the increase of future Mountain Zebras by the landowner. I am unsure what portion will be used for the exact amount for enhancement of Cape Mountain Zebra, but I am sure some portion will be used to further increase the herd." However, as noted above, the draft BMP does not recognize a Cape Mountain Zebra population in Limpopo Province. Therefore, it is highly unlikely that funds paid by the applicant will be used to enhance the survival of the species. Thus, this application fails to meet the requirement that applicants to provide a "full statement of why the permit is justified." 50 C.F.R. § 17.22(a)(1)(vii).

Moreover, the record shows that this particular hunt was the result of highly suspect animal husbandry practices. Mr. Cisneros claims that, "I was able to acquire this particular Zebra because it had defective hooves that made it painful to walk and the land owner allowed me

to put the animal down." The applicant further claims that the landowner did not want this zebra's "genetics to cause future animals to be disabled also." However, over-grown hooves (laminitis) is not a genetic disorder, but rather an indication of poor animal husbandry. The zebra's hoof condition in the photographs contained in the application materials shows insufficient wear and treatment to keep the hoofs trimmed, as would naturally occur in the habitat to which they are endemic. Overgrown hooves can and must be trimmed by human caregivers; there is no need to kill the animal to address this problem.

In the wild, zebras can walk 40 km per day, which provides natural wear to their hooves. The natural habitat of Cape Mountain Zebra is "rugged, broken mountainous and escarpment areas up to 2,000 m above sea level with a diversity of grass species and perennial water" (Birss et al. 2016, p. 20). However, the Farm Cambrais 352 in the Legkraal area of the Capricorn District of Limpopo Province, where the animal in question was killed, is not suitable Cape Mountain Zebra habitat. Rather, it is typical sandveld, characterized by dry, sandy soil, which is definitely not adequate terrain for hoof maintenance of this species. The farm and terrain can be viewed on this map: http://travelingluck.com/Africa/South+Africa/Limpopo/_983460_Legkraal.html

Therefore, the landowner appears to have been grossly negligent in providing proper hoof care for this zebra. This problem potentially could have been exacerbated by an improper diet provided by the landowner, as food provided to captive wildlife is often higher in calories than wild forage, which can lead to overweight animals and has been surmised to contribute to hoof overgrowth (Maulhardt et al. undated). Captive care experts have explicitly found that mountain zebras require more frequent hoof trimming than other types of zebras (Wiedner et al. 2012, p. E7).

Notably, the South Africa Animals Protection Act explicitly prohibits persons in control of any wild animal from failing to "render or procure veterinary or other medical treatment or attention" or to "negligently…cause[] any unnecessary suffering to any animal…"[3] To the extent that Mr. Cisneros was complicit in the improper management of this animal, arguably the zebra was taken in violation of South African law and cannot be lawfully imported into the U.S. pursuant to the Lacey Act (16 U.S.C. § 3372(a)(2)(A)).

Therefore, HSUS, HIS, and CBD strongly urge the Service to deny this application, which would be the first permit issued (at least in recent decades)[4] for a trophy import for the endangered Cape Mountain Zebra and would create dangerous precedent for all endangered species by allowing the import of hunting trophies from poorly managed populations.

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[3] *See* http://www.gov.za/sites/www.gov.za/files/Act%2071%20of%201962.pdf

[4] A search of the Federal Register reveals two other trophy import applications for this species in 2007 (PRT-165737) and 2008 (PRT- 180473), but there is no evidence that notice of issuance of these permits was ever published in the Federal Register, as required by law, and there is no readily available evidence that FWS authorized any such trophy imports since the species was listed in 1976.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), we hereby request ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of this permit. Additionally, if the Service decides to issue this permit, please include with such notice a copy of the individualized enhancement finding for the applicant.

Sincerely,

Anna Frostic
Senior Attorney, Wildlife Litigation
The Humane Society of the United States

Teresa M. Telecky, Ph.D.
Director, Wildlife Department
Humane Society International

Tanya Sanerib
Senior Attorney
Center for Biological Diversity

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Annex XVI

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Bontebok Trophy Import Permits; May 1, 2019 (7 pages)

Attached below.

THE HUMANE SOCIETY OF THE UNITED STATES

HUMANE SOCIETY INTERNATIONAL

May 1, 2019

Mary Cogliano, Ph.D.
Chief, Branch of Permits
Division of Management Authority
U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: IA
Falls Church, VA 22041-3803

Re: Bontebok Trophy Import Permits

Dear Chief Cogliano,

The Humane Society of the United States (HSUS) and Humane Society International (HSI) strongly urge the U.S. Fish and Wildlife Service to deny the following permit applications to import Bontebok hunting trophies from South Africa:

- Steven Crews, Natchitoches, LA; Permit No. 15034D
- Donald Youngblood, Keizer, OR; Permit No. 17070D
- Donald Wehmeyer, Abilene, TX; Permit No. 17570D
- Scott Ames, Tulsa, OK; Permit No. 21256D

See 84 Fed. Reg. 12268 (April 1, 2019). There is simply no evidence to support issuing these permit applications, and granting these permits would violate the Service's duties under the ESA and implementing regulations. 16 U.S.C. § 1539; 50 C.F.R. §§ 17.21, 17.22. Thus, the Service must deny these applications.

ESA Permitting Standards

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, as it did with the Bontebok (*Damaliscus pygarus dorcas*) nearly 40 years ago (41 Fed. Reg. 24062 (June 14, 1976)), the species is protected from import unless such action will "enhance the propagation or survival of the affected species" or is for scientific purposes consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, Section 10 permits may only be issued for activities that *positively benefit* the species in the wild. *See also* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-

Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that the trophy import permits should only be issued if the Service finds "that the [animal] is taken as part of a well-managed conservation program that contributes to the long-term survival of the species"); U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that to meet the enhancement standard an otherwise prohibited activity "must go beyond having a neutral effect and actually have a positive effect").

Section 10 permits for endangered species must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[1]). 16 U.S.C. § 1539(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue a Section 10 permit, the FWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

Application Deficiencies

These applications fail to meet both the procedural and substantive requirements for issuance of the requested import permits.

[1] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

- Insufficient Information

HSUS and HSI are very concerned that the application form the Service uses for Bontebok trophy imports (#3-200-22) does not even require the applicant to provide a justification for its otherwise prohibited actions. This is in contrast to other ESA import permits, for which the applicant (rightfully) has the burden to provide information demonstrating how their proposed activities would enhance the survival of the species in the wild. Without providing such rationale, the public is not afforded the opportunity to meaningfully comment on these applications as required by 16 U.S.C. § 1539(c).

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These applicants have failed to meet the substantive requirements for the Service to find that the proposed activities would enhance the survival of the species, as required by both the ESA and FWS regulations. In fact, the applicants' activities would not enhance the survival of the species, would not be consistent with the conservation purpose of the ESA, and would act to the detriment of the Bontebok. Therefore, the Service must deny these applications.

- Unmanaged Breeding

The Bonteboks at issue in these permits were killed on private game reserves and the applications fail to include sufficient information about the breeding practices of the herd from which the trophy animal was taken (and the existence of governmental herd certifications for the ranches are non-dispositive as to enhancement).

These applications provide no evidence that the ranch's breeding efforts could or would enhance the survival of wild Bonteboks. *See* 77 Fed. Reg. 431, 434 (Jan. 5, 2012) ("While the Service does believe that captive breeding can provide a significant benefit to endangered species, such benefits can only be realized when the breeding program is scientifically based and conducted in a manner that contributes to the continued survival of the species….However, breeding just to breed, without adequate attention to genetic composition and demographics of the breeding population, may not provide a clear conservation benefit to an endangered species.").

This is particularly true given the serious concern with hybridization in Bontebok herds maintained on private property. *See* Anna M. van Wyk et al., *A hybrid dilemma: a molecular investigation of South African bontebok (*Damaliscus pygarus pygarus*) and blesbok (*Damaliscus pygarus phillipsi*)*, Conservation Genetics Vol. 14(3), 589-599 (2013) ("The identification of pure and admixed populations is key to sound biodiversity conservation management and practices. …[In this] [f]irst molecular analyses on pure bontebok and blesbok as well as putative hybrid populations and samples of unknown purity[,]...[h]ybridization was detected in 33 % (40 of 121) of the samples with unknown purity.") (attached). Hybridization between Bontebok and Blesbok can have negative impacts

on Bontebok conservation, including reduction of fitness in hybrids, alteration in the genetic structure of populations and the interference of locally co–adapted gene complexes.

Similarly, Cousins et al. (2010) (attached) describe South African game ranches as "businesses first and foremost, competing to attract customers" and find that private game ranches in South Africa conflict with conservation principles including through selective breeding of animals for trophy hunting and intensive captive breeding programs that can lead to inbreeding. HSUS and HSI are particularly concerned that when trophy hunts occur outside the native range of the Bontebok (which is endemic to the Western Cape), it raises the question of whether the breeding by these farms contributes to the introduction of non-native species and facilitates hybridization and displacement of indigenous species.

- Captive Hunting Is Not Enhancement

Captive hunting of endangered animals and the trade of the animals' body parts as trophies can have a negative impact on wild populations. The Service itself has recognized that "uses of captive wildlife can be detrimental to wild populations" because "consumptive uses," including captive hunting, can "stimulate a demand for products which might further be satisfied by wild populations." 44 Fed. Reg. 30,044, 30,045 (May 23, 1979). Indeed, for trophy hunters, the rarer the trophy, the more valuable and expensive it is, and the greater is the prestige. *See* Courchamp F, Angulo E, Rivalan P, Hall RJ, Signoret L, et al. (2006) *Rarity Value and Species Extinction: The Anthropogenic Allee Effect*. PLoS Biol 4(12): e415. doi:10.1371/journal.pbio.0040415.

There is abundant evidence that the existence of legal markets for endangered species can both encourage and facilitate poaching of those species. *See* Valerius Geist, *How Markets in Wildlife Meat and Parts, and the Sale of Hunting Privileges, Jeopardize Wildlife Conservation*, CONSERVATION BIOLOGY, Vol. 2, Issue 1 at 16 (Mar. 1988) (U.S. wildlife conservation has been "based on three primary policies ... 1) the *absence* of market in the meat, parts, and products of [wildlife,] 2) the allocation of the material benefits of wildlife by law, not by the market place . . ., 3) the prohibition on frivolous killing of wildlife"); David M. Lavigne, *et al.*, *Sustainable utilization: the lessons of history*, THE EXPLOITATION OF MAMMAL POPULATIONS 251, 260 (Victoria J. Taylor *et al.* eds., 1996) (establishment of "legal markets for valuable wildlife product . . . provide[s] incentives for poaching [because] when the prices of wildlife products are sufficiently high, they also attract criminal elements into poaching, making wildlife protection not only increasingly difficult but also dangerous"); Lavigne, *et al.*, at 258-260 ("Generally, putting a price on dead wildlife almost invariably leads to over-exploitation and increases the 'extinction potential' of target species"); Hunter, *et. al*, INTERNATIONAL ENVIRONMENTAL LAW & POLICY at 1035 (Foundation Press 1998) (Excerpt) ("Trade is responsible for an estimated 40% of vertebrate species facing extinction. Ironically, market forces can exacerbate the threats from illegal trade, for as species become rarer their value on the market increases to reflect this scarcity, increasing the incentive for further poaching"); *see also* Valerius Geist, *North American Policies of Wildlife Conservation*,

WILDLIFE CONSERVATION POLICY (Geist and McTaggart-Cowan eds 1995). Further, the Service has explicitly recognized that some of these endangered species are specifically targeted by "non-resident hunters" who seek to obtain "trophies" of these exotic wild animals. 70 Fed. Reg. 52319, 52321.

The Service cannot sanction such actions that are anathema to the letter and intent of the ESA, the purpose of which is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b); *see also Humane Society v. Kempthorne*, 481 F. Supp. 2d 53, 62 (D.D.C. 2006) (enjoining an FWS program allowing lethal take of endangered gray wolves, holding that: "[t]he language 'propagation or survival of the affected species,' is on its face, antithetical to the killing of 43 members of an endangered species barring some direct and immediate danger imposed by the individual animals killed to other members of the species.") (vacated as moot); *Fund for Animals v. Turner*, 1991 WL 206232, at *7 (D.D.C. Sept. 27, 1991) (rejecting FWS's argument that hunting threatened grizzly bears promotes conservation by creating wariness of humans).

Because of its inherently negative conservation impacts, canned hunting of captive endangered species violates the plain language and purposes of the ESA and its implementing regulations. Indeed, the herd of Bontebok at Bontebok National Park contains approximately 250 individuals and also occurs in other areas within its natural range, which further calls into question the need for captive hunting ranches at issue in the application here to benefit Bontebok conservation. *See* http://www.iucnredlist.org/details/30208/0.

- Donations Are Not Enhancement

The ESA requires a direct link between the authorized action (the import) and the required effect (enhancement). *See* 58 Fed. Reg. 32,632 (June 11, 1993) (questioning "whether there is a *direct cause and effect relationship* between education through exhibition of living wildlife and enhancement of survival in the wild of the species exhibited") (emphasis added). The plain language of the ESA only allows FWS to permit an "otherwise prohibited action" if *that action* enhances the species' survival. 16 U.S.C. § 1539(a)(1)(A). Here, the "otherwise prohibited" action that the Service would be permitting – import of a hunting trophy – is not carried out for the purpose of enhancing the species; rather, the action is undertaken solely for the personal benefit of the hunter and the private game ranch.

The Service frequently issues permits to kill or import trophies of listed species based on a theory that money derived from the hunt contributes to conservation. But here, there isn't even a claim of financial contribution to conservation. Thus, these applications fail to meet the requirement that applicants to provide a "full statement of why the permit is justified." 50 C.F.R. § 17.22(a)(1)(vii).

Information from the Service's Files Does Not Support Permit Issuance

In 1997 the Service issued a country-wide enhancement finding for Bontebok trophy hunting (see attached), and on March 1, 2018 the Service purported to rescind that finding yet still rely on information contained therein when evaluating Bontebok import applications. The 1997 finding contains woefully outdated information (for example, it does not take into account the best available scientific evidence on Bontebok hybridization) and cannot justify the issuance of these permits.

That finding claims that "South Africa is effectively conserving and managing the bontebok population throughout its range." But surely the South African management regime has undergone changes in the last 20 years, such that a new analysis of that program is warranted.

Similarly, the 1997 finding states that there were an estimated 2,500 Bonteboks in South Africa in 1990. This population status is 25 years old and can no longer be relied by the Service.

Further, the 1997 finding states that the South African management plan in existence at that time "allows for the controlled culling of excess animals in order to enhance the survival of such herds. Because of economic benefits generated by sport-hunting, the incentive for ranchers to acquire and then maintain the genetic purity of their herds is well established. It is expected that increases in both the number of registered herds and the bontebok population as a whole will continue under this program."

It would be arbitrary and capricious for the Service to issue these permits based on this unsupported reasoning. First, there is no evidence in the record that this system has improved the conservation status of the subspecies, as claimed in the 1997 finding. More importantly, the entire concept of killing animals to save them, and the purported economic benefits created by such activity, is highly controversial. This is particularly true here where the herds are maintained by well-to-do land owners (in contrast to the arguments made about trophy hunting of wild animals living adjacent to impoverished communities). Finally, as noted above, the concept of maintaining genetic purity has been cast into doubt by the Conservation Genetics study on hybridization cited above.

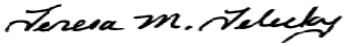
Indeed, the May 2015 South Africa CITES non-detriment finding for Bontebok (https://www.environment.gov.za/sites/default/files/docs/ndf_bontebok.pdf) states there are 2,177 Bontebok in the Western Cape (in or near the natural range of the species). And there are 4,985 outside of that area. That finding states that the main threat to the subspecies is the large number of highly fragmented and small subpopulations in the absence of meta-population management. It further states that there are no quotas for export of Bontebok hunting trophies and that hunting of the species on private land is "not regulated or monitored". The finding states that "the effects of harvesting (on heterozygosity and fitness

for example) are not currently monitored." Furthermore, "the national management system for bontebok is informal as there is no set structure with activities measured against a large adaptive framework. In some cases local management plans are available but there is no approved national plan that is aimed at managing the genetic integrity of bontebok." South Africa admits, given this, that legal local and international trade in live animals and the export of hunting trophies at present poses a moderate risk to the survival of this subspecies in South Africa … This moderate risk however is mostly due to a lack of management and monitoring of bontebok off-takes."

Therefore, HSUS and HSI strongly urge the Service to deny these applications and to conduct a comprehensive evaluation of Bontebok hunting in South Africa.

Pursuant to the Service's regulations (50 C.F.R. § 17.22(e)), HSUS and HSI hereby request ten days advance notification (via email, afrostic@humanesociety.org) prior to the issuance of these permits.

Sincerely,



Anna Frostic
Managing Attorney, Wildlife Litigation
The Humane Society of the United States

Teresa M. Telecky, Ph.D.
Vice President, Wildlife Department
Humane Society International

Annex XVII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Letter to the U.S. Fish and Wildlife Service

Re: Petitioners' Comments on the Status Review for Panthera pardus (Docket No. FWS-HQ-ES-2016-0131); January 30, 2017 (10 pages)

Attached below.

January 30, 2017

Janine Van Norman
Chief, Branch of Foreign Species
Endangered Species Program
U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: ES
Falls Church, VA 22041

***Re: Petitioners' Comments on the Status Review for* Panthera pardus**
(Docket No. FWS–HQ–ES–2016–0131)

Dear Chief Van Norman,

On July 25, 2016 a coalition of wildlife protection and conservation organizations – The Humane Society of the United States, Humane Society International, Center for Biological Diversity, International Fund for Animal Welfare, and the Fund for Animals ("Petitioners") – petitioned the Secretary of the Interior and the U.S. Fish and Wildlife Service ("FWS" or "the Service") to list all leopards of the species *Panthera pardus* as endangered under the Endangered Species Act ("ESA", 16 U.S.C. §§ 1531 *et seq.*). Petitioners applaud the Service for its positive 90-day finding and for initiating a status review to determine if African leopards living south of and including Gabon, Congo, Democratic Republic of the Congo, Uganda, and Kenya[1] qualify as endangered. *See*

[1] Petitioners note that the Federal Register notice initiating the status review (81 Fed. Reg. at 86317) incorrectly states that the range of the leopard is "Democratic Republic of the Congo, Gabon, Kenya, and Uganda" – however, as the Service is aware, the range of *Panthera pardus* extends beyond these four countries, across the African continent and into Asia. Petitioners urge the Service to focus its status review on leopards that are currently listed as threatened (i.e., those living south of or in Gabon, Congo, Democratic Republic of the Congo, Uganda, and Kenya), so that FWS can determine whether listing all leopards as endangered is warranted.

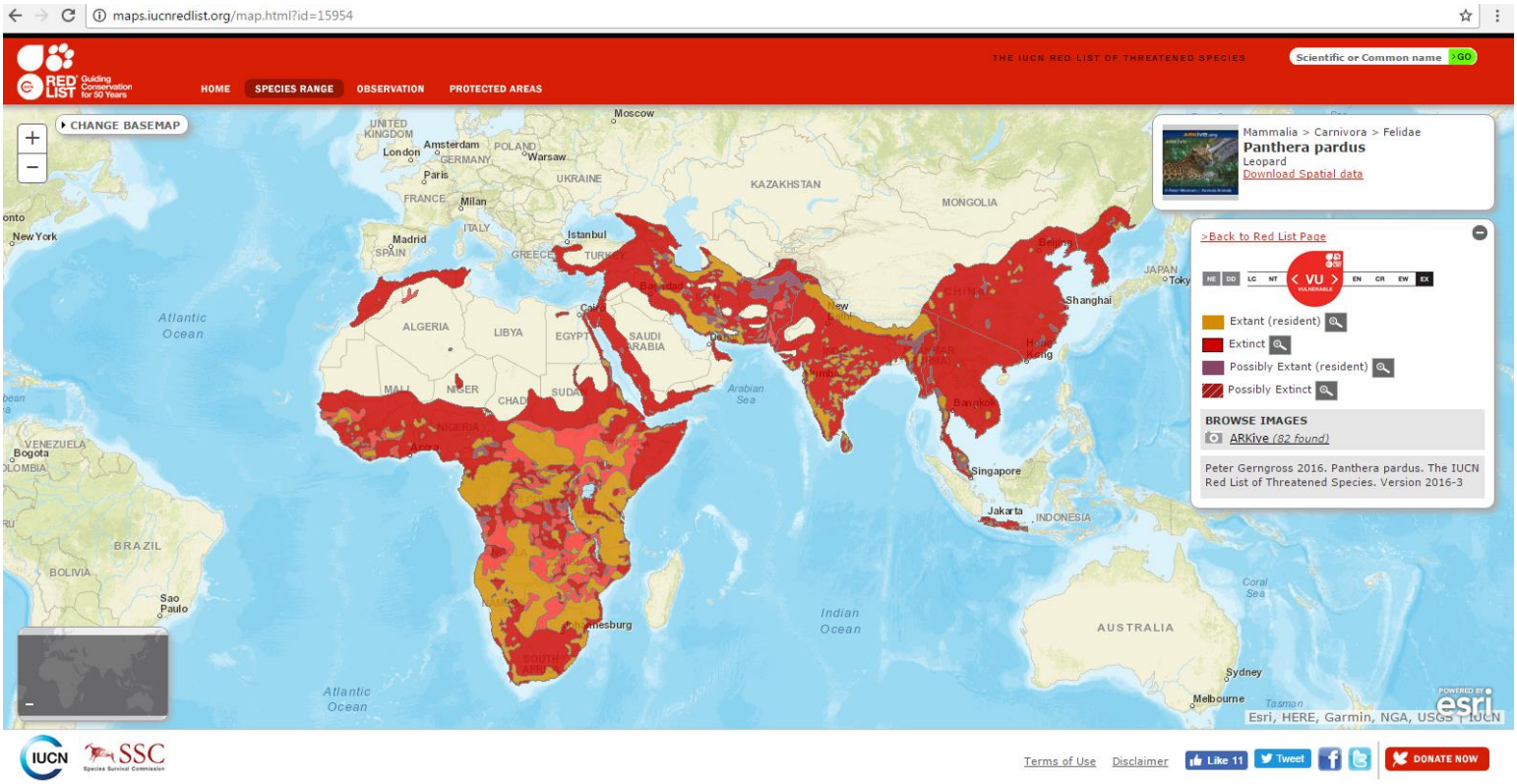
81 Fed. Reg. 86315 (Nov. 30, 2016); 50 C.F.R. § 17.11. Since Petitioners submitted their detailed petition just six months ago, even more scientific and commercial evidence has emerged demonstrating that listing all African leopards as endangered is warranted. Therefore, it is imperative that the Service proceed expeditiously to conclude its review of the species and commence a rulemaking to promote the conservation of leopards, as required by law. *See* 16 U.S.C. § 1533(b)(3)(B) (providing that when the Service determines a petitioned action is warranted, it "shall promptly publish…a proposed regulation to implement such action…").

The Service is required to make such listing determinations "solely on the basis of the best scientific and commercial data available..." 16 U.S.C. § 1533(b)(1)(A). *See also New Mexico Cattle Growers v. U.S. Fish & Wildlife Service*, 248 F.3d 1277, 1284-85 (10th Cir. 2001) (*quoting* H.R. Rep. No. 97-567, pt. 1 at 29 (1982), "'The addition of the word 'solely' is intended to remove from the process of listing or delisting of species any factor not related to the biological status of the species.'"); H.R. Conf. Rep. No. 835, 97th Cong. 2d Sess. 19-20 (1982) (the limitations on the factors the Service may consider in making listing decisions were intended to "ensure that decisions . . . pertaining to listing . . . are based solely upon biological criteria and to prevent nonbiological considerations from affecting such decisions."); 16 U.S.C. § 1531(b) (the primary purpose of the ESA is to "provide a program for the conservation of such endangered species"); 16 U.S.C. § 1532(3) (the term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary").

New Scientific and Commercial Evidence Supports Uplisting Sub-Saharan African Leopards

The ESA requires the Secretary to list a subspecies as endangered if it is in danger of extinction in all or a significant portion of its range based on the following five factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) "other natural or manmade factors affecting its continued existence." 16 U.S.C. § 1533(a)(1)(A-E). The Service is required to list a species if any one of these criteria is met. *Southwest Center for Biological Diversity v. Babbitt,* 215 F.3d 58, 60 (D.C. Cir. 2000)).

As an initial matter, there is no question that *Panthera pardus* in Asia and North and West Africa are endangered. For example, one recent study of the population of leopards in Nigeria (Eniang et al. (2016)) characterizes the leopard in Nigeria as apparently very rare and having been driven to extinction across much of the country (as depicted in the range map from the International Union for Conservation of Nature ("IUCN") below). In the Niger Delta, Eniang et al. found that the species is considered "extremely threatened" and may be "functionally extinct" (p. 1). Indeed, the authors found only six confirmed records of leopard in the Delta in the past 15 years, and no records of females with cubs, leading them to conclude that only a few vagrant individuals occur there (which further calls into question the scientific underpinnings (i.e., Eaton (1977)) of the 1982 FWS leopard listing rule, which claimed that a "realistic estimate" for the number of leopard in Nigeria was 20,000, as noted in Petitioners' petition (p. 44)).



In addition to the copious information included in our July 2016 Petition, the few studies released in recent months further demonstrate that listing all *Panthera pardus* as endangered is warranted. Indeed, Wolf and Ripple (2016) found that, globally, the leopard is one of five large carnivores with the highest proportions of prey with decreasing population trends, with 56%, of its prey base diminishing, indicating the importance of conserving prey to conserve leopards and revealing the dire plight of the species.

Edwards et al. (2016) studied leopards on farmlands in Namibia and found very low leopard densities: 0.59 leopards / 100 m^2 in one study area and 0.9 / 100 m^2 in a second area. These densities are even lower than the so-called "low" mean density of 1.2 leopards / 100 m^2 found in a previous study of leopard density in Namibia (citing to Stein et al. 2011). They also compared leopard population size estimates from farmers to estimates derived from camera trap data and found that most farmers overestimated the number of leopards on their farmlands; the authors state that this result further calls into question the use of questionnaires to estimate population sized rather than field work (a concern that Petitioners' raised with respect to the outdated 1982 listing at issue here).

In addition to being imperiled by habitat loss and modification, African leopards are endangered by overutilization for commercial and recreational purposes, which is exacerbated by inadequate regulatory mechanisms governing offtake and trade in leopard parts. For example, Rosenblatt et al. (2016) studied the leopard population of Zambia's South Luangwa National Park using camera traps inside and outside of the park from 2012 to 2014. Human encroachment and bushmeat hunting of leopard prey occurred outside the park, and trophy hunting of leopards outside the park was allowed prior to 2012. The mean leopard density in the park (8.5 / 100 km^2) was 67% higher than outside of the park (5.08 / 100 km^2), demonstrating that depletion of prey is causing declining populations of leopards in unprotected areas in Zambia. The authors also warn that

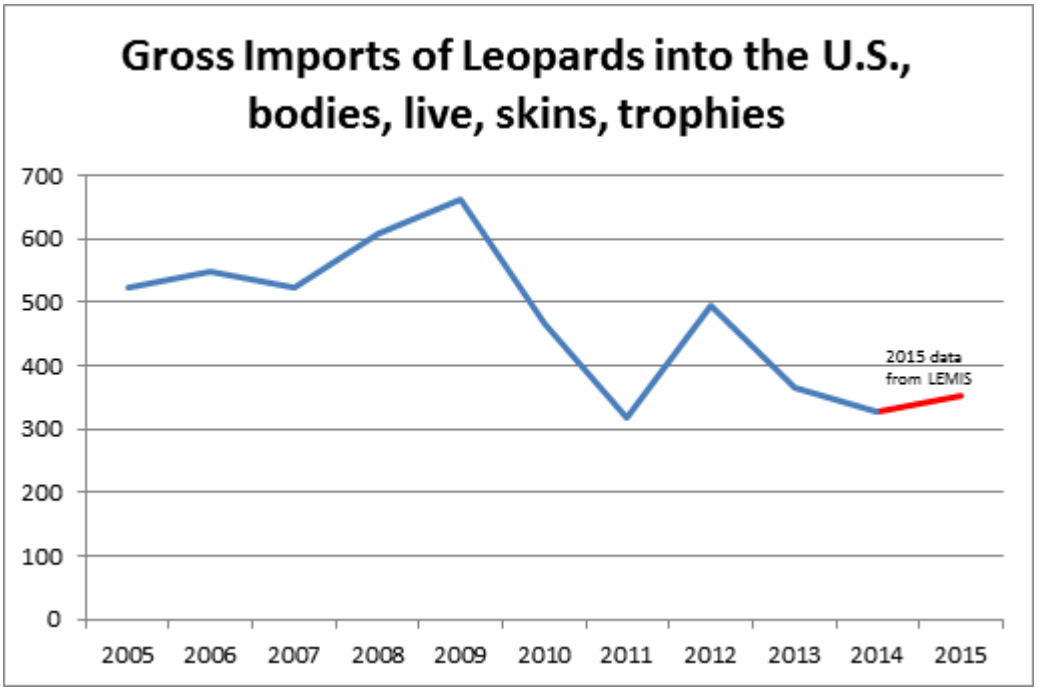
with leopard trophy hunting resuming in Zambia in 2015, robust monitoring is needed in order to calculate the impact on density and distribution of leopard.

Additionally, in South Africa, the Minister of Environmental Affairs determined in January 2017 (following the same decision in January 2016) that based on the review of available scientific information on the status of leopard populations (including the results of camera trap surveys) the country cannot sustainably allow recreational offtake of leopards without jeopardizing the continued existence of the population. *See* Department of Environmental Affairs, https://www.environment.gov.za/mediarelease/deaconfirmsextension_zeroquotaofleopardhunting (Jan. 16, 2017).

This South Africa non-detriment finding ("NDF") establishes a zero quota for leopard hunting and acknowledges that poorly managed trophy hunting is a key threat to leopards in the country (p. 1) and that although South Africa has a CITES annual leopard export quota of 150, "the national and provincial quotas are therefore arbitrary, based on speculative population estimates" (p. 2). South Africa further found that, "Recent research suggests that trophy hunting may be unsustainable in Limpopo, KwaZulu-Natal and possibly North West" provinces (p. 2); this is said to be "due mainly to excessive quotas, clumping of hunting effort, poor trophy selection, and the additive effects of DCA [Damage Causing Animal] control combined with other forms of illegal off-take" (p. 2). The South African NDF "demonstrates that legal local and international trade in live animals and the export of hunting trophies at present poses a high risk to the survival of this species in South Africa (Figure 2A). This is mostly due to poor management of harvest practices and a lack of reliable monitoring of leopard populations" (p. 2).

While South Africa has admitted that it cannot ensure that leopard trophy hunting is conducted in a non-detrimental manner, FWS has simultaneously doubled down on its overly broad and unsupported authorization sanctioning leopard hunting in six African countries, which demonstrates that the existing U.S. regulatory mechanisms are inadequate to protect this species from extinction.

Instead of complying with its longstanding commitment to only allow "very few" leopard trophies into the country (47 Fed. Reg. 4201, 4211 (January 28, 1982)), FWS has allowed on average more than one leopard *per day* to be imported into the U.S. for more than a decade (see table below). While CITES trade data from 2015 and 2016 is not yet available for U.S. imports or most major leopard exporting countries, according to the 2005-2014 CITES data submitted in the petition, and bolstered by 2015 data from the FWS LEMIS database, hundreds of leopards continue to be imported into the U.S. every year.



Gross Imports into the US of Individual Leopards (bodies, live, skins, trophies), all sources, all purposes, 2005-2015.

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Totals
US	523	547	522	609	661	467	317	495	366	327	352*	**5186**

Source: CITES-WCMC Trade Database, search on 11 January 2017 for gross imports of *Panthera pardus*, all sources, all purposes, filtered for bodies, live, skins, and trophies. * The 2015 data point was sourced from LEMIS data and, notably, only one of the 352 imports for that year was a live leopard.

Following an inquiry from Petitioners in March 2016 regarding whether the Service was still relying on over thirty-year-old non-detriment findings to allow imports of leopard trophies, on April 14, 2016 FWS finalized an internal memorandum supporting the import of leopard trophies from Botswana,[2] Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe for calendar year 2016 ("2016 NDF", attached). However, as the Service does not publish applications for imports of threatened species in the Federal Register, it is unclear how many leopard trophies have been sought to be imported under this new authority (or whether FWS has yet made any determinations with respect to leopard trophy imports in 2017).

[2] It is nonsensical that the Service included Botswana in its 2016 NDF for leopard trophy imports, as Botswana does not allow leopard trophy hunting and so the Service must not facilitate the import of an illegally taken leopard, which would violate the Lacey Act (16 U.S.C. § 3372). This is especially true given that the 2016 NDF does not include South Africa, explicitly because FWS acknowledged that South Africa issued a zero quota for leopard hunts in 2016.

What is clear is that the 2016 FWS NDF is not based on the best available science, as it precedes the publication of a seminal scientific paper (Jacobson et al. 2016) and the new IUCN Red List assessment for leopards (Stein et al. 2015), which, along with Petitioners' July 2016 Petition, contain critical new scientific information demonstrating a precipitous deterioration of the status of the leopard over the past 15 years and identify poorly managed trophy hunting as a key threat to the survival of leopards.

Firstly, as detailed in our petition, there is a large body of scientific work that has been conducted on leopards in the past decade, particularly the impact of trophy hunting on leopard populations, which the FWS has not fully evaluated in the 2016 NDF. Instead of relying on the 2016 IUCN Red List assessment from Stein et al., which classified the species Vulnerable, FWS instead cited to the old IUCN Red List assessment (Henschel et al. 2008) which listed the species as Near Threatened. This is arbitrary and capricious, as based on the 2016 NDF, FWS appears to have previously had access to "preliminary data compiled by Brietenmoser et al. [a co-author on Jacobson et al. (2016)]" (p. 2) and in the 2015 NDF for Mozambique acknowledged that threats to the survival of leopards "may be significant enough that the species could soon qualify for the [IUCN] category Vulnerable under criteria A4 (30% decline over a period of 30 years = three generations, including both past and future" (p. 2).

Moreover, as to leopard population sizes, the 2016 NDF relies on the outdated and discredited 1988 report by Martin and de Meulenaer that provided wildly inflated leopard population size estimates. The 2016 NDF continues to perpetuate the claim included in previous NDFs that "the estimates by Martin and de Meulenaer (1988) represent the most practical and quantitative attempt to estimate potential cat numbers across a large geographical area" and that "more than 714,000 leopards occur in Africa" (p. 2). As discussed in our Petition, the information from Martin and de Meulenaer was gathered using questionable population models based on scant field data and is widely criticized as being unrealistic (Jacobson et al. (2016). Notably, while the 2015 Mozambique NDF acknowledged that this information is been criticized, the 2016 NDF arbitrarily omits this cautionary tale and doubles down the Service's reliance on outdated and unscientific information for leopard trophy imports.

As evidenced in the 2016 NDF, the Service continues to ignore the best available science when authorizing the import of African leopard trophies, making the ESA special rule that waives the enhancement analysis for leopard trophy imports (50 C.F.R. § 17.40(f)) inadequate to protect the species as required by law. The 2016 NDF claims that "the impact of trophy hunting on leopard populations is unclear" (p. 2), relying on two studies published in the past seven years – but the Service has failed to acknowledge the dozens of recently published papers demonstrating the detriment to leopard populations caused by trophy hunting, as documented in our petition. Further, FWS appears to have ignored the conclusions of the studies that it does claim to have relied on. For example, Jacobson et al. (2016) states that "unsustainable legal trophy hunting" is a "major threat" to African leopards and that "it is possible, current levels of off-take are not set sustainably in any country that allows leopard hunting…" (p. 17-19). As further demonstrated in the 2016 IUCN Red List Assessment (Stein et al. 2016), "Evidence suggests that Leopard populations have been dramatically reduced due to … poorly managed trophy hunting…."

As evidenced in our Petition, of the countries included in the 2016 NDF where leopard trophy hunting is allowed, there is significant cause for concern for the sustainability of such hunts:

- Mozambique: leopard populations appear to be decreasing although they are poorly monitored and largely unknown (Stein et al. 2016), trophy hunting combined with illegal offtake has caused leopard population declines (Jorge 2012), there is illegal trophy hunting of females (Jorge 2012), and a high

percentage of leopards killed for trophies are under the recommended age of seven (Jorge 2012). Our petition (p. 56-59) provides a full analysis of the FWS NDF 2015 for Mozambique, indicating the FWS was in error in making a positive NDF for that country.

- Namibia: although the population appears to be increasing and now numbers 13,356-22,706 according to Stein et al. (2011), poorly managed trophy hunting is a threat to the leopard in Namibia (Jacobson et al. 2016).
- Tanzania: the leopard population is declining and has been reduced in Tanzania (Jacobson et al. 2016, Stein et al. 2016) driven, in part, by excessive offtake for trophy hunting (Packer et al. 2009, Jacobson et al. 2016).
- Zambia: the leopard population appears to be decreasing (Stein et al. 2016), and trophy hunting has caused leopard population declines in Zambia (Packer et al. 2011). Zambia banned leopard hunting in 2013 and 2014 (Stein et al. 2016) but reinstated it in 2015 and 2016 (Jacobson et al. 2016).
- Zimbabwe: leopards exist in many conservation areas but no assessment of the national population exists (Jacobson et al. 2016). Populations are declining and leopards are disappearing in areas with high human impact and human-leopard conflict (Stein et al. 2016). Williams et al. (2016) extrapolated the results of a study of the impact of government land reform policies on the leopard population of Save Valley Conservancy to the remainder of the country, estimating Zimbabwe's leopard population size to be 626 at minimum and 6,716 at maximum in 2008, a decrease of 69% and 58%, respectively, compared to minimum and maximum population estimates from 2000. The use of dogs to hunt leopards in Zimbabwe, and a declining number of leopards killed by trophy hunters in Zimbabwe and Zambia (suggesting less availability in spite of insatiable demand), also raise concerns about management of trophy hunting (Packer et al. 2011). Hunting leopards with dogs masks continued population declines because the dogs increase the ability of the hunter to locate and kill leopards (Packer et al. 2009).

Instead of addressing these concerns, the 2016 NDF doubles down on the faulty CITES export quotas, while simultaneously revealing the inherent flaws in those quotas (2016 NDF, Table 3) – for example:

- In 1983, the CITES Parties approved a leopard export quota of 80 for Botswana, even though Botswana did not submit a formal written proposal containing biological and management information; in 1987, the CITES Parties allowed Botswana to keep its export quota even though the country apparently exceeded its export quota by 19 leopards in 1985; in 1989, the CITES Parties increased Botswana's export quota to 100 despite the fact that they had not complied with all relevant CITES requirements for export of leopards.
- In 1989, the CITES Parties approved a leopard export quota of 50 for South Africa without any documentation; in 1992, the CITES Parties approved an increase in the leopard export quota for South Africa to 75 without any documentation; in 2004, the CITES Parties approved an increase in the leopard export quota for South Africa to 150, despite the fact that South Africa had exceeded its export quota during 1992-2002 (up to 96 exported versus 75 under the quota), and the lack of a population estimate.
- In 1983, the CITES Parties approved a leopard export quota of 60 for Tanzania despite no formal (written) proposal; in 1985, the CITES Parties approved an increase in Tanzania's leopard export quota to 250 based on a 2-page proposal that Tanzania stated contained no scientific data; in 2002, the CITES Parties approved an increase in Tanzania's leopard export quota to 500 based on a 7-page "text" that again contained no quantitative data.

- In 1983, the CITES Parties approved a leopard export quota of 80 for Zambia that was based on a 4-page document containing, according to FWS, "mostly general comments at the regional level; nothing substantive"; in 1985, the CITES Parties approved an increase in Zambia's leopard export quota to 300, based on a 3-page proposal that provided a leopard population figure of 47,000 (today, there are around 4,000 leopards in Zambia).
- In 1983, the CITES Parties approved a leopard export quota of 80 for Zimbabwe based on a 4-page document containing, according to FWS, "mostly general comments at the regional level; nothing substantive;" in 1985, the CITES Parties approved an increase in Zimbabwe's leopard export quota to 350, based on a 5-page proposal; in 1987, the CITES Parties approved a further increase to Zimbabwe's leopard export quota to 500, although Zimbabwe did not submit a formal (written) proposal but stated that their population numbered 12,000 (in 2008, there were an estimated 626-6,716 leopards in Zimbabwe).

Notably, shortly after FWS issued the 2016 NDF, in September 2016, the CITES Conference of the Parties issued decisions pertaining to quotas for international trade in leopard hunting trophies. Specifically, Decision 17.114 requires Parties to CITES with leopard trophy quotas established under CITES Res. Conf. 10.14 to review their quotas and share their determinations of whether such quotas are not detrimental to the survival of the species. As they currently stand, these CITES export quotas are inadequate to protect the continued existence of African leopards, mandating that the Service extend full ESA protections to all leopards in Africa.

Conclusion

On behalf of Petitioners and our over 42,000 members who have voiced their support for this uplisting, due to the increasingly robust scientific record about African leopard population decline due to loss of habitat, loss of prey, overutilization for commercial and recreational purposes, and the inadequacy of existing federal and international regulatory mechanisms, the Service must list all African leopards as endangered pursuant to the ESA, as the entire species is in "danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6).

Respectfully,

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and The Fund for Animals

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Annex XVIII

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Petition to the Department of the Interior

Before the Secretary of the Interior, Petition to List the African Lion (*Panthera leo leo*) as Endangered Pursuant to the U.S. Endangered Species Act; March 1, 2011 (123 pages)

Attached below.

BEFORE THE SECRETARY OF THE INTERIOR

PETITION TO LIST THE AFRICAN LION (*Panthera leo leo*) AS ENDANGERED PURSUANT TO THE U.S. ENDANGERED SPECIES ACT

© IFAW/D. Willetts

March 1, 2011

IFAW

HUMANE SOCIETY INTERNATIONAL

THE HUMANE SOCIETY OF THE UNITED STATES

BORN FREE

DEFENDERS OF WILDLIFE

Petition to List the African Lion as Endangered

Honorable Ken Salazar
Secretary of the Interior
1849 C Street, N.W.
Washington. D.C. 20240

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Date: March 1, 2011

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Teresa Telecky: The Humane Society of the United States and Humane Society International
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Michael Markarian: The Fund for Animals

Cover photo: © IFAW/D. Willetts
Acknowledgements: Thank you to Karen Baragona, Tracy Coppola, Anna Frostic, Clifton Gaisford, Nancy Gloman, Ralph Henry, Nathan Herschler, Dereck and Beverly Joubert, Amanda Mayhew, Jason Rylander, Claudio Sillero, and Rowena Watson for their invaluable assistance on this Petition. The decades of research by many scientists whose published work is cited in this Petition are also gratefully acknowledged.

Authors: Jennifer Place, The International Fund for Animal Welfare; Jeffrey Flocken, The International Fund for Animal Welfare; Will Travers, The Born Free Foundation; Shelley

Waterland, The Born Free Foundation; Teresa Telecky, The Humane Society of the United States and Humane Society International; Caroline Kennedy, Defenders of Wildlife and Alejandra Goyenechea, Defenders of Wildlife.

NOTICE OF PETITION

Pursuant to Section 4(b) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1533(b), Section 553(e) of the Administrative Procedure Act, 5 U.S.C. § 553(e), and 50 C.F.R. § 424.14(a), petitioners, The International Fund for Animal Welfare, The Humane Society of the United States and Humane Society International, The Born Free Foundation/Born Free USA, Defenders of Wildlife, and The Fund for Animals hereby Petition the Secretary of the Interior to list the African lion (*Panthera leo leo*) as Endangered.[1] 16 U.S.C. § 1532(6), (16) ("The term 'endangered species' means any species which is in danger of extinction throughout all or a significant portion of its range . . ."; "The term 'species' includes any subspecies of fish or wildlife . . .").

This Petition "presents substantial scientific [and] commercial information indicating that" the African lion subspecies is in danger of extinction throughout all or a significant portion of its range. *See* 50 C.F.R. § 424.14(b)(1) ("substantial information" is "that amount of information that would lead a reasonable person to believe that the measure proposed in the Petition may be warranted"). Therefore, the Secretary of the Interior must make an initial finding "that the petitioned action *may be* warranted." 16 U.S.C. §1533(b)(3)(A)(emphasis added) (The Secretary of the Interior must make this initial finding "[t]o the maximum extent practicable, within 90 days after receiving the Petition"). Petitioners are confident that a status review of the subspecies, as required by 16 U.S.C. § 1533(b)(3)(B), will support a finding that listing the African lion as Endangered is warranted.

The African lion has suffered a major reduction in population size across the continent, and such decline is ongoing because threats to the subspecies continue unabated. The U.S. has the opportunity to assist in protecting the iconic African lion by listing the subspecies as Endangered. Listing of the entire subspecies as Endangered, would meaningfully contribute to African lion conservation. Such a Continent-wide listing would allow the U.S. to support all range countries in their efforts to protect lion habitat and eliminate threats to the subspecies. Further, because unsustainable take, and subsequent imports of lion derivatives into the U.S., contribute to endangerment throughout their range, importation of any African lion specimen deserves the level of scrutiny that an Endangered listing would provide, namely an analysis of whether the import would in fact enhance the propagation or survival of the subspecies or is for scientific purposes. The U.S. has the opportunity to assist in protecting the iconic African lion by listing the subspecies as Endangered.

[1] The Asiatic lion (*Panthera leo persica*) was listed as Endangered in 1970. 35 Fed. Reg. 8491 (June 2, 1970).

EXECUTIVE SUMMARY

This Petition demonstrates that the African lion (*Panthera leo leo*) meets the statutory criteria for an Endangered listing under the ESA.

The petitioners – The International Fund for Animal Welfare, The Humane Society of the United States and Humane Society International, The Born Free Foundation/Born Free USA, Defenders of Wildlife, and The Fund for Animals – submit this Petition to the Secretary of the Interior requesting formal protection for the African lion as Endangered under the ESA. The ESA considers a species (including subspecies) to be "Endangered" when it "is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). The Act requires the Secretary to determine within 90 days of receiving the Petition whether the Petition "presents substantial scientific or commercial information indicating that the petitioned action may be warranted." 16 U.S.C. § 1533(b)(3)(A). Such determination must be made solely on the basis of the "best scientific and commercial data available." 16 U.S.C. § 1533(b)(1)(A). Following a positive 90-day finding, the Secretary must, within one year of receipt of the Petition, complete a review of the status of the species and publish either a proposed listing rule or a determination that such listing is not warranted. 16 U.S.C. § 1533(b)(3)(B). Should a rule be proposed, the Secretary has an additional year to finalize regulations protecting the species. 16 U.S.C. § 1533(b)(6)(A).

When a foreign species is listed as Endangered, protection under the ESA occurs by, *inter alia*, prohibiting imports unless they enhance the propagation or survival of the species or are for scientific purposes. 16 U.S.C. § 1533(b)(1)(A). Furthermore, Section 8 of the ESA provides for "International Cooperation" in the conservation of foreign, listed species, and listing a foreign species heightens global awareness about the importance of conserving the species.

This Petition describes the natural history and biology of the African lion and the current status and distribution of the subspecies; it clearly shows that its population size and range are in alarming and precipitous decline. The Petition reviews the threats to the continued existence of the African lion, including retaliatory killing due to attacks on livestock, loss of habitat and prey, and disease. The Petition also demonstrates how Americans engaging in unsustainable trophy hunting and international trade of African lions and their parts are significantly and negatively impacting the conservation status of the African lion. It then explains how existing laws and regulations are inadequate to address the numerous and interacting threats to the African lion today. Lastly, the Petition demonstrates how an Endangered listing of the African lion under the ESA will result in significant benefits to the subspecies.

Status and Distribution

In 2008, the International Union for the Conservation of Nature (IUCN) classified the African lion as Vulnerable with a declining population trend, which means it is considered to be facing a high risk of extinction in the wild (Bauer, Nowell, & Packer, 2008). This classification is based on a suspected reduction in population of approximately 30 percent over the past two decades (Bauer, et al. 2008). However, African lion experts have now agreed that the population size is less than 40,000 with an estimated range of 23,000 to 39,000 (Bauer et al., 2008). The most quantitative estimate of the historic size of the African lion population resulted from a modeling exercise that predicted there were 75,800 African lions in 1980 (Bauer et al., 2008). Comparing

the 1980 estimate of 75,800 to the 2002 estimate of 39,000 African lions yields a suspected decline of 48.5 percent over 22 years. Additionally, since 2002, several studied African lion populations are known to have declined or disappeared altogether (Henschel, et al., 2010).

The African lion now occupies less than an estimated 4,500,000 km^2, which is only 22 percent of the subspecies' historic distribution (Bauer et al., 2008). The latest research suggests the African lion exists in 27 countries (Bauer et al., 2008; Henschel et al., 2010), down from 30 countries in 2008, just 3 years ago (Bauer et al., 2008), illustrating that the status of the African lion continues to deteriorate.

Populations of African lion that are both viable and exist in largely Protected Areas, occur in only about 5 percent of their currently occupied range and 1.1 percent of their historical continent-wide range. Thus, the African lion is endangered both across a significant portion (approximately 95 percent) of its current range and across a significant portion (approximately 99 percent) of its historical range.

Threatened Destruction, Modification, Curtailment of Habitat or Range

Loss of habitat and corresponding loss of prey are serious threats to the survival of the African lion (Ray, Hunter, & Zigouris, 2005). These threats are principally driven by human activity, including conversion of lion habitat for agriculture and grazing as well as human settlement (Ray et al., 2005). Human population growth has been specifically identified as the root cause of many problems associated with the conservation of African lions because of increasing human settlement in lion habitat and associated agriculture and livestock production (IUCN SSC Cat Specialist Group, 2006a). It is therefore of concern that the human population of sub-Saharan Africa, which was 518 million in 1990, is predicted to rise to 1.75 billion people by 2050 (UN DESA, 2009).

Other related threats to African lion habitat and prey include the bushmeat trade, civil unrest and desertification. The expanding human population has resulted in increased consumption of bushmeat which has severely reduced some lion prey species, causing conflict between African lions and humans competing for the same resources (Parliamentary Office of Science and Technology, 2005; IUCN SSC Cat Specialist Group, 2006b). Civil unrest within sub-Saharan Africa degrades otherwise suitable lion habitat through the overharvesting of wildlife and vegetation (Dudley, Ginsberg, Plumptre, Hart, & Campos, 2002). Lastly, land degradation through desertification is predicted to lead to the loss of two-thirds of arable land in Africa by 2025 (Bied-Charreton, 2008), which will further increase competition between humans and African lions.

Overutilization for Commercial, Recreational, or Scientific Purposes

The African lion is clearly over-utilized. The original analysis presented in this Petition shows that between 1999 and 2008, 21,914 African lion specimens (lions, dead or alive, and their parts and derivatives), reported as being from a wild source, representing a minimum of 7,445 lions, were traded internationally for all purposes. Of this trade, the U.S. imported 13,484 lion specimens reported as being from a wild source (62 percent of the total), which is the equivalent

of at least 4,021 lions (54 percent of the total). The most common purposes of this international trade were scientific, recreational and commercial.

Between 1999 and 2008, 7,090 lion specimens, reported as being from a wild source, were traded internationally for recreational trophy hunting purposes, representing a minimum of 5,663 lions. Most of these specimens were imported to the U.S.: 4,139 specimens (58 percent of the total), representing a minimum of 3,600 lions (64 percent of the total). Despite the significant and continuing population and range declines that this subspecies has suffered and continues to suffer, the number of lion trophies, reported as being from a wild source and traded for hunting trophy purposes, imported to the U.S., is increasing. Of these trophies, the number imported into the U.S. in 2008 was larger than any other year in the decade studied and more than twice the number in 1999.

From 1999 to 2008, 2,715 lion specimens, reported as being from a wild source, the equivalent of at least 1,043 lions, were traded internationally for commercial purposes (defined as "for the purpose of sale in the importing country.") Of this trade, the U.S. imported 1,700 lion specimens (63 percent of the total), the equivalent of at least 362 lions (35 percent of the total). The most common lion specimens traded for commercial purposes were claws, trophies, skins, live animals, skulls and bodies.

The aforementioned international trade figures include lion specimens reported as being from a wild source that were exported from South Africa. From 1999 to 2008, South Africa reported exporting a number of specimens equivalent to 2,862 wild source lions. Since the estimated number of wild lions in South Africa in 2002 ranged between 2,716 and 3,852 it seems highly unlikely that the aforementioned 2,862 South African lions involved were all wild source. Therefore, the South Africa trade data specifically must be treated with caution.

Twenty African range States exported lions and lion parts reported as being wild source between 1999 and 2008. A country-by-country examination of the number of African lions exported and reported as being from a wild source, and the status of the wild population in each country reveals that off-take was unsustainable in at least sixteen of these twenty range States. Specifically, the U.S. imported lion specimens from twelve range States where the reported data indicate that the off-take was unsustainable. Therefore, even setting aside the South African data, clearly the lion is overexploited for these purposes across sub-Saharan Africa.

In addition to the direct killing of the targeted individual, trophy hunting can have further population impacts. For example, when males that are part of a pride are killed, all the pride's cubs less than nine months of age will be killed by new dominant males (Whitman, Starfield, Quadling, & Packer, 2004). Listing the African lion as Endangered under the ESA would end imports of commercial and recreational lion trophies and all lion specimens into the U.S., unless they are found to enhance the survival or propagation of the species or are for scientific purposes. 16 U.S.C. §§ 1538(a)(1)(A), 1539(a)(1)(A). African lions are also killed for purposes that do not involve legal international trade. However, there are no comprehensive data on the levels or impact of these activities.

Disease or Predation

Diseases such as canine distemper virus (CDV), feline immunodeficiency virus and bovine tuberculosis are viewed by experts as a threat to the African lion (Roelke et al., 2009; Cleaveland et al., 2007). Human population growth and expansion is exposing African lions to new diseases to which they may have little or no immunity (IUCN SSC Cat Specialist Group, 2006b). For example, the CDV disease, normally associated with domesticated dogs, has affected lion populations (Cleaveland et al., 2007).

Inadequacy of Existing Regulatory Mechanisms

The African lion is listed on Appendix II of the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), which means that export permits should not be granted unless the export is determined not to be detrimental to the survival of the species in the wild. Nonetheless, this Petition demonstrates that lion specimens are routinely exported from countries across their range where lion off-take is detrimental to the survival of the subspecies. This means that the U.S. regularly allows imports of lion specimens accompanied by export permits issued by countries where lion off-take is unsustainable. This is a clear indication that CITES, as currently implemented, is inadequate to protect the African lion from unsustainable international trade.

The country that imports the most wild source African lion specimens—the U.S.—has no meaningful protective measures for the subspecies, despite the evidence that imports are having a detrimental impact. An Endangered listing under the ESA would ensure that lion specimens could only be imported to the U.S. if the import enhances the survival or propagation of the species or is for scientific purposes.

Conservation of the African lion could be potentially affected by several other international and African regional agreements, as well U.S. laws, but none of these adequately protect the subspecies from ongoing and rapid decline in population and range. Moreover, few range States appear to have adequate national regulatory mechanisms, or effective measures to implement and enforce such mechanisms should they exist, to address these declines. In summary, the threats to lions in Africa are exacerbated by insufficient regulatory mechanisms throughout their range (IUCN SSC Cat Specialist Group, 2006a; IUCN SSC Cat Specialist Group, 2006b).

Other Natural or Manmade Factors Affecting the Survival of the African Lion in the Wild

The African lion is threatened by retaliatory killings, often associated with loss of prey, ritual killings, and compromised population viability due to increasingly small and isolated populations. Retaliatory killing, in particular, is a serious threat to the survival of the African lion (Chardonnet et al., 2010) and occurs in all major range States (Frank, Hemson, Kushnir, & Packer, 2006). When the African lion's prey is reduced by human or natural means, lions increasingly prey on domestic livestock (Chardonnet et al., 2010). Livestock predation is the main source of conflict between people and lions and can induce extreme human retaliation (Chardonnet et al., 2010). African lions are easily killed for retaliatory purposes by various

means, but they are particularly vulnerable to poisons because of their scavenging nature (Hoare & Williamson, 2001; Baldus, 2004).

Conclusion

This Petition demonstrates that the African lion meets the criteria for listing as Endangered under the ESA and therefore the subspecies should be listed. The best scientific and commercial data available demonstrate that the population and range of the African lion have significantly decreased, and continue to decrease, and that the African lion is in danger of extinction throughout "all or a significant portion of its range" 16 U.S.C. § 1532(6). The African lion faces serious threats due to over-exploitation by recreational trophy hunting and commercial trade, loss of habitat and prey species, retaliatory killings, disease and other human-caused and natural factors. The subspecies is not adequately protected by existing regulatory measures at national, regional or international levels. Listing the African lion as Endangered under the ESA would be a meaningful step toward reversing the decline of the subspecies by ensuring that the U.S. does not allow the importation of African lions or their parts unless it is to enhance the propagation or survival of the subspecies or is for scientific purposes, and by raising global awareness about the alarming and increasingly precarious status of the African lion.

I. INTRODUCTION

Until very recently, conservation of the African lion (*Panthera leo leo*) was not identified as a matter of significant concern. The subspecies was considered abundant, healthy and wide-ranging. Most lion populations were not closely monitored and, as a consequence, wildlife management authorities have overlooked their steady decline in the last few decades. Therefore, adequate conservation measures to address the primary threats to the subspecies—retaliatory killings resulting from human-lion conflict, habitat and prey loss, disease, and unsustainable take for international trade in lion trophies and lion parts—are lacking. Scientists and managers now acknowledge that the African lion population's size and range have dramatically decreased. Over the past decade, scientists have begun to quantify lion population and range and to evaluate the causes of their decline. As detailed in this Petition, the results of these scientific endeavors are alarming. The U.S. has an important role to play in African lion conservation efforts, including granting the subspecies Endangered status under the ESA.

II. STATUS AND DISTRIBUTION OF THE AFRICAN LION

A. Status

The International Union for the Conservation of Nature (IUCN) classifies the African lion as Vulnerable, which means it is considered to be facing a high risk of extinction in the wild (Bauer et al., 2008). This classification is based on a suspected reduction in population of approximately 30 percent over the past two decades (Bauer et al., 2008). The population is continuing to decline (Bauer et al., 2008).

African lion experts have agreed that the population size is less than 40,000 with an estimated range of 23,000 to 39,000 (Bauer et al., 2008). This is based on the results of two independent assessments: Bauer and Van Der Merwe (2004) estimated the African lion population to be 23,000, with a range from 16,500 to 30,000; and Chardonnet (2002) who estimated the population to be about 39,000 with a range from 28,854 to 47,132. The two assessments used different methodologies and techniques which account for the divergent estimates. For example, Chardonnet (2002) used ecological boundaries when defining regions, whereas Bauer and Van Der Merwe (2004) used national borders. Additionally, it is important to note that there is no detailed knowledge of lion populations in some areas such as Ethiopia (Gebresenbet, Bauer, Hunter & Gebretensae, 2009) and the North Albertine Rift of Uganda and the Democratic Republic of the Congo (Treves, Plumptre, Hunter, & Ziwa, 2009).

Lion populations in West Africa are classified by the IUCN as Regionally Endangered, meaning lions in this particular region are considered to be facing a very high risk of extinction in the wild (Bauer & Nowell, 2004). The population size in this region has been estimated to number between 850 (Bauer & Van Der Merwe, 2004) and 1,163 mature individuals (Chardonnet, 2002). In Central Africa, population surveys carried out by Bauer and Van Der Merwe (2004) and Chardonnet (2002) indicate a range of between 950 and 2,815 individuals (IUCN SSC Cat Specialist Group, 2006b). A more recent study, conducted across West and Central Africa between 2006 and 2010, surveyed areas of known or probable lion range considered ecologically

important for African lion conservation known as Lion Conservation Units (LCUs) (Henschel et al., 2010). In this study, 12 of the 16 West African LCUs were surveyed, and only two showed evidence of the presence of lions. In Central Africa, 3 of the 11 identified LCUs were surveyed, and none of these suggested the presence of lions. The study authors state that as few as 1,000-2,850 lions may remain in this part of the continent (Henschel et al., 2010). There are an estimated 11,000 to 15,744 lions in East Africa (IUCN SSC Cat Specialist Group, 2006b) and 10,000 to 19,651 lions in Southern Africa (IUCN SSC Cat Specialist Group, 2006b), a substantial decrease from historic numbers.

It is widely agreed that there is a downward trend in the number of lions in Africa (Bauer et al., 2008). The most recent IUCN Red List analysis identifies the African lion population trend as 'decreasing' with a suspected population reduction of at least 30 percent over the last 20 years (Bauer et al., 2008).

It has been estimated that a million lions existed in Africa in pre-colonial times (Frank et al., 2006). The most quantitative estimate of the recent historic size of the African lion population, which was based on a modeling exercise, predicted that there were 75,800 African lions in 1980 (Ferreras & Cousins, 1996; Bauer et al., 2008). Comparing the 1980 estimate of 75,800 to the higher 2002 estimate of 39,000 lions (Chardonnet, 2002) yields a suspected decline of 48.5 percent over 22 years (Bauer, et al, 2008); whereas, comparing the 1980 estimate to the lower 2002 estimate of 23,000 (Bauer & Van Der Merwe, 2004), yields a suspected decline of 69.7 percent over 22 years. Since 2002, several studied lion populations are known to have declined or disappeared altogether (Henschel et al., 2010). In certain areas, the decline is faster and far greater than 30 percent. For example, in Queen Elizabeth National Park, Uganda, a 50 percent decline has been reported over 10 years (Dricuru, as cited in Treves et al., 2009).

In order for the African lion to have a high likelihood of persisting in the future, multiple robust populations must thrive across connected ecosystems. Based on a meta-analysis of 30 years of published minimum viable population (MVP) sizes in mammals, primarily large-bodied species that are IUCN listed (and including both the African and Asian lion), a population size as low as 2,200 individuals can be reasonably considered as viable (i.e., demographic continuity in the absence of immigration/emigration, translocation, etc.) (Traill, Bradshaw, & Brook, 2007). This statistical threshold represents a 95 percent probability for population persistence over at least 40 generations (*Table 2,* lower 95 percent confidence interval for the standardized mean MVP = 3,876 individuals, representing $n = 95$ mammal species).

Using the Traill et al. (2007) 2,200 viability threshold as a criterion for screening the African lion populations listed by Bauer, Chardonnet, & Nowell (2005), we find that the subspecies has no more than 5 population clusters, representing just 14 populations on the entire African Continent, could be reasonably deemed to be viable (i.e., estimated population size overlaps the viability estimate: (**Table 1**).

Table 1. Clusters of populations for African lion in which estimates of the regional population size encompass a viability threshold of 2,200 or more individuals.

Population	*Number of lion populations*	*Country*	*Study*	*Minimum* [1]	*Mid-estimate* [1]	*Maximum* [1]
Serengeti ecosystem[2]	4	Tanzania	Chardonnet [3]	3412	4437	5222
			Bauer & Van Der Merwe [4]	1823	2573	3323
Selous and surrounds	2	Tanzania	Chardonnet	3458	4940	6422
			Bauer & Van Der Merwe	3500	4500	4600
Rungwa ecosystem	1	Tanzania	Chardonnet	2352	3360	4368
			Bauer & Van Der Merwe	-	-	-
Okavango ecosystem[5]	4	Botswana	Chardonnet	1782	2228	2674
			Bauer & Van Der Merwe	1440	2007	2808
Kruger ecosystem[6]	3	South Africa, Zimbabwe, Mozambique	Chardonnet	2463	2798	3132
			Bauer & Van Der Merwe	2306	2355	2404
TOTAL	**14**		Chardonnet	**13467**	**17763**	**21818**
			Bauer & Van Der Merwe	**9069**	**11435**	**13135**
TOTAL (without Selous)	**12**		Chardonnet	**10009**	**12823**	**15396**
			Bauer & Van Der Merwe	**5569**	**6935**	**8535**

1 Figures for lion population sizes derived from Tables 6.9, 7.2, 7.5, 7.6, 7.7, and 7.10 in Bauer et al. (2005). Mid-estimates for some lion numbers were the same (or not greatly different from) the minimum or maximum available from the literature, and thus cannot be considered as an average.
2 Includes near-contiguous areas of Manyara National Park, Ngorongoro Crater, Serengeti, and Tarangire National Park.
3 Chardonnet, 2002.
4 Bauer & Van Der Merwe, 2004
5 Includes near-contiguous areas of Okavango Delta, Kwando and Chobe National Park, Botswana, Kaudom, Nyae and Caprivi, Namibia.
6 Includes near-contiguous areas of Kruger National Park, South Africa, Gonarezhou National Park, Zimbabwe, and Limpopo National Park, Mozambique.

These five clusters of 14 populations represent only 10 percent of all 144 African lion populations identified by Chardonnet (2002). However, because the Selous and its environments are not under permanent protection, only four clusters and 12 populations (8.3 percent) of

African lion could be reasonably considered as *both* viable *and* inhabiting mostly Protected Areas (**Table 1**).

Based on the number of African lions that are simultaneously viable and inhabiting mostly Protected Areas, we find that only about one-third of all lions on the Continent could be considered secure under present conservation measures (**Table 2**). In other words, approximately two-thirds of all lions in Africa occur both in non-viable *and* unprotected populations.

Table 2. Percentage of African lions that occur in viable and mostly protected populations.

Study	*Estimated number of viable* and *protected lions*[1]	*Continental population estimate*	*Estimated continental percentage of lions in viable populations*
Chardonnet	10009-15396	29000-47000	33-35%
Bauer & Van Der Merwe	5569-8535	16500-30000	28-34%

[1] Range of low to high estimates for the four protected African ecosystems (Table 1) in which lion population size is greater than 2,200 individuals.

The five viable populations of the African lion that are itemized in (**Table 1**) occur in approximately 6.2 percent of their currently occupied range, and occur in slightly more than 1 percent of their historical range across the continent (**Table 3**).

Populations of the African lion that are both viable and inhabiting mostly Protected Areas (**Tables 1 and 3**) occur in only about 5 percent of their currently occupied range, and occur in only 1 percent of its historical, Continent-wide range (**Table 3**). Thus, the African lion is endangered both in a significant portion (approximately 95 percent) of its current range and across a significant portion (approximately 99 percent) of its historical range. Therefore, *Panthera leo leo* meets the definition of an endangered subspecies under the ESA.

Table 3. Approximate land areas (in km^2) occupied by five subpopulation clusters of the African lion.

Ecosystem	*Approximate lion population range area (km^2)* [1]	*Percentage of current range* [2] *(4.5 million km^2)*	*Percentage of historical range* [1] *(20.5 million km^2)*
Serengeti ecosystem	38,010		
Selous and surrounds	55,000		
Rungwa ecosystem	42,000		
Okavango ecosystem	103,467		
Kruger ecosystem	42,873		
TOTAL (viable)	**281,350**	6.2%	1.4%
TOTAL (viable *and* protected)	**226,350**	5.0%	1.1%

[1] Chardonnet (2002).

[2] Current and historical range sizes from Bauer et al. (2008).

B. Distribution

Historically, lions were found across Africa, Europe, the Middle East and Southwest Asia, occurring in all habitat types, except very dry deserts and very wet forests (IUCN SSC Cat Specialist Group, 2006b). Outside Africa, lions now exist only as a single relic population of the Asiatic lion (*Panthera leo persica*) in the Gir Forest in the State of Gujarat, India (Bauer et al., 2008).[2]

The African lion once lived throughout the African Continent, except for the interior of the Sahara Desert and dense coastal and central rainforests (Nowell & Jackson, 1996; Bauer et al., 2008). The African lion now occupies less than an estimated 4,500,000 km^2, having disappeared from 78 percent of its historic distribution (Bauer et al., 2008). Despite divergence in inventories of lion numbers, sources agree on a downward trend affecting both numbers and geographical range (Bauer et al., 2008).

The African lion survived in some areas of North Africa, such as the High Atlas Mountains, until the 1940s, but is now extinct in all of North Africa (Algeria, Egypt, Libya, Morocco, Tunisia and Western Sahara) (Frank et. al, 2006); Nowell & Jackson, 1996). The subspecies is also extinct in Congo, Djibouti, Eritrea, Gabon, Gambia, Lesotho, Mauritania and Sierra Leone, and its presence is uncertain in Burundi, Cote d'Ivoire, Democratic Republic of Congo, Ghana and Togo (Bauer et al., 2008; Henschel et al., 2010). The African lion was never present in Equatorial Guinea or Liberia (Chardonnet, 2002).

Based on a comparison between Bauer et al. (2008) and Henschel et al. (2010), the African lion now exists in 27 countries, 3 fewer than documented in 2008, illustrating that the status of the African lion continues to deteriorate. The subspecies is currently found in the following sub-Saharan African countries (Fig.1): Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Ethiopia, Guinea, Guinea-Bissau, Kenya, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe (Bauer et al., 2008; Henschel et al., 2010).

[2] The Asiatic Lion subspecies (*Panthera leo persica*) was listed as Endangered pursuant to the ESA in 1970. 35 Fed. Reg. 8491 (June 2, 1970).

Figure 1. Current Geographic Range of Lion

III. NATURAL HISTORY AND BIOLOGY OF THE AFRICAN LION

Unless otherwise noted, accounts in Section 3, are from the American Society of Mammologists' detailed summary of the basic biology of *Panthera leo* (Haas, Hayssen, & Krausman, 2005)

A. Taxonomy

The African lion belongs to the class Mammalia, order Carnivora, suborder Feliformia, family Felidae, species *Panthera leo* Linnaeus, 1758. There are two recognized subspecies of lion: African lion *P. l.* Linnaeus, 1758, and Asiatic lion *P. l. persica* Meyer, 1826.

B. Species Description

The lion is the second largest species of Felidae, only slightly smaller than the tiger but nearly twice as large as the leopard. Basic characteristics include sharp, retractile claws, a short neck, a broad face with prominent whiskers, rounded ears and a muscular body. Lions are typically a tawny unicolor with black on the backs of the ears and white on the abdomen and inner legs. The males usually have a recognizable mane around the head, neck and chest; however, there can be regional variation in the color and development of the mane, from blond to black, and from thick to patchy or balding. Variations in lion body size and color can exist between and within lion populations in different geographic regions, as well as on a pride-by-pride basis.

Lions are sexually dimorphic, with males weighing about 20-27 percent more than females. Adult males, on average, weigh about 188 kg with the heaviest male on record weighing 272 kg. Females are smaller, weighing, on average, 126 kg. The male body length, not including the tail, ranges from 1.7 m to 2.5 m with a tail from 0.9 m to 1 m. Lions are the only species of cat with a tufted tail (Nowell and Jackson, 1996).

C. Reproduction and Mortality

Lions have no fixed breeding season. Females give birth every 20 months if they raise their cubs to maturity, but the interval can be as few as 4-6 weeks if their litter is lost. Gestation lasts 110 days, litter size averages 1-4 cubs, and the sex ratio at birth is 1:1. Cubs' eyes open shortly after birth and they begin walking within 2 weeks. Cubs are weaned at eight months and are raised communally until they reach sexual maturity at around 2 years old. At about four years of age, females will have their first litter and males will become resident in a pride.

Lions live in groups called "prides", which are "fission-fusion" social units defined as a stable membership that can be divided into small groups throughout the range (Nowell & Jackson, 1996). Prides vary in size and structure but typically have 5-9 adult females, their dependent offspring, and a coalition of 2-6 immigrant males. Prides confer advantages to members including greater hunting success when compared to solitary lions, and cooperative protection of individuals in the pride and their cubs. Each pride has a territory of 20-500 km^2 depending on availability of prey. Use of space within the territory correlates with prey movement and

availability. While core areas are spaced some distance from other prides, average pride ranges typically overlap. Lean-season prey mass determines the home-range size of the pride. Lions show diverse patterns of behavior both between and within prides, including hunting and feeding methods and preferences. Lions are most active at night, and communicate through scent-marking and roaring. Nomadic lions are less common than lions in prides, with between one and five members changing freely within a nomadic group

Pride size is positively-related to reproductive success: large prides will out-compete smaller prides and, as a result, successful reproduction tends to be lowest in small prides with only 1 or 2 females (Kissui, Mosser, & Packer, 2009). Pride takeovers by male lions and subsequent infanticide of cubs sired by the ousted male lions greatly influences reproductive success. Male lions form coalitions of up to 7 individuals to takeover a pride, and after a successful takeover are usually in control for about two to three years before another younger, stronger coalition of males takes over the pride anew (Nowell & Jackson, 1996). Upon takeover, it is to the new males' reproductive advantage to kill all the suckling cubs in the pride as this will cause the nursing lionesses to come back into estrous within a few weeks, providing an opportunity for the new males to sire offspring. Pride takeovers often result in the defeated males being severely injured or killed. Similarly, lionesses defending their cubs from the victorious males are sometimes killed during the takeover as well (Nowell & Jackson, 1996).

Wild male lions live an average of 12 years and up to 16 years. The oldest known wild female lion lived to 17 years. Adult mortality is typically caused by humans, starvation, disease or attacks from other lions as full-grown lions have no natural predators. They can also be seriously injured or killed during hunting attempts on some of their larger prey such as buffalo, rhino, zebra, or wildebeest. Adult lion sex ratios skew heavily in favor of females – possibly due to high sub-adult male mortality rates. Among cubs, infanticide is a significant source of mortality which usually occurs when new males take over a pride. Infanticide accounts for 27 percent of cub mortality.

D. Hunting and Feeding

Lions are generalist hunters, with foraging preferences and opportunities changing with season and with lion group size (Scheel, 1993). While females in a pride do the majority of the hunting, stronger males are often more aggressive during the actual feeding and can dominate the kill. Nomadic lions typically have large ranges following prey migrations, and are known to stalk prey, hunt and scavenge cooperatively. Varying by region and prey availability, prey species can be as small as rodents, and as large as medium-sized ungulates and young elephants (Nowell & Jackson, 1996). Prey species in Africa include wildebeest, buffalo, eland, elephant, giraffe, kudu, gazelle, topi, zebra, and warthog, among others. However, in places where there are fewer large antelope and other medium-to-large sized prey options, lions may eat more small prey such as gemsbok and even porcupine. They have also been known to kill cheetah cubs, and sometimes will take small prey such as rodents, tortoises, fish in shallow water, amphibians and occasionally grass, fruits and termites. Additionally, lions are opportunistic scavengers and will chase other predators away from their kill. On the other hand, scavengers in large numbers, such

as a pack of 20 to 40 spotted hyenas—a predator with similar and therefore competing prey preferences—can drive one or more lions away from a kill and steal his or her meal.

Females consume, on average, 8.7 kg/day in the dry season and 14 kg/day in the wet season when prey is more abundant). Males can consume twice as much as females, and cubs can consume one-third as much as adult females.

E. Habitat Requirements

Lion population size typically correlates with the herbivore biomass – therefore prey numbers can limit the lion population density within an ecosystem (Hayward, O'Brien, & Kerley, 2007). The African lion can be found in all African habitat types with the exception of the interior of the Sahara Desert and deep rainforests (Bauer et al., 2008). Studies indicate, however, that they have a preference for open woodlands, thick bush, scrub and grass complexes. Additionally, they have been known to inhabit semi-deserts, forests, and mountains as high as 5,000 m (16,404 ft) elevation.

IV. CRITERIA FOR LISTING THE AFRICAN LION AS ENDANGERED

The Supreme Court has described the ESA as "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation" (Tennessee Valley Authority v. Hill, 437 U.S. 153, 180 (1978). In that landmark case, the Court stated that:

> [t]he plain intent of Congress in enacting this statute was to halt and reverse the trend towards species extinction, whatever the cost. This is reflected not only in the stated policies of the Act, but in literally every section of the statute (Tennessee Valley Authority v. Hill, 437 U.S. 153, 184 , 1978).

This Petition demonstrates that the African lion meets the statutory criteria for an Endangered listing under the ESA. As demonstrated in this Petition, the African lion is in danger of extinction throughout all or a significant portion of its range and, therefore warrants listing as an endangered subspecies. Accordingly, the Secretary of the Interior should act to halt and reverse the current trends towards extinction for the African lion by listing the subspecies as Endangered under the ESA.

The ESA requires the Secretary of the Interior to list a species, or subspecies, for protection if it is in danger of extinction in all or a significant portion of its range. According to the statute, a species may be threatened or endangered by any of the following five factors: The present or threatened destruction, modification, or curtailment of its habitat or range; Overutilization for commercial, recreational, scientific, or educational purposes; Disease or predation; Inadequacy of existing regulatory mechanisms; or, Other natural or manmade factors affecting its existence.

16 U.S.C. § 1533(a)(1)(A)-(E); 50 C.F.R. § 424.11(c)(1)-(5).

The ESA requires that all determinations relating to whether a species is affected by any of the five listing factors be made "solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species." 16 U.S.C. § 1533(b)(1)(A). Further, determinations must "tak[e] into account those efforts, if any, being made by any State or foreign nation…to protect such species" by protection of habitat and food supply, or by any other conservation practice within any area under its jurisdiction. 16 U.S.C. § 1533(b)(1)(A).

A. Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

Loss of habitat and corresponding loss of prey are serious threats to the survival of the African lion (Ray et al., 2005). These threats are principally driven by human activity, including conversion of lion habitat for agriculture and grazing as well as human settlement (Ray et al., 2005). Apex predators require a large amount of space and resources, and competition with humans is inevitable as humans expand into previously unsettled, wild areas (Prugh et al., 2009). The African lion, a top predator in many African ecosystems, is no exception (Treves & Karanth, 2003).

Given that most African economies rely heavily upon natural resources and land (UNECA, 2010), expanding human populations are increasing pressure on natural resources and causing significant environmental change (UNEP, 2007.) Human population growth has been specifically identified as the root cause of many problems associated with the conservation of the African lion because of increasing human settlement in lion habitat and associated human activities such as agriculture and livestock production (IUCN SSC Cat Specialist, 2006a). It is therefore of concern that the human population of sub-Saharan Africa, which was 518 million in 1990, is predicted to rise to 1.75 billion people by 2050 (UN DESA, 2009).

Sub-Saharan Africa saw a 25 percent increase in the amount of land allocated to agriculture between 1970 and 2000 (Chardonnet et al., 2010). Transformation of wild habitats into areas suitable for livestock farming leads to environmental degradation and loss of plant and animal biodiversity (Chardonnet et al., 2010). As the need for suitable land for livestock grazing increases, the seasonal movement of livestock into wildlife conservation areas is becoming increasingly prevalent across sub-Saharan Africa (Chardonnet et al., 2010). Numbers of domestic livestock (450 million small ruminants and 200 million cattle) in sub-Saharan Africa are increasing steadily in response to expanding human populations (Chardonnet et al., 2010).

Development within the sub-Saharan African region continues to rely on exploitation of natural resources, including wildlife (Chardonnet et al., 2010). The exploitation of trees and mineral resources, and the construction of dams and irrigation schemes, contribute to destruction and degradation of lion habitats (IUCN SSC Cat Specialist Group, 2006b). For example, a proposed road through the middle of the Serengeti ecosystem is expected to have serious, negative impacts on the animals that live there, including African lion prey (Holdo, Fryxell, Sinclair, Dobson, & Holt, 2011).

The increasing human population size also results in the increasing consumption of bushmeat, a significant source of protein for human populations in many parts of sub-Saharan Africa. In addition to the increased subsistence consumption that parallels increased human population size, the commercialization of the bushmeat trade further threatens African wildlife. Human hunting of wild animals for meat means wild lions face declining prey (IUCN SSC Cat Specialist Group, 2006b). Stein (2001) identified many species that are negatively impacted by the bushmeat trade that are also preferred prey species for African lions (Funston, Mills, Biggs, & Richardson, 1998; Harrington & Myers, 2004; Nowell & Jackson, 1996; Scheel, 1993; Sinclair, Mduma, & Brasheres, 2003).

Additionally, although the African lion may not be the primary target for bushmeat poachers, it is a common practice for poachers to kill them anyway, and kill them first, to ensure easier hunting and less competition for the target bushmeat species (B. Joubert & D. Joubert, personal communication, June 15, 2010).

The threat from commercial poaching and the demand for bushmeat are intensifying due, partly, to civil unrest (Chardonnet et al., 2010). Civil unrest within sub-Saharan Africa degrades otherwise suitable lion habitat through the overharvesting of wildlife and vegetation by refugees and combatants (Dudley et al., 2002). During the past 40 years, over 30 wars and 200 *coups d'état* have taken place across sub-Saharan Africa (Chardonnet et al., 2010). Because of these many enduring and severe civil conflicts, an estimated 500 million modern weapons are now readily available (Chardonnet et al., 2010). This massive increase in available firepower has resulted in less traditional hunting methods, and more hunting with modern weapons, which has a devastating effect on wildlife populations (Chardonnet et al., 2010).

Land degradation through desertification is predicted to lead to the loss of two-thirds of arable land in Africa by 2025 (Bied-Charreton, 2008), which will further increase competition between humans and lions. Experts have predicted that the 'devastating impacts of climate change' will lead to serious biodiversity degradation and loss as a result of desertification, drought and land degradation (UNECA, 2008). Drought and desertification have already had significant negative effects on biodiversity in Africa (UNECA, 2008).

B. Overutilization for Commercial, Recreational, or Scientific Purposes

The African lion is listed on Appendix II of CITES, by virtue of being a member of the family Felidae, which is listed on that Appendix. Species listed on Appendix II are those that are not necessarily threatened with extinction but may become so unless trade is closely controlled. Specimens must be accompanied by an export permit or a re-export certificate. Permits and certificates should only be granted if the relevant authorities are satisfied that certain conditions are met, above all that trade will not be detrimental to the survival of the species in the wild (CITES, n.d.).

The 175 CITES Parties are required to file Annual Reports with the CITES Secretariat on the import and export of listed species. These reports are compiled into an electronic, searchable trade database by the United Nations Environment Programme, in cooperation with the World

Conservation Monitoring Centre (UNEP-WCMC), which is available to the public on the CITES website (www.cites.org). This database can be used to determine the level, of legal international trade as well as the types and sources of African lions and their parts that are involved. In the context of CITES, international trade is not limited to commercial trade,[3] but also includes international trade associated with breeding, circus or travelling exhibition, education, enforcement, trophy hunting, medicinal, personal use, reintroduction, scientific research, and for zoological exhibition. By examining purposes of trade, the CITES trade database can be used to evaluate the reasons behind the movement of African lions and their parts across international borders by humans. The database also includes the source of African lions and their parts in international trade, whether captive-bred,[4] captive-born,[5] illegal, pre-Convention,[6] ranch-raised, or wild. While the CITES trade database is the principal source of information on international trade in African lions and their parts, it does not contain information on domestic use of African lions or their parts for commercial, recreational, or scientific purposes; nor does it account for poaching and illegal trade, except where illicit international trade has resulted in a seizure.

The African lion is clearly over-utilized. The original analysis presented in this Petition shows that between 1999 and 2008, 28,197 African lion specimens (lions, dead or alive, and their parts and derivatives), the equivalent of at least 10,902 lions, were traded internationally for all purposes (Table A1). This figure was derived by adding the figures for four types of specimens that likely represent one lion each: bodies, skins, live, and trophies. Skulls and bones were not included in this calculation because after lions are hunted, their skin is usually removed, leaving the skull and other bones and body parts; in this analysis, the skin or trophy is used to represent a lion, not the skull or bones. The most commonly-traded items were scientific specimens (13,260), trophies (7,897), live lions (1,844), claws (1,291), skulls (1,214) and skins (1,025) (Table A1). Other lion parts in international trade include bones (127), hair (223), and teeth (802). Over this decade, the U.S. imported 16,021 lion specimens (57 percent of the total), which is the equivalent of at least 4,759 lions (44 percentage of the total). The most common purposes of international trade were for commercial, recreational hunting, and scientific purposes.

Of the aforementioned trade from all sources, 21,914 African lion specimens (lions, dead or alive, and their parts and derivatives), reported as being from a wild source, being the equivalent of at least 7,445 lions, were traded internationally for all purposes. Of this trade, the U.S. imported 13,484 lion specimens reported as being from a wild source (62 percent of the total), which is the equivalent of at least 4,021 lions (54 percent of the total). The most common purposes of this international trade were scientific, recreational and commercial.

The African lion is one of the most well-studied of the big cats. Thus, almost half the specimens in international trade (13,260 of 28,197, or 47 percent) were themselves categorized as specimens, which are often scientific specimens; indeed, the majority of these (12,711 of 13,260,

[3] In the context of CITES, "commercial" means that the purpose of trade, in the country of import, is to obtain economic benefit (whether in cash or otherwise), and is directed toward resale, exchange, provision of a service or any other form of economic use or benefit.
[4] "Offspring of second generation, F2, or subsequent generation, (F3, F4, etc.) are specimens produced in a controlled environment from parents that were also produced in a controlled environment" (CITES Resolution Conf. 10.16 (Rev.)).
[5] "First generation offspring, f1, are specimens produced in a controlled environment from parents at least one of which was conceived in or taken from the wild" (CITES Resolution Conf. 10.16 (Rev.)).
[6] In the context of CITES, "pre-Convention" means before the provisions of CITES applied to that specimen (CITES Resolution Conf. 13.6, http://www.cites.org/eng/res/13/13-06.shtml).

or about 96 percent) were traded for scientific purposes (Tables A2 and A3). However, the units of measurement used for these specimens are not standardized (measurements include ml., g., kg., and flasks) and, in most cases, the unit of measurement was not recorded at all. Thus, it is impossible to know from these data the impact of international trade in lion specimens for scientific purposes.

The most common purposes of international trade (other than for scientific purposes, as explained above) were for hunting trophy purposes (9,224 items) and for commercial purposes (3,102 items). The U.S. is the main importing country of lion items as both hunting trophies and for commercial purposes (52.5 percent and 59 percent, respectively).

1. Recreational Trophy Hunting

From 1999 through 2008, 9,224 lion specimens were traded internationally as hunting trophies. Specimens traded for the reported purpose of hunting trophy[7] included not only 'trophies', although these were the most common form in trade, but also fourteen other types of specimens including bodies, bones, skulls, skins, teeth, tails and even live animals (Table A4). The 9,224 lion specimens in trade represent a minimum of 7,565 lions (adding bodies (28), live (5), skins (421) and trophies (7,111)). The number of trophies traded internationally in 2008 (1,140) was larger than any other year in the decade studied and more than twice the number in 1999 (518). Most of the specimens traded internationally for trophy hunting purposes were imported to the U.S.: 4,846 specimens (53 percent of the total), representing a minimum of 4,175 lions (55 percent of the total) (Table A5). Other significant importing countries were Spain (958), France (564), and Germany (525). Most hunting trophies were exported from South Africa (4,202) and Tanzania (2,247), which together accounted for 70 percent of those in international trade over the decade. Mozambique (695), Zimbabwe (951), and Zambia (465) were also significant exporting countries (Table A6).

Of the aforementioned trade from all sources, 7,090 lion specimens, reported as being from a wild source, were traded internationally for recreational trophy hunting purposes, representing a minimum of 5,663 lions. Most of these specimens were imported to the U.S.: 4,139 specimens (58 percent of the total), representing a minimum of 3,600 lions (64 percent of the total). Despite the significant and continuing population and range declines that this subspecies has suffered and continues to suffer, the number of lion trophies, reported as being from a wild source and traded for hunting trophy purposes, imported to the U.S., is increasing. Of these trophies, the number imported into the U.S. in 2008 was larger than any other year in the decade studied and more than twice the number in 1999.

When considering the impact of trophy hunting on the African lion, one must consider how killing one lion can result in the death of other lions. Trophy hunters preferentially seek adult male lions. When an adult male lion, which is part of a pride, is killed by a trophy hunter, surviving males who form the pride's coalition may become vulnerable to takeover by other male coalitions – often resulting in injury or death to the defeated males. Replacement male(s) who take over the pride will usually kill all pride cubs less than nine months of age in the pride

[7] 'Hunting trophies' are for personal use not for sale in the importing country, unlike "commercial" trophies.

(Whitman et al., 2004). Similarly, lionesses defending their cubs from the victorious males are sometimes killed during the takeover (Packer, Pusey, & Eberly, 2001).

Whitman et al. (2004) used a model to determine that these additional impacts could be largely avoided by restricting trophy hunting to males at least 5-6 years of age because this allows younger males to reproduce. However, the method is only rigorously enforced in one area of one lion range State, the Niassa Reserve of Mozambique (Begg & Begg, 2010). Indeed, hunting organizations in Zambia, Zimbabwe, and Tanzania allow hunting of males as young as 2 years, which is the age at which male lions become mature (Packer et al., 2009). Females were, until recently, shot as trophies in Zimbabwe, a practice that experts consider to be "inherently harmful to a population" (Packer, Whitman, Loveridge, Jackson, & Funston, 2006, p. 7).

Recent analysis has shown that trophy hunting has likely contributed to the decline of lion populations in many areas (Packer et al., 2009). Consistent hunting intensity should yield consistent hunting off-take; therefore a decline in off-take indicates a decline in species population. Packer et al. (2009) found that, over the past 25 years, the steepest declines in the number of lions killed by hunters occurred in African countries with the highest hunting intensity. While Tanzania has the largest lion population of any country on the Continent, it also has the highest lion off-take through trophy hunting. Within Tanzania, hunting areas in the Selous Game Reserve with the highest lion off-take showed the steepest declines between 1996 and 2008, as did hunting regions outside of the Selous with the highest off-take (Packer et al., 2009). Across all of Tanzania, off-take has declined by 50 percent over the past 13 years despite increasing demand and hunting effort (Packer et al., 2009). This declining off-take cannot be attributed to habitat loss or to human-lion conflict (Packer et al., 2011). Instead the data strongly suggests that lion populations in the hunting areas declined as a direct consequence of over-hunting (Packer et al., 2011).

Packer et al. (2009) states that although trophy hunting of African lions:

> is often portrayed as an economic strategy for increasing support for carnivore conservation, local communities often seek extirpation of problem animals… Thus, sport hunting quotas may sometimes reflect pressures to control carnivores rather than to conserve them. Across Africa, countries with the highest intensity of lion off-take also had the highest number of livestock units per million hectares of arable land. (p. 3)

Packer et al. (2009) concludes that "Sport hunting is an inherently risky strategy for controlling predators as carnivore populations are difficult to monitor and some species show a propensity for infanticide that is exacerbated by removing adult males" (p.1).

2. Commercial trade

From 1999 to 2008, 3,102 lion specimens, the equivalent of at least 1,328 lions (adding trophies, skins, live and bodies), were traded internationally for commercial purposes (defined as "for the purpose of sale in the importing country") (Table A7). The most common lion specimens traded

for commercial purposes were claws (764), trophies (508), skins (442), live (320[8]), skulls (144) and bodies (58). Of this trade, the U.S. imported 1,846 lion specimens (59 percent of the total), the equivalent of at least 401 lions (30 percent of the total) (Table A8). Other significant importers were South Africa (282), and Germany (178). The main exporting countries for commercial purposes were Zimbabwe (914 items), South Africa (867) and Botswana (816) (Table A9); these three countries accounted for 83.7 percent of all specimens in such trade.

Of the aforementioned trade from all sources, 2,715 lion specimens, reported as being from a wild source, the equivalent of at least 1,043 lions, were traded internationally for commercial purposes (defined as "for the purpose of sale in the importing country.") Of this trade, the U.S. imported 1,700 lion specimens (63 percent of the total), the equivalent of at least 362 lions (35 percent of the total). The most common lion specimens traded for commercial purposes were claws, trophies, skins, live animals, skulls and bodies.

The figure of 1,328 lions traded for commercial purposes was derived by adding the number of specimens traded as trophies, skins, live animals and bodies. Looking more specifically at these four types of specimens in commercial trade, we found the following:

- Trophies of 508 lions were traded internationally for commercial purposes over the decade (Table A10). The U.S. imported most of these (241), accounting for 47 percent of those imported (Table A10). Most of these trophies were exported from South Africa (241) and Zimbabwe (229) which, together, accounted for 92.5 percent of all such exports (Table A11).
- The skins of 442 lions were traded internationally for commercial purposes over the decade (Table A7). Most were imported by South Africa (162) or the U.S. (123) which, together, accounted for 64.5 percent of such imports (Table A12). Most such skins were exported by Botswana (239) which comprised 54 percent of such exports (Table A13). Other significant exporting countries included Zimbabwe (94) and South Africa (66).
- Data on the international trade in live lions for commercial purposes indicate that 320 live lions were traded for such purposes during the decade (Table A7). Many countries imported and exported live lions in small quantities over the decade, but the largest importer was South Africa (78) (Table A14) and the largest exporters were Zimbabwe (52) and South Africa (47) (Table A15).
- Bodies of 58 lions were traded internationally for commercial purposes over the decade (Table A7). The U.S. imported most of these (18), accounting for 31 percent of those imported. Most of these bodies were exported from South Africa (20) and Zimbabwe (18) which, together, accounted for 66 percent of all such exports.

Appendix B contains examples of lion parts offered for sale on the internet. These range from USD 6,300 for a lion 'rug' to USD 22,400 for a mounted lion trophy, and from USD 700 for an African lion claw necklace, to USD 600 for a lion skull, and a complete set of African lion claws for USD 1,200. Other items offered for sale on the internet include skulls and bones.

[8] There is a discrepancy in the number of live lions traded for commercial purposes between the exporting countries which reported 320, and the importing countries which reported 321.

As with African lions killed for trophy hunting purposes, the additional impacts of the use of lions for commercial purposes must be considered. The most common lion items in international commercial trade (for sale in the importing country) are trophy mounts and skins. Judging by the offers of sale of trophy mounts and skins found on the internet (Appendix B), both males and females are used for these purposes. The killing of males or females for commercial trade in their parts has effects that will negatively impact wild populations.

3. Wild Source Versus Captive Source

According to the data, over the decade studied, 21,914 of the 28,197 lion specimens traded internationally originated in the wild (Table A16); this means that 77.7 percent of lion specimens in such trade originated in the wild. Of the 7,897 trophies so traded, 6,326 or 80 percent reported as being from a wild source. Similar trends occurred in the trade in claws (1,080 of 1,291), skulls (1,030 of 1,214) and skins (840 of 1,025). In contrast, of the 1,844 live lions traded over the decade, 179 or only 9.7 percent originated in the wild. The data indicate that at least 7,445 wild source lions were traded internationally between 1999 and 2008. This figure was derived by adding the figures for four types of specimens that likely represent one lion each: bodies (100), live (179), skins (840), and trophies (6,326).

The aforementioned international trade figures include lion specimens reported as being from a wild source that were exported from South Africa. From 1999 to 2008, South Africa reported exporting a number of specimens equivalent to 2,862 wild source lions. Since the estimated number of wild lions in South Africa in 2002 ranges between 2,716 and 3,852 it seems highly unlikely that the aforementioned 2,862 South African lions involved were all wild source. Therefore, the South Africa trade data specifically must be treated with caution.

Over the decade, 7,288 specimens from captive-bred lions were traded internationally (Table A17). Other than scientific specimens, trophies were the most abundant item from captive-bred lions (2,366); the number of trophies from captive-bred lions in international trade increased dramatically and steadily over the decade with the number in 2008 (710) being over 24 times than that in 1999 (29). The parts and products of at least 4,288 captive-bred lions were traded during the decade (derived by adding bodies (35), live (1,686), skins (201), and trophies (2,366))**.**

While many countries engage in international trade in captive-bred lion specimens, South Africa exports more than any other country (Table A18). Over the decade, South Africa exported 3,333 such specimens, or 46 percent of the total; such exports increased dramatically from only 32 specimens in 1999 to 921 specimens in 2008, an almost 29-fold increase.

In contrast to ‘wild’ and ‘captive-bred’ sources, few lion specimens were reported to have originated from other sources such as ‘F-1 captive-born’ (Table A19), ‘pre-Convention’ (Table A20), ‘ranch-raised’ (Table A21), or illegal (Table A22).

4. International Trade in African Lions and their Parts by Source Country

Twenty African range States exported lions and lion parts reported as being wild source between 1999 and 2008 (Table 4). A country-by-country examination of the number of African lions

exported and reported as being from a wild source, and the status of the wild population in each country reveals that off-take was unsustainable in at least sixteen of these twenty range States. Specifically, the U.S. imported lion specimens from twelve range States where the reported data indicate that the off-take was unsustainable. Therefore, even setting aside the South African data, clearly the lion is overexploited for these purposes across sub-Saharan Africa.

Table 4. Summary of numbers of wild source lions exported from range States, compared with estimated and average population in each State.

Lion Range States	Population Size[9]			No. wild source lions estimated in inter-national trade, 1999-2008	Avg. annual wild source trade as percent of Avg. pop. size[10]	Notes
	Chardonnet, 2002	Bauer & Van Der Merwe, 2004	Avg. Chardonnet and Bauer & Van Der Merwe			
Angola (AO)	749	450	599	0	0	▪Angola is a lion range State but is not a CITES Party, so there is no trade information for this country.
Benin (BJ)	325	65	195	25	1.3	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004) ▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer, De Iongh, Princée, & Ngantou, 2003) ▪ U.S. imported specimens from this country, 1999-2008
Botswana (BW)	3207	2918	3063	422	1.4	▪ Trophy hunting did not take place in 2001-2004 and 2007-2008. However Botswana exported wild lion specimens for other purposes ▪ Trophy hunting likely contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪U.S. imported specimens from this country, 1999-2008
Burkina Faso (BF)	444	100	272	134	4.9	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004)

[9] Sources: Three left columns from IUCN SSC Cat Specialist Group, 2006a (https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxhZnJpY2FubGlvbmNvYWxpdGlvbnxneDo3ODZkMGI3MThkYjMyYTE3, page 15) and IUCN SSC Cat Specialist Group, 2006b (https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxhZnJpY2FubGlvbmNvYWxpdGlvbnxneDo0NDliMTJhMjY1ODk3Y2Nh , page 14)

[10] Note that population data are at least 10 years old (from 2002).

						▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003) ▪ U.S. imported specimens from this country, 1999-2008
Burundi (BI)	Not listed	Not listed	0	0	0	▪Presence uncertain: (Bauer et al., 2008):
Cameroon (CM)	415	260	338	104	3.1	▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003) ▪U.S. imported specimens from this country, 1999-2008
CAR (CF)	986	300	643	49	< 1	▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003) ▪ Trophy hunting likely contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪U.S. imported specimens from this country, 1999-2008
Chad (TD)	520	150	335	16	< 1	▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003)
Congo (CG)	60	0	30	0	0	▪ Presence uncertain: (Bauer et al., 2008) ▪No known resident lion populations (Henschel et al., 2010)
Cote d'Ivoire (CI)	100	30	65	1	< 1	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004) ▪No resident lion populations found (Henschel et al., 2010) ▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003) ▪ U.S. imported specimens from this country, 1999-2008
DRC (CD)	556	240	398	0	0	
Ethiopia (ET)	1477	1000	1239	16	< 1	▪U.S. was the major importer of specimens from this country, 1999-2008
Gabon (GA)	20	0	10	3	3	▪(Bauer et al.,2008): possibly extinct ▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003)

Ghana (GH)	15	30	23	0	0	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004) ▪No resident lion population (Henschel et al., 2010)
Guinea (GN)	27	200	114	0	0	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004)
Guinea Bissau (GW)	10	30	20	0	0	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004)
Kenya (KE)	2749	2280	2515	10	< 1	▪U.S. imported specimens from this country, 1999-2008
Malawi (NW)	25	n/a	25	0	0	
Mali (ML)	21	50	36	0	0	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004)
Mozambique (MZ)	955	400	678	206	3.0	▪U.S. imported specimens from this country, 1999-2008
Namibia (NA)	691	910	801	204	2.5	▪ Trophy hunting contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪U.S. imported specimens from this country, 1999-2008
Niger (NE)	47	70	58	2	< 1	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004) ▪ Sustainable off-take hardly possible due to small, isolated populations (Bauer et al., 2003)
Nigeria (NG)	85	200	142	0	0	▪West Africa population is Regionally Endangered (Bauer& Nowell, 2004)
Rwanda (RW)	45	25	35	0	0	
Senegal (SN)	156	60	58	0	0	▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004)
Somalia (SO)	217	n/a	217	0	0	
South Africa (ZA)	3852	2716	3284	2862	8.7	▪8.7% annual off-take cannot be sustainable ▪U.S. imported specimens from this country, 1999-2008

Sudan (SD)	866[11]	n/a	866	48	< 1	
Swaziland (SZ)	27	15	21	7	3.3	▪ Lions were extirpated from Swaziland but have been reintroduced into fenced areas ▪ With a population of only 21 lions, the export of 3 lions per year cannot be sustainable ▪U.S. imported specimens from this country, 1999-2008
Tanzania (TZ)	14432	7073	10752	2186	2	▪ Trophy hunting likely contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪ Trophy hunting, as currently managed, is unsustainable (Packer et al., 2011) ▪U.S. imported specimens from this country, 1999-2008
Togo (TG)	transient	0	0	1	> 100	▪Lion presence uncertain (Bauer et al., 2008) ▪West Africa population is Regionally Endangered (Bauer & Nowell, 2004) ▪ Sustainable off-take not possible due to small, isolated populations (Bauer et al., 2003)
Uganda (UG)	618	575	596	0	0	
Zambia (ZM)	3199	1500	2349	520	2.2	▪ Trophy hunting likely contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪U.S. imported specimens from this country, 1999-2008
Zimbabwe (ZW)	1686	1037	1362	1214	8.9	▪ Lion hunting in Zimbabwe is unsustainable (Packer et al., 2006) ▪Trophy hunting likely contributed to population decline in 1980s and 1990s (Packer et al., 2009) ▪U.S. imported specimens from this country, 1999-2008

Below are summaries from data in Appendix A (Tables A23 through A92) including 24 source countries, listed alphabetically.

[11] IUCN SSC Cat Specialist Group (2006a) (W& C Africa) and (2006b) (E&S Africa) both contained tables of lion population sizes in the two regions covered. However, Sudan was included in both publications: in IUCN SSC Cat Specialist Group (2006a) under the Central Africa region, and in IUCN SSC Cat Specialist Group (2006b) under the East Africa region. In both IUCN documents, it is stated that the data in the original references (Chardonnet, 2002 and Bauer & Van Der Merwe, 2004), which were recorded by populations, were combined, as appropriate, to provide national estimates. However, since Sudan occurred in both documents and the population estimates therein were different, Chardonnet was examined and the sizes of populations in Sudan were added to obtain the value in Table X.

a) Benin

Between 1999 and 2008, 47 lion specimens were exported from Benin (Table A23). This included 11 skins and 14 trophies as well as six live animals. The six live animals were from captive-bred sources but all remaining specimens were from wild sources. All exported specimens originated in Benin. This represents at least 25 wild lions. France was the main importer of trophies for personal or hunting trophy purposes, while the U.S. was the main importer of the skins and skin pieces for scientific purposes (Table A24). Bauer et al. (2003) stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was "hardly possible". Thus, it is of concern that 25 wild source lions were exported from Benin during the decade; this is 12.8 percent of the population (25 of 195). Annualized, these exports represent 1.3 percent of the population Table 4.

b) Botswana

Botswana banned lion trophy hunting (Packer et al., 2009) in 2001-2004 and again in 2007 through the present (Davidson, Valeix, Loveridge, Madzikanda, & Macdonald, 2011), owing to concerns over the species' conservation status within the country, but commercial trade in lions and lion parts continues. Between 1999 and 2008, Botswana exported 5,633 lion specimens including 5,148 scientific specimens, 155 trophies, 274 skins, 31 live animals and two bodies. This represents the export of at least 462 lions (adding trophies, skins, live animals and bodies) (Table A25). 5,606 of 5,633 (99.5 percent) lion specimens exported from Botswana during the decade originated from a wild source (Table A26). This represents at least 435 wild source lions (adding bodies (2), live (4), skins (274), and trophies (155)). However, twelve of the wild source lion trophies exported originated in Mozambique and one in Zimbabwe; thus the total number of Botswana wild source lions exported during the decade was 422.The only other sources of lions exported were captive-bred (13) and captive-born (14) (Table A27). Of the 435 wild source lions or their parts exported, 249 were exported for commercial purposes most of which were skins (229) to South Africa (Table A28). The trophies and skins of 149 lions were exported as hunting trophies, most of which were trophies (104) exported to the U.S. (Table A29). The parts of an additional 35 lions were exported for personal purposes including 30 skins to South Africa (Table A30). A large number of specimens were exported from Botswana for scientific purposes (Table A31), particularly to the U.S.. Botswana exported 423 wild source lions 1999-2008 out of a population of 3,063, or 13.8 percent of the population (annualized, this is 1.4 percent of the population). Although Botswana placed a moratorium on lion trophy hunting from 2001 through 2004 (Packer et al., 2009), and no trophies were exported those years, export of trophies resumed thereafter, averaging 23 per year 2005-2008, as did the export of skins to South Africa for commercial purposes, averaging 17.6 per year 2004-2008.

Packer et al. (2009) discussed the historic over-utilization of lions in Southern Africa, stating that "…offtakes peaked, then fell sharply in the 1980's and 1990's in Botswana, CAR, Namibia, Tanzania, Zambia and Zimbabwe." This downward harvest trend "…most likely reflected declining population sizes: success rates (as measured by harvest/quota) have fallen" for lions (Packer et al., 2009, p. 2). This occurred even as demand for lion trophies has grown in the U.S. and has held stable in the European Union since the mid-90s. Packer et al. (2009) identified Botswana as one of the countries where trophy hunting is likely to have contributed to the decline in lion populations in the 1980s and 1990s.

c) Burkina Faso

Between 1999 and 2008, 134 wild source lion trophies were exported from Burkina Faso for either hunting trophy or personal purposes (Tables A32 and A33). Analysis revealed lions were not exported from other sources or for other purposes, and all originated in Burkina Faso. This represents 134 wild lions. The largest importer was France (104 of 134 or 77.6 percent) although the U.S. also imported some of these. Bauer and colleagues stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was "hardly possible" (Bauer et al., 2003). Thus, it is of concern that 134 wild source lions were exported from Burkina Faso during the decade; this is 49 percent of the population (134 of 272). Annualized, these exports represent 4.9 percent of the population (Table 4).

d) Cameroon

Between 1999 and 2008, 192 lion specimens were exported from Cameroon (Table A34). These included 1 live specimen from a captive-bred source exported to South Africa, wild source specimens and skin pieces exported for scientific purposes, and wild source trophies (103), skins (1), skulls (1), and teeth (1) exported as hunting trophies or for personal purposes. Trophies were exported mainly to France (53) but also the U.S. (15) and Spain (10). All exported specimens originated in Cameroon. This represents 104 wild lions. Bauer and colleagues stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was "hardly possible" (Bauer et al., 2003). The continued deterioration in lion numbers in Central Africa (Henschel et al., 2010) means that sustainable off-take are less likely now than in 2003. Thus, it is of concern that 104 wild source lions were exported from Cameroon during the decade; this is 31 percent of the population (104 of 338). Annualized, these exports represent 3.1 percent of the population (Table 4).

e) Central African Republic

Between 1999 and 2008, 49 lion specimens, in the form of trophies only, were exported from Central African Republic (CAR) (Table A35). All of these were from wild sources, were traded as hunting trophies or for personal purposes, and originated in CAR. France was the main importer but the U.S. also imported some of these. This represents 49 wild lion specimens. Bauer et al. (2003) stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was "hardly possible". The alarming situation of lion populations in Central Africa (Henschel et al., 2010) means that sustainable off-takes are less likely now than in 2003. Packer et al. (2009) identified CAR as one of the countries where trophy hunting is likely to have contributed to the decline of lion populations in the 1980s and 1990s. Thus, it is of concern that 49 wild source lions were exported from CAR during the decade; this is 8 percent of the population (49 of 643). Annualized, these exports represent less than 1 percent of the population (Table 4).

f) Chad

Between 1999 and 2008, Chad exported two trophies to Poland and thirteen to France, all from wild sources, for hunting trophy purposes. In addition, Chad exported one wild source skin to Poland for personal purposes. All originated in Chad. Thus, Chad exported sixteen wild source lions during the decade. Bauer et al. (2003) stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was “hardly possible”. The alarming situation of lions in Central Africa (Henschel et al., 2010) means that sustainable off-takes are less likely now than in 2003. Thus, it is of concern that 16 wild source lions were exported from Chad during the decade; this is 5 percent of the population (16 of 335). Annualized, these exports represent less than 1 percent of the population (Table 4).

g) Congo

The lion is likely to be extinct in Congo (Henschel et al., 2010). Between 1999 and 2008, Congo exported two teeth to Norway from an illegal source for personal purposes.

h) Côte d'Ivoire

Between 1999 and 2008, only one skin was exported from Côte d'Ivoire in 2001; it was from a wild source, originated in Côte d'Ivoire and was traded for commercial purposes to the U.S.. The one lion skin exported from Cote d’Ivoire to the U.S. for commercial purposes may have been the last lion in the country, since Henschel et al. (2010) did not find any lions in that country. Thus, it is of concern the U.S. legally imported a lion skin from Côte d'Ivoire a country that may no longer have lions.

i) Ethiopia

Between 1999 and 2008, 399 lion specimens were exported from Ethiopia (Table A36). Most were specimens for scientific purposes. However, exports included 14 trophies for hunting trophy purposes, and two skins for personal purposes (Tables A37 and A38), all from wild source lions that originated in Ethiopia. This represents at least 16 wild lions which is two percent of the population (16 of 1,239). Annualized, these exports represent less than one percent of the population (Table 4). The U.S. was the major importer of lion trophies from Ethiopia.

j) Gabon

From available evidence it seems likely that lions are extinct in Gabon (Henschel et al., 2010). Between 1999 and 2008, one skin and four trophies were exported from Gabon to France. Two trophies were pre-Convention and traded for personal purposes, two trophies were wild source and traded for hunting purposes, and one skin was wild source and traded for personal purposes. All were of Gabonese origin. This represents three wild source lions, 33 percent (3 of 10) of the population at the time. Annualized, these exports represent 3 percent of the population (Table 4). These legally exported specimens may have been Gabon’s last lions.

k) Kenya

Trophy hunting was banned in Kenya in 1977 (Lindsey, Alexander, Frank, Mathieson, & Romanach, 2006), but commercial trade continues. Between 1999 and 2008, 2,108 lion specimens were exported from Kenya; most were scientific specimens (2,025 of 2,108 or 96 percent) (Table A39). Exports also included 3 bodies, 8 claws, 1 garment, 50 hair, 5 leather products, one live animal, two skin pieces, 8 skins, three teeth and two trophies. All specimens exported were from wild lions that originated in Kenya (Table A40) except for one skin exported to France in 2003 which was from a captive-bred lion, two claws and 35 specimens which were from an illegal source, and two leather products and three skins which were pre-Convention (Table A41). Thus, Kenya exported 10 wild lions or their parts during the decade (adding three bodies, one live animal, four skins, and two trophies). Two of the bodies were part of a travelling exhibition and one was exported to the U.S. for personal purposes; the one live lion was exported to Uganda for reintroduction purposes; the four skins were exported to the Netherlands (1) and the U.S. (3) for personal purposes; and the two trophies were exported to the U.S. (1) and the U.K. (1) for personal purposes (Table A42). Exports also included 110 specimens exported to the U.S. for commercial purposes in 2000. Ten wild source lions were exported from Kenya during the decade; this is less than one percent of the population (10 of 2,515). Annualized, these exports represent less than one percent of the population (Table 4).

l) Liberia

Between 1999 and 2008, Liberia exported two live, wild source lions to South Africa in 2004 for commercial purposes. Liberia is not a lion range State (Bauer et al., 2008); however, the UNEP-WCMC database identifies Liberia as the origin of these lions.

m) Mozambique

Between 1999 and 2008, Mozambique exported 953 lion specimens including teeth (697), trophies (162), skulls (46) and skins (44) (Table A43). None of the exported specimens originated in another country. Thus, this represents at least 206 lions (adding trophies and skins). Trends in the data include: the export of skins, skulls and teeth dropped off or ended after 2001 and now the principal export is trophies which numbered, on average, 18 in the past five years. All specimens exported from Mozambique were of wild source and for personal or hunting trophy purposes only. Most trophies were exported to South Africa (47), the U.S. (41) or Spain (41) (Table A44). Very few lion specimens were traded for personal purposes (Table A45), although 231 teeth were imported to the U.S. in 1999. Thus, it is of concern that 206 wild source lions were exported from Mozambique during the decade; this is 30 percent of the population (206 of 678). Annualized, these exports represent 3 percent of the population (Table 4). A more recent population estimate speculates that there are a greater number of lions in Mozambique than previously thought (Chardonnet et al., 2009).

n) Namibia

Between 1999 and 2008, Namibia exported 1,013 lion specimens including 683 scientific specimens, trophies (168), skins (42), live animals (5) and bodies (2). This represents the export of at least 217 lions (adding trophies, skins, live animals and bodies) (Table A46). Of the 1,013

lion specimens exported from Namibia, 1,008 or 99.5 percent, were from wild sources. This represents the export of at least 212 wild lions (adding trophies (167), live (1), skins (42) and bodies (2)) (Table A47). However, of these, the one live lion originated in South Africa, two trophies came from Tanzania, two from Zimbabwe and three from South Africa. Thus the total number of wild source lions of Namibian origin exported during the decade was 204. Very few specimens from non-wild sources were exported from Namibia (Table A48). Of the 1,008 wild source lion specimens in trade, 305 or 30 percent, were traded for hunting trophy purposes (Table A47). These included 7 skins and 133 trophies. The U.S. was the main importer of lion specimens from Namibia for hunting trophy purposes (Table A49). Of the 1,008 wild source lion specimens, 78 or 7.7 percent, were for personal purposes (Table A50). These included two bodies, 29 skins, and 38 trophies. Wild source specimens were also traded for the additional purposes including: circus /travelling exhibition (1), commercial (72) and skins (5) (Table A51). Thus, it is of concern that 204 wild source lions were exported from Namibia during the decade; this is 25 percent of the population (204 of 801). Annualized, these exports represent 2.5 percent of the population (Table 4).

The number of trophies exported from Namibia grew from 10.4 per year on average between 1999 and 2003 to 23.2 per year on average between 2004 and 2008. Packer et al. (2009) discussed the historic over-utilization of lions in Southern Africa, stating that "…off-takes peaked then fell sharply in the 1980's and 1990's in Botswana, CAR, Namibia, Tanzania, Zambia and Zimbabwe". This downward harvest trend "most likely reflected declining population sizes: success rates (as measured by harvest/quota) have fallen" for lions (Packer et al., 2009, p. 2). This occurred even as demand for lion trophies has grown in the U.S. and has held stable in the European Union since the mid-1990s. Packer et al. (2009) identified Namibia as one of the countries where trophy hunting is likely to have contributed to the decline in lion populations in the 1980s and 1990s.

o) Niger

Between 1999 and 2008, Niger exported eleven live lions: two wild source lions were exported to Nigeria for commercial purposes; two ranch-raised and three captive-bred lions were exported to Nigeria for zoo purposes; two captive-bred lions were exported to Togo for personal purposes; and two captive-bred lions were exported to Côte d'Ivoire for educational purposes. All exports originated in Niger. This means that at least two wild source lions were exported from Niger during the decade. Bauer et al. (2003) stated that, considering the small populations and their isolation, sustainable off-take in West Africa and Central Africa was "hardly possible". Thus, it is of concern that 2 wild source lions were exported from Niger during the decade; this is 3 percent of the population (2 of 59). Annualized, these exports represent less than 1 percent of the population (Table 4).

p) Nigeria

From 1999 to 2008, Nigeria exported two lion teeth to the U.S., derived from an illegal source for personal purposes.

q) Senegal

Between 1999 and 2008, Senegal exported six captive-bred live lions to South Africa for commercial purposes (three in 1999 and three in 2000), and two captive-bred live lions to Mauritania for zoological purposes (both in 2000). All originated in Senegal.

r) South Africa

Between 1999 and 2008, South Africa exported the parts of at least 5,186 lions (comprising trophies (3,983), skins (630), live (514) and bodies (59)) (Table A52). Of these, 2,962 (about 57 percent) were reported to be from wild lions (adding trophies (2,413), skins (453), live (57) and bodies (39)) (Table A53). Unlike any other range State, South Africa also exported a large number of wild source lion specimens that did not originate in South Africa. During that same time period, 316 wild sourced lion trophies, 397 wild source skins and 3 wild source bodies were imported to South Africa (Table A54) but it is impossible to know from the data how many of these stayed in South Africa or were re-exported. However, it is possible to learn from the data that a minimum of 88 trophies and 12 skins that originated from wild sources in other range States were exported by South Africa during the decade. This means that the impact of international trade on the wild population of lions in South Africa should be determined based on the removal of 2,862 wild lions over the past decade (subtracting the wild imported lion trophies (88) and skins (12) from the wild exported lion parts (2,962)). However, it must be noted that South Africa also produces and exports parts of captive-bred lions, and also imports and then re-exports lion parts from other African range States, but those numbers are not included in these figures. Indeed, despite the presence of these captive-bred source lions, the average number of wild source lion trophies exported annually from South Africa appears to have nearly doubled from 168 in the first half of the decade (1999-2003) to 313 in the second half (2004-2008).

The source countries for the parts of wild lions imported into South Africa were Tanzania, Mozambique, Zimbabwe, Zambia, Botswana and Namibia. Thus, it is of concern that 2,862 wild source lions were exported from South Africa during the decade; this is 87 percent of the population (2,862 of 3,284). Annualized, these exports represent 8.7 percent of the population (Table 4). Since the estimated number of wild lions in South Africa in 2002 ranges between 2,716 and 3,852 it seems highly unlikely that the aforementioned 2,862 South African lions involved were all wild source. Therefore, the South Africa trade data specifically must be treated with caution. Furthermore, South Africa does not rigorously enforce a strict age minimum for trophies.

While the overall Continent-wide trade in wild source lion specimens wavered roughly between 300-600 specimens per year with no trend over the decade, the international trade in lion trophies of wild source from South Africa rose significantly, from 137 specimens in 1999 to 454 in 2008 (Table A53). No such trend was observed for skins or bodies. South Africa also imported wild source lion specimens over the decade (Table A54) including 202 claws, 92 live, 397 skins, 140 skulls, 466 teeth and 316 trophies.

Purposes of international trade in wild source lions from South Africa reveal that trade:

- For hunting trophy purposes were by far the largest in number of all the purpose categories and imports to the U.S. far exceeded numbers imported to other countries (Table A55).
- In live animals for circus and travelling exhibit purposes were relatively few but included one body exported to South Korea in 2008 and 15 lions exported to Zimbabwe in 2002 (Table A56).
- For commercial purposes included trophies, claws and skins but in low numbers compared to those for hunting trophy purposes (Table A57).
- For educational purposes included imports by China of 2 bodies in 2005, 3 skins in 2007, 52 specimens in 2007-2008, and 20 trophies in 2006-2008 (Table A58).
- For medical purposes included 88 specimens imported to Chile in 1999 (Table A59).
- For personal purposes included 23 trophies imported by China (Table A60).

Regarding the hunting of captive-bred lions, Packer et al. (2006) stated, "Captive-bred hunting undermines the conservation credibility of the hunting industry and does nothing to preserve lion habitat" (p. 9). Closer examination of the data revealed that the international trade in captive-bred source lions and lion parts from South Africa rose significantly over the course of the decade, from 56 specimens in 1999 to 969 in 2008 (Table A61). In particular, the number of bodies, bones, live animals and trophies from captive-bred lions rose dramatically over the period. In 2008 alone, the parts of at least 852 captive-bred lions (adding bodies (13), skins (14), trophies (707) and live animals (128)) were exported from South Africa.

Purposes of international trade in captive-bred lions from South Africa reveal that trade:

- For hunting trophy purposes were by far the largest in number of all the purpose categories and imports to the U.S. far exceeded numbers imported to other countries (Table A62).
- For commercial purposes included 25 live lions imported by Togo in 2004, 14 by Thailand 2006-2008, and 10 by Zimbabwe in 2008 (Table A63).
- For educational purposes included 10 live lions imported by China in 2003 and 2004 (Table A64).
- For personal purposes included 60 bones and 16 skin pieces imported to Vietnam (Table A65).
- For zoo purposes were relatively few in number and unremarkable in trend, with the exception of the importation by Thailand of 54 live lions in 2006-2008 (Table A66).

It should also be noted that South Africa imported 131 captive-bred source live lions during the decade for breeding purposes including: fifteen from Argentina (a non-range State), one each from Spain, Germany and France (non-range States), three from Indonesia (a non-range State), 33 from Swaziland, and 77 from Zimbabwe. South Africa also imported eight live wild source lions for breeding purposes including one from the United Arab Emirates (a non-range State) and seven from Swaziland. Another nine captive-born lions were imported from Swaziland for breeding purposes. South Africa also imported 69 captive-bred live lions during the decade for commercial purposes: twelve from Argentina (a non-range State), four from Belgium (a non-range State), twenty from Spain (a non-range State), seven from Italy (a non-range State), eight from Portugal (a non-range State), six from Senegal, eleven from Zimbabwe, and one from Germany (a non-range State). Fourteen captive-born live lions from Botswana were also

imported by South Africa for commercial purposes. Finally, South Africa imported 74 wild source live lions for commercial purposes: Four from Botswana, 16 from Spain; two from Liberia and 52 from Zimbabwe. It should be noted that these purposes are not for traveling exhibitions, such as circuses, or zoos. It is possible that these lions are being used for canned hunting purposes either as breeders or to be shot as trophies.

There is increasing concern that South African exports of lion bones are going to Asia for use in Traditional Chinese Medicine, both for its own perceived value and as a replacement for tiger parts; the illegal trade in tiger parts has had severe, negative impacts on wild tiger populations (Nowell & Ling, 2007). In this regard, it is of interest is that 60 of the 70 bones traded internationally from South Africa during the period were imported by Vietnam in 2008; there are no records of Vietnam importing bones prior to that year. These bones did not originate from wild lions ; they originated from captive-bred lions and were categorized as being traded for "personal" purposes (Table A65). It is not possible to draw conclusions about the impact of trade in these lion bones because the data are not precise enough to determine from how many lions those bones were derived.

s) Sudan

Between 1999 and 2008, Sudan exported 2 leather products to United Arab Emirates for personal purposes, 22 live animals to United Arab Emirates (six for commercial purposes, four for zoo purposes and the remainder for personal purposes), six live animals to Saudi Arabia for personal purposes, 19 live animals to Syrian Arab Republic (eight for commercial purposes and the remainder for zoo purposes), and one trophy to Saudi Arabia for personal purposes (Table A67). All exported specimens originated in Sudan and were wild source. Thus, Sudan exported at least 48 wild source lions during the decade. Thus, it is of concern that 48 wild source lions were exported from Sudan during the decade; this is 6 percent of the population (48 of 866). Annualized, these exports represent less than 1 percent of the population (Table 4).

t) Swaziland

Between 1999 and 2008 Swaziland exported 46 live lions to South Africa for breeding (42) and circus/travelling exhibition (4) purposes: seven were from wild sources (all for breeding purposes), 30 from captive-bred sources and nine from captive-born sources. In addition, one trophy from a wild source lion that originated in South Africa was exported to Greece for personal purposes. This means that at least seven wild lions of Swazi origin were exported during the decade. Thus, it is of concern that 7 wild source lions were exported from Swaziland during the decade; this is 33 percent of the population (7 of 21). Annualized, these exports represent 3 percent of the population (Table 4). Swaziland has such a small population of lions that even this number cannot be sustainable.

u) Tanzania

Between 1999 and 2008, Tanzania exported 4,926 lions and lion parts. This included 2,083 trophies, one live animal, and 102 skins, representing a minimum of 2,186 lions (Table A68). In contrast to South Africa, virtually none of the specimens exported by Tanzania were from a

captive-bred source (the exception being one trophy imported by the U.S. in 2000). The only other source of specimens in trade was "illegal" and these were very few (Table A69). Tanzania did not export lions for breeding, circus, education, enforcement, medical, reintroduction, or zoo purposes. Tanzania exported very few lions or their parts for commercial purposes (Table A70). Setting aside scientific specimens from wild source lions (Table A71), virtually all of the lion specimens exported from Tanzania were for hunting trophy purposes (Table A72). Unlike South Africa, only four of the exported trophies originated in another country (all from South Africa). At least 2,131 wild lions were killed in Tanzania over the past decade for the international trade in hunting trophies (adding "trophies" (2,015) and "skins" (87) and subtracting the four imported trophies). An additional 67 items were exported for personal purposes, representing 62 wild lions (Table A73). Most wild source lion skins exported from Tanzania for hunting trophy purposes went to South Africa (44) and Germany (29) (Table A74). The U.S. is the largest importer of wild source hunting trophies exported from Tanzania, with 47 percent (956); other major importers were France (283), Spain (212), Mexico (122) and South Africa (109) (Table A75). Thus, it is of concern that 2,186 wild source lions were exported from the Tanzania during the decade; this is 20 percent of the population (2,186 of 10,753). Annualized, these exports represent 2 percent of the population (Table 4).

Lion off-take for trophy hunting in Tanzania is considered to be unsustainable. In trophy hunting areas the primary cause of declines in lion populations is trophy hunting (Packer et al., 2011). Packer et al. (2009) identified Tanzania as one of the countries where trophy hunting is likely to have contributed to the decline in lion populations in the 1980s and 1990s. The U.S. is by far the largest importer of hunting trophies from Tanzania.

v) Togo

Between 1999 and 2008, Togo exported one wild source trophy to South Africa in 2001 for hunting trophy purposes, one skin from a ranch-raised lion to South Africa in 2001 for personal purposes, and one captive-bred live lion that originated in South Africa, to Libyan Arab Jamahiriya in 2002 for personal purposes. It is of concern that one wild source lion was legally exported from Togo in 2001 because there were no known resident lions as of 2002 (Bauer & Van Der Merwe, 2004). The presence of wild lions in Togo remains uncertain (Bauer et al., 2008).

w) Zambia

Between 1999 and 2008, Zambia exported 567 lion specimens, the vast majority of which were trophies (498) (Table A76). This represents at least 530 lions (adding skins (29), live animals (3), and trophies (498)). All but nine specimens (three live animals plus six trophies) were from wild sources (Table A77). The parts of at least 521 wild source lions were traded during the decade (adding wild source trophies (492) and skins (29)) (Table A78). However, one of the trophies of wild source originated in South Africa; thus the total number of wild source lions of Zambian origin exported is 520. The main purpose of this trade was hunting trophies (470 of 567 specimens) and the U.S. was the main importer of these (262 of 470) (Table A79). Only 26 specimens were traded for other purposes including personal, commercial and scientific (Table A80). Thus, it is of concern that 520 wild source lions were exported from Zambia during the

decade; this is 22 percent of the population (520 of 2,350). Annualized, these exports represent over 2 percent of the population (Table 4).

Packer et al. (2009) discussed the historic over-utilization of lions in Southern Africa, stating that off-take peaked then fell sharply in the 1980's and 1990's in Botswana, CAR, Namibia, Tanzania, Zambia and Zimbabwe. This downward harvest trend "most likely reflects declining population sizes: success rates (as measured by harvest/quota) have fallen" for lions (Packer et al., 2009, p. 2). This occurred even as demand for lion trophies has grown in the U.S. and has held stable in the European Union since the mid-1990s. The steepest declines in lion harvests occurred in jurisdictions with the highest harvest intensities. Packer et al. (2009) identified Zambia as one of the countries where trophy hunting is likely to have contributed to the decline in lion populations in the 1980s and 1990s.

x) Zimbabwe

Between 1999 and 2008, Zimbabwe exported 2,043 lion specimens including 871 trophies, 536 claws, 146 skins, 20 bodies and 145 live (Table A81). This represents at least 1,182 lions (adding trophies, skins, bodies and live). The total number of exports has decreased over the decade, as has the number of exported trophies, skins and skulls. The vast majority of specimens exported were wild source, the exceptions being 181 that were captive-bred (Table A82), one that was F1 captive-born (Table A83), 89 from illegal sources (Table A84), and 16 that were ranch-raised (Table A85). Captive-bred lions were exported for a variety of purposes including 77 exported to South Africa for breeding, 10 live lions to Kenya and 11 to South Africa for commercial purposes (Table A82). A total of 868 wild source lion specimens were exported for commercial purposes including 343 claws, 229 trophies, 94 skins, 63 live animals, and 15 bodies; this represents a minimum of 401 wild source lions exported for commercial purposes (Table A86).

The main importer of wild source lion parts for commercial purposes was the U.S. (Table A87). A total of 961 wild source lion specimens were exported for hunting trophy purposes including 706 trophies, 1 body, 40 skins and 160 claws. This represents a minimum of 747 wild lions exported for hunting trophy purposes (Table A88). The main importer of wild source lion parts as hunting trophies was the U.S. (Table A89). A total of 120 wild source lion specimens were exported for personal purposes including 48 trophies, 19 skins, 1 body and 27 claws (Table A90); this represents a minimum of 68 wild source lions exported for personal purposes. The U.S. imported some of these (Table A91). In addition, 56 wild source lion specimens were exported for circus, education and scientific purposes (Table A92) including 15 live wild lions for circus or travelling exhibition purposes and two skins for educational purposes. This represents 17 wild source lions exported for these purposes. Thus, in total, during the decade, Zimbabwe exported 1,233 wild source lions. However, Zimbabwe also imported 19 of these wild source lions (all trophies) from other countries: four from Tanzania, seven from South Africa, three from Zambia, three from Mozambique, and two from Botswana. Thus the total number of wild source lions of Zimbabwean origin exported during the decade totaled 1,214. Thus, it is of concern that 1,214 wild source lions were exported from the Zimbabwe during the decade; this is 89 percent of the population (1,214 of 1,362). Annualized, these exports represent 8.9 percent of the population (Table 4), a percentage not considered to be sustainable (Packer et al., 2006; Packer et al., 2009).

Packer et al. (2009) discussed the historic over-utilization of lions in Southern Africa, stating that "...off-takes peaked then fell sharply in the 1980's and 1990's in Botswana, CAR, Namibia, Tanzania, Zambia and Zimbabwe". This downward harvest trend "…most likely reflected declining population sizes: success rates (as measured by harvest/quota) have fallen" for lions (Packer et al., 2009, p. 2). This occurred even as demand for lion trophies has grown in the U.S. and has held stable in the European Union since the mid-1990s. The steepest declines in lion harvests occurred in jurisdictions with the highest harvest intensities (Packer et al., 2009).

Packer et al. (2006) stated that lion hunting off-take in Zimbabwe is unsustainable with harvests of male lions in some areas reaching "exceptionally high" levels (11 males/1000 km^2 in the Matetsi Safari Area in 1990). From 1988 to 2004, Zimbabwe harvested a higher proportion of lions than any other country, and its off-take rate has been up to three times more than most other countries in that same time period (Packer et al., 2006). However, the number of trophies exported by Zimbabwe has decreased in recent years from about 106 per year for1999-2003 to about 67 per year in 2004-2010 (Packer et al., 2009).

5. Domestic Hunting

The African lion is killed for purposes that do not involve international trade; however, there are no comprehensive data on the levels or impact of these activities.

6. Traditional Practices

The African lion is used for traditional purposes in Africa. For example, body parts of lions, including fat, skin, organs and hair are highly valued for treatment of a variety of different ailments in Nigeria, with lion fat being the most highly valued (Morris, n.d.). A household questionnaire in rural communities found that 62 percent of respondents described using lion fat in medicine, with just over half of those respondents reporting to have used it in the last 3 years (Morris, n.d.). The putative medicinal benefits included were the healing of fractured and broken bones, back pain and rheumatism (Morris, n.d.). Hunting African lions for their skins for use in traditional ceremonies is considered to be the primary threat to lions in certain African countries, including Guinea-Bissau and parts of Guinea (Brugiere, Badjinca, Silva, Serra, & Barry, 2005). The use of lions in traditional African medicine also occurs in East Africa, although it is not well documented. For example, in May 2010 it was reported that five lions killed close to Queen Elizabeth National Park in Uganda were poisoned for their skin and medicinal value (Karugaba, 2010). Lion fat is also used in traditional medicine in Tanzania (Baldus, 2004).

C. Disease or Predation

Habitat loss, persecution and exploitation have been long-considered threats to large carnivores but in recent years disease has come to be viewed as an emerging issue. According to Cleaveland et al. (2007) the canine distemper virus and rabies have been major pathogens affecting wild carnivore populations, calling into question the opinion that diseases are always a "natural regulatory component of ecosystems" (p.613). In the African lion, risk of disease is believed to be increasing because populations have become isolated, placing them at a higher risk when

confined by fencing (Keet et al., 2009). In addition, their increasing proximity to man and domestic animals exposes them to new diseases (IUCN SSC Cat Specialist Group, 2006b).

1. Viral Diseases

Viruses known to infect the African lion include canine distemper virus, feline leukemia virus, feline immunodeficiency virus, feline herpesvirus, feline calicivirus, feline parvovirus, and feline coronavirus. While viral infections and their impacts are well-studied in domestic cats, with free-ranging lions, there is only limited available (Hofmann-Lehmann et al., 1996).

More than 40 years of continuous research on lions in Serengeti National and Ngorongoro Crater, Tanzania, has advanced what is known about the prevalence of six of the seven viruses (feline leukemia was absent) known to infect lions (Packer et al., 1999). Based on this research, two viruses (feline herpesvirus and feline immunodeficiency virus) are believed to be endemic in the host populations and four (feline calicivirus, parvovirus and coronavirus, and canine distemper virus) "…repeatedly show a pattern of seroprevalence indicative of discrete disease epidemics" (Packer et al., 1999).

a) Canine Distemper Virus

In 1991 and 1992, captive felids in U.S. zoos were found infected with CDV-like morbilliviruses (Harder et al., 1995) and in 1994, one-third of the lions in Serengeti National Park died from the disease (Craft, Volz, Packer, & Meyers, 2009).

In 2001, a CDV epidemic (coupled with tick-borne diseases) wiped out at between 34 and nearly 40 percent of Tanzania's Ngorongoro Crater lion population (Kissui & Packer, 2004; Munson et al., 2008). Scientists examined serological exposure to CDV in these well-studied populations and found that at least five "silent" CDV epidemics had occurred between 1976 and 2006 with little mortality or clinical signs of the disease (Munson et al., 2008).

The fatal 1994 and 2001 epidemics coincided with unusually high levels of *babesia* infections. According to Munson et al. (2008) *babesia* is a "tick-borne intraerythrocytic protozoan (hemoparasite) that usually infects the African lion at low levels without compromising their health" (p. 3). Both outbreaks were preceded by extreme drought conditions that led to die-offs of host animals such as buffalo. When the rains returned, the surviving animals were heavily infected with ticks, which led to the higher *babesia* levels in the lion populations.

Climate extremes, such as severe and unseasonal droughts, can exacerbate the severity and occurrence of die-offs caused by CDV as well as the occurrence of deadly co-infections. (Kissui & Packer, 2004; Munson et al., 2008,). The Serengeti lion population eventually recovered to pre-epidemic levels due to high cub survival. Repeated outbreaks of CDV over a relatively short time span have prevented recovery of the Ngorongoro population to its carrying capacity (Packer et al., 2011). This population has been rendered especially vulnerable due to inbreeding and close proximity to human populations (Kissui & Packer, 2004).

b) Feline Immunodeficiency Virus

FIV is found in the domestic cat, in which it causes an AIDS-like immunodeficiency disease (Troyer et al., 2004) and which permanently infects the host. Collectively, Olmsted et al. (1992), Troyer et al. (2004), and Osofky et al. (1996) have documented FIV in eight wild cat species including the African lion (as cited in Roelke et al., 2009). The African lion is infected with a lion-specific strain of FIV, known as FIVple, of which there are multiple, highly-divergent strains (O'Brien, S.J., Troyer, J.L., Roelke, M., Marker, L., & Pecon-Slattery, J., 2006; Troyer et al., 2004). "FIVple is thought to be a relatively old virus perhaps infecting lions for thousands of years" (Roelke et al., 2009, p.3). It is uncertain how FIVple affects the African lion, although anecdotal reports of morbidity from FIVple exist (Roelke et al., 2009).

FIV infection is common in East Africa and South Africa, with infection rates in four sampled lion populations ranging from 70 to 91 percent (Brown, Yuhki, Packer, & O'Brien, 1994). The Serengeti lion population incidence of FIV is very high and has been consistently maintained over many years and is, therefore, believed to be endemic (Brown et al., 1994; Hofmann-Lehmann et al., 1996 ; Olmsted et al., 1992; Packer et al., 1999, Troyer et al., 2005).

Following a study in Botswana (1999-2006) in which infected and uninfected African lions were anesthetized and sampled on multiple occasions, Roelke et al. (2009) found "relative increases in the occurrence of specific and non-specific clinical symptoms including lymphdenopathy, gingivitis, papillomas, dehydration, and loss of coat condition were found in FIVple-infected lions, as were biochemical profiles indicative of hyperglobulinemia, anemia, and hypoalbuminemia" (p. 3). Roelke et al. (2009) cautions,

> Given the high prevalence of FIVple in many lion populations, it is evident that in several different ecosystems many lions with FIVple have survived and thrived. However, in natural settings, small decreases in fitness can have large effects during times of stress. Thus, while FIVple-infected animals may do well under normal circumstances, they may potentially be more sensitive than uninfected animals to secondary assaults, such as new disease outbreaks. (p.9)

c) Other Viral Diseases

Herpesvirus has caused the death of a captive lion (Craft, 2008), but although 100 percent of the Serengeti population is infected, clinical signs of disease have not been detected (Craft, 2008). Lions in the Serengeti have also been exposed to periodic outbreaks of feline parvovirus, calicivirus and coronavirus. However, there have been no consistent signs of clinical disease, excess mortality or decreases in lion fecundity due to infections from any of these three viruses (Driciru et al., 2006; Hofmann-Lehmann et al., 1996; Packer et al., 1999; Spencer, 1991; Spencer & Morkel, 1993).

2. Bovine Tuberculosis

Bovine tuberculosis (bTB) is caused by *Mycobacterium bovis.* Although it infects a wide range of African wildlife (Cleaveland et al., 2007), it is not indigenous to Africa and was most likely brought to the Continent through the importation of cattle from Europe (Michel et al., 2006). African wildlife has not yet developed immunity to bTB and many species have the potential to act as a reservoir of infection (Renwick, White, & Bengis, 2007). bTB is a growing concern (Cleaveland et al., 2007) associated, in part, with increased numbers of domestic livestock and the increased overlap between livestock and wildlife (Renwick et al., 2007).

In Kruger National Park, South Africa, bovine tuberculosis spread to wild animal populations through the intermingling of domestic cattle with wild Cape buffalo (*Syncerus caffer*), sometime in the late 1950s or early 1960s (Keet et al., 2009). The disease has since spread throughout the park by the migration of the Cape buffalo. The buffalo are referred to as "maintenance hosts" as they do not experience the serious physical affects associated with the disease. The pathogen is also present in kudu (*Tragelaphus strepsiceros*), and other species in the Park (Keet et al., 2009), and is contracted by lions through the ingestion of infected prey (Keet et al., 2009). Organs such as the lungs and the lymph nodes contain most of the infectious material (Renwick et al., 2007). Once infected, lions may transmit the disease to other lions primarily through inhalation and secondarily through percutaneous contact (i.e. biting and scratching) (Keet et al., 2009).

In many parts of the Kruger Park, buffalo are the primary prey of lions and over 80 percent of lions were infected by bTB. The clinical signs of infection in lions include respiratory problems, emaciation, lameness and blindness (Renwick et al., 2007). Once an individual lion becomes infected, it will either become latently infected or develop the disease, become clinically affected, and die. Approximately 20 percent of infected lions remain disease-free (latent), and 80 percent became infectious (i.e., diseased and contagious) within a five year period (Keet et al., 2009). However, despite the high incidence of the disease, the Kruger lion population has remained constant over the past 20 years (Ferreira & Funston, 2010).

Bovine tuberculosis has also been confirmed in a number of wild ungulate species in the Serengeti and Tarangire ecosystems in northern Tanzania (Cleaveland et al., 2005) and the Ruaha ecosystem in Tanzania (Mazet et al., 2009). Serological tests of lions in the Serengeti demonstrate their exposure to bTB since at least 1984; however, the incidence of the disease has remained below 4 percent for the past 20 years (Cleaveland et al., 2007). The disease has been detected in buffalo in Gonarezhou National Park in Zimbabwe. It is also found in Queen Elizabeth National Park in Uganda (Chardonnet et al., 2010).

3. Other Diseases

Domesticated pets such as cats and dogs have been known to transmit diseases to African lions such as rabies and feline leukemia virus (FLV) (Chardonnet et al., 2010) but neither disease is known to have inflicted measurable harm.

D. Inadequacy of Existing Regulatory Mechanisms

The conservation, management and protection of the African lion is addressed either directly or by inference in several international treaties and regional agreements as well as by national laws and regulations of many African range States. However, as fully explained in this section, these regulatory mechanisms and/or their implementation and enforcement are inadequate to address existing threats to the survival of the African lion.

1. International Law and Agreements

There are several African regional agreements that have relevance to the African lion: the African Union's African Convention on the Conservation of Nature and Natural Resources, 1968; the Revised African Convention on the Conservation of Nature and Natural Resources, 2003; and the Protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community, 1999 (Union Africaine, 2010; UNEP, 2009).

The Convention on Biological Diversity (CBD) addresses "conservation of biological diversity", the "sustainable use" of its components and the "fair and equitable sharing of the benefits" arising from the use of biological and genetic resources. The CBD also provides guidelines to manage biodiversity, but does not provide specific protection for the African lion or any individual species. Nor is the lion protected under the Convention on Migratory Species (the Bonn Convention) (Convention on Migratory Species, 2009). The only international agreement that offers specific and significant protection to the African lion is CITES.

a) CITES

The African lion is used extensively for commercial, recreational, and scientific purposes. The main use of the African lion in this regard is as hunting trophies and for commercial purposes, both of which involve international trade. As shown earlier, the U.S. is by far the largest importer of such specimens.

The African lion is listed on Appendix II of CITES by virtue of its inclusion in the cat family, Felidae, which is listed in its entirety on that Appendix. International trade in species listed on Appendix II must be strictly regulated in order to avoid utilization incompatible with their survival. Convention on International Trade in Endangered Species of Wild Fauna and Flora, art. II, Mar. 3, 1973. Regulation of trade in specimens of Appendix II species is accomplished by the issuance of permits from the exporting country, and the presentation of those export permits to the importing country. The exporting country must ensure that a number of conditions are met before issuing an export permit. These are:

> (a) a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of that species;
> (b) a Management Authority of the State of export is satisfied that the specimen was not obtained in contravention of the laws of that State for the protection of fauna and flora; and

> (c) a Management Authority of the State of export is satisfied that any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment." CITES, Article IV.

Furthermore, a Scientific Authority of the exporting country must monitor both the export permits granted and the actual exports of such specimens. CITES, Article IV.

> Whenever a Scientific Authority determines that the export of specimens of any such species should be limited in order to maintain that species throughout its range at a level consistent with its role in the ecosystems in which it occurs and well above the level at which that species might become eligible for inclusion in Appendix I, the Scientific Authority shall advise the appropriate Management Authority of suitable measures to be taken to limit the grant of export permits for specimens of that species.

The CITES Parties have recognized that proper implementation of Article IV is essential for the conservation of Appendix II species, CITES, Resolution Conf. 12.8 (Rev. CoP13), and national laws are paramount to that implementation. The Parties have agreed to a "Significant Trade Review" for certain Appendix II species where the biology and management of and trade in these species are examined and, when the provisions of Article IV are not being met, remedial measures are directed to the relevant Parties. Non-compliance with recommended measures can result in trade suspensions.

Over the years it has become evident that many Parties, particularly lesser-developed countries, do not adequately implement Article IV due to financial constraints and lack of capacity (CITES, 1992a). For example, Tanzania has trade suspensions in place for three species due to inadequate implementation of Article IV. CITES, Notification to the Parties 2010/012, 2010. Although the African lion has not been the subject of a Significant Trade Review, some of the major lion exporting countries have been found to have inadequately implemented Article IV for other species. The African lion was suggested for inclusion in the Significant Trade Review in 2004 and 2005, CITES Animals Committee, Summary Records, but was ultimately not reviewed.

Currently, lion specimens are exported from countries where lion off-take is unsustainable and the U.S. imports lion specimens from countries where lion off-take is unsustainable (see the *Commercial Trade* section of this Petition, above). This is a clear indication that CITES Article IV is not being complied with, either due to insufficient domestic implementing legislation or inadequate enforcement, and that the Convention does not adequately protect the African lions from extinction. Further, the CITES-implementing legislation in the U.S., the ESA, does not currently provide any protection for the African lion — lion specimens are imported to the U.S. simply upon presentation of a CITES export permit from the country of export. There is no requirement under the ESA or CITES that the U.S. examine the basis for the permit or verify that the export permit was issued in compliance with CITES.

In addition, CITES Article VIII requires Parties to "take appropriate measures to enforce the provisions of the Convention and to prohibit trade in specimens in violation thereof". Resolution Conf. 8.4 (Rev. CoP15), on national laws for implementation of the Convention, established a

National Legislation Project in 1992 to review national legislation of Parties (CITES, 1992b). As a result of this review, Parties were categorized according to their level of compliance with Article VIII. CITES Standing Committee, 2010, SC59, Doc. 11. Several major lion exporting countries, including South Africa, Tanzania, Mozambique, Botswana and Zambia, are currently listed under "Category 2", which means they meet some, but not all, of the necessary legislative requirements for implementing CITES. Several lion exporting countries, including Central African Republic and Chad, are listed under "Category 3" which means they do not meet any of the necessary legislative requirements for implementing CITES. Thus, although they are Parties to CITES, none of these important lion range States have the national legislation necessary to fully implement the Convention.

b) Rotterdam Convention

The Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade is an international instrument aimed at helping developing nations make informed decisions regarding the import of hazardous pesticides. The Convention requires that whenever a country makes an internally banned or severely-restricted chemical available for export, it must provide the importer with an export notification containing practical and detailed information about the chemical and the shipment (Secretariat for the Rotterdam Convention, 2006). Currently the PIC list does not contain some of the chemicals that have most often been used to poison African lions for retaliatory killing; therefore, this mechanism is inadequate to protect the African lion. The U.S. is a signatory but not a party to this Convention, however, it has enacted a law, the Federal Insecticide, Fungicide and Rodenticide Act (see below), which requires the U.S. to undertake activities similar to those required under this Convention.

c) African Union

The African Union (AU), formed in 1992, is an intergovernmental organization comprising 53 of 54 African States (only Morocco is not a member). It is a successor to the Organisation of African Unity (OAU) which was formed in 1963 and disbanded upon formation of the AU in 1992. All African lion range States have ratified the AU Constituent Act (African Union, 2000), which provides, *inter alia*, an Executive Council to coordinate and take decisions on policies in areas of common interest to Member States, including environmental protection. Article 13 (1)(e).

Two AU Conventions are relevant to African lion conservation: the African Convention on the Conservation of Nature and Natural Resources (entered into force in 1968), and the Revised African Convention on the Conservation of Nature and Natural Resources (negotiated in 2003, not yet entered into force).

Parties to the African Convention on the Conservation of Nature and Natural Resources (African Union 2010a), which entered into force in 1969, have agreed to "adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interests of the people" Article II. The Convention lists the African lion as a Class B protected species, Article VIII;

Class B species "shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority." Article VIII (1)(b). Ten African lion range States—some of which are significant exporters of African lion specimens—have not ratified the Convention: Benin, Botswana, Burundi, Ethiopia, Guinea, Guinea Bissau, Namibia, Somalia, South Africa, and Zimbabwe. The remaining African lion range countries have ratified the Convention; nevertheless, this law does not provide sufficient protection for the African lion.

The Convention does not establish a Secretariat or designate the role and frequency of meetings of the Conference of the Parties; it also does not contain enforcement measures to address non-compliance with the Convention.

Burundi, Ghana, Mali, Niger and Rwanda are the only African lion range States to have ratified the Revised African Convention on the Conservation of Nature and Natural Resources (African Union, 2010b). The Revised Convention has not yet entered into force because fifteen Parties must ratify it and only eight have done so (African Union, 2003).

d) SADC Protocol on Wildlife Conservation and Law Enforcement

Eleven African lion range States have signed the Treaty of the Southern African Development Community (SADC): Angola, Botswana, DRC, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe (SADC, 2008). Among SADC's objectives is to "achieve sustainable utilisation of natural resources and effective protection of the environment" Article 5 (g). Article 22 of SADC calls for the establishment of Protocols to achieve the Treaty's objectives. The SADC Protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community (SADC, 1999) elaborates on Article 5 (g) of the Treaty. Its objectives are to:

> a) promote the sustainable use of wildlife; b) harmonise legal instruments governing wildlife use and conservation; c) enforce wildlife laws within, between and among States Parties; d) facilitate the exchange of information concerning wildlife management, utilisation and the enforcement of wildlife laws; e) assist in the building of national and regional capacity for wildlife management, conservation and enforcement of wildlife laws; f) promote the conservation of shared wildlife resources through the establishment of transfrontier conservation areas; and g) facilitate community-based natural resources management practices for management of wildlife resources (Article 4).

With regard to wildlife management and conservation programs, Parties shall: "establish management programmes for the conservation and sustainable use of wildlife and integrate such programmes into national development plans" and "assess and control activities which may significantly affect the conservation and sustainable use of wildlife so as to avoid or minimise negative impacts." Article 7 Parties are also to take measures to ensure the conservation and sustainable use of wildlife including:

> a) the protection of wildlife and wildlife habitats to ensure the maintenance of viable wildlife populations; b) prevention of over-exploitation and extinction of

> species; c) restrictions on the taking of wildlife, including but not limited to restrictions on the number, sex, size or age of specimens taken and the locality and season during which they may be taken; and d) restrictions on trade in wildlife and its products, both nationally and internationally, as required by relevant international agreements.

Article 12 of the Protocol concerning sanctions states:

> 1. Sanctions may be imposed against any State Party which: a) persistently fails, without good reason, to fulfill obligations assumed under this Protocol; or b) implements policies which undermine the objectives and principles of this Protocol. 2. The Council [SADC Council of Ministers] shall determine whether any sanction should be imposed against a State Party and shall make the recommendation to the Summit if it decides that a sanction is called for. The Summit shall decide, on a case-by-case basis, the appropriate sanction to be imposed.

However, it appears that no such sanctions have been considered or approved.

e) Lusaka Agreement

Five African lion range States are Parties to the Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora: Kenya, Tanzania, Republic of Congo (Brazzaville), Uganda and Zambia. The Agreement entered into force in 1994 and is aimed at "facilitating cooperative activities in/among the Party states to the Lusaka Agreement, in carrying out investigations on violations of national laws pertaining to illegal trade in wild fauna and flora" (Lusaka Agreement Task Force, n.d.).

The Lusaka Agreement is focused generally on fighting illegal wildlife trade in and between member States, including through wildlife enforcement officer training. The African lion could benefit in the future from such Lusaka Agreement activities but, to date, there have been no specific programs aimed at illegal lion trade.

2. U.S. Law

The two primary U.S. laws that pertain to the African lion are the ESA and the Lacey Act. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) also has implications for the African lion, as it pertains to American-made chemicals being exported to African lion range States where they are used to *inter alia* poison lions.

a) Endangered Species Act

The purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of . . . treaties and conventions" (including CITES). 16 U.S.C. § 1531(b).

Thus, in addition to being the CITES-implementing legislation in the U.S., the ESA provides independent protections to species recognized as endangered. *See* 16 U.S.C. §§ 1538(a), 1539(a) (prohibiting take, import/export, and interstate/foreign commerce of endangered species, and permitting otherwise prohibited trade and commerce only for scientific purposes or to enhance the propagation or survival of the species).

While the African lion has been listed on CITES Appendix II since 1976 as part of Family Felidae, CITES has not adopted any special measures, such as export quotas, for the species. Consequently, the importation of African lion specimens into the U.S. is currently allowed if such specimens, including trophies, arrive with a valid CITES export permit from an exporting country. As detailed in the *Commercial Trade* section of this Petition, lion specimens are exported from countries where lion off-take is unsustainable, and the U.S. imports more lion specimens than any other country, including from countries where lion off-take is unsustainable. This is a clear indication that lion-exporting countries are not complying with CITES Article IV and that the existing regulatory mechanism—inclusion of lions on CITES Appendix II with no separate ESA listing—is inadequate to address the international trade-related threats to the African lion. Without the Endangered listing that this Petition seeks, there is no requirement under federal law or CITES that the U.S. examine the basis on which the permit was granted or to ensure that import would provide a conservation benefit to the subspecies.

The ESA allows for the listing of species as either Threatened or Endangered; however, as this Petition demonstrates, the African lion is in danger of extinction throughout a significant portion of its range and, therefore, should be listed as Endangered. Doing so will more fully protect the African lion from a variety of threats, including that posed by the continued importation of lion trophies to the U.S.. If the African lion were only to be listed as a Threatened species under the Act, the ESA would not prohibit the importation of lion trophies. Specifically, importation into the U.S. of any fish or wildlife shall "be presumed to be an importation not in violation of any provisions of this Act or any regulation issued pursuant to this Act" when:

> (A) such fish or wildlife is not an endangered species listed pursuant to section 4 of this Act but is listed in Appendix II to the Convention, (B) the taking and exportation of such fish or wildlife is not contrary to the provisions of the Convention and all other applicable requirements of the Convention have been satisfied, (C) the applicable requirements of subsections (d), (e), and (f) of this section have been satisfied, and (D) such importation is not made in the course of a commercial activity.

Regulations promulgated under the Act make clear that the USFWS does not consider hunters who import their personal sport-hunted trophies to be involved in a commercial activity (USFWS, 2007). Consequently, hunters who wish to import trophies of Threatened, CITES Appendix II species only require an export permit issued by the country of export. The Act would therefore not protect a threatened foreign species from detrimental trade in cases where a CITES export permit has been granted without a scientifically-based Non-Detriment Finding having been made.

If the African lion were to be listed as Endangered under the Act, the importation of lions and their parts—whether commercial or not—would be generally prohibited. Importations would only be allowed if a permit is obtained after it has been demonstrated that such importation would enhance the propagation or survival of the species or is for scientific purposes.

However, as the subspecies is not listed under the Act, the African lion and its parts currently flow freely into the U.S. provided that they are accompanied by a CITES export permit. This means that the largest African lion importing country—the U.S.—has no protective measures for the species, despite evidence that such imports are having a detrimental impact; therefore, federal law is currently inadequate to protect the African lion from extinction.

b) Lacey Act

Under the Lacey Act, 16 U.S.C. §§ 3371-3378, it is unlawful to import, export, sell, acquire, or purchase fish, wildlife or plants taken, possessed, transported, or sold: 1) in violation of U.S. or Indian law, or 2) in interstate or foreign commerce involving any fish, wildlife, or plants taken possessed or sold in violation of State or foreign law. 16 U.S.C. § 3372(a)(1), (a)(2)(A). As discussed above, the cornerstone U.S. wildlife law, the ESA, does not provide any legal protection to the subspecies; thus, the African lion receives protection under this Act to the extent that specimens are in interstate or foreign commerce in violation of a foreign law or international treaty such as CITES. The Captive Wildlife Safety Act (Pub. Law 108-191), which amended the Lacey Act in 2003, only regulates live lions and so does not address the majority of international trade in subspecies.

c) Federal Insecticide, Fungicide and Rodenticide Act

Under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), 7 U.S.C. §§ 136 *et seq*., and its implementing regulations, exporters of unregistered pesticides, including those - such as carbofuran - that have been used, *inter alia*, to illegally poison lions in Africa (Kahumbu, 2010), can export those pesticides provided they first obtain the foreign purchaser's signature on a statement acknowledging that the pesticide is unregistered and cannot be sold in the U.S., 7 U.S.C. § 136o(a)(2), and submit these statements to the U.S. Environmental Protection Agency. However, the EPA's Office of the Inspector General found that EPA does not ensure that pesticide manufacturers are complying with this section of FIFRA, which means that importing countries may not be fully aware of the hazards associated with the chemicals. Therefore, this regulatory mechanism is inadequate to protect the African lion.

3. Lion Range Country Mechanisms

Rapid decline in both the population and range of lions in Africa due to trophy hunting, commercial trade, loss of habitat and prey, and retaliatory killing, clearly shows that many range States do not appear to have adequate regulatory mechanisms to protect the African lion.

It has been acknowledged that best management practices for trophy hunting have yet to be fully incorporated into existing regulations in many countries (Packer et al., 2011) and that trade in

trophies is not adequately regulated by national laws, regional agreements, or international laws (IUCN SSC Cat Specialist Group, 2006a).

For example, despite a number of Tanzanian laws regarding lion trophy hunting, poorly-regulated trophy hunting appears to have been the primary driver of the decline in lion abundance in Tanzania's hunting areas (Packer et al., 2011) and is thought to be negatively affecting lion populations in adjacent National Parks (Packer et al., 2011). Numerous recommendations made by lion experts for improving Tanzania's lion trophy hunting regulations have yet to be implemented by the government, including reduced quotas and mandatory minimum-age kills with independent age verification and subsequent bans on the export of under-age trophies (Packer et al., 2011). Regulatory concerns related to lion trophy hunting also exist for other countries. For example, in some parts of Mozambique quotas are largely based on information gathered from trophy hunting operators, who have a vested interest and the incentive to inflate lion numbers in order to increase their quota. This information is generally not corroborated by annual lion surveys (Chardonnet et al., 2009).

With regard to laws regulating commercial trade in African lions and their parts throughout their entire range, lion range States have lack specific regulations to control the trade (IUCN SSC Cat Specialist Group, 2006a; IUCN SSC Cat Specialist Group, 2006b).

Loss of habitat and prey is a major threat to the African lion throughout their range. For example, in Eastern and Southern Africa, there is a lack of supportive wildlife policy frameworks on a national level; indeed, such policies and planning are non-existent in many countries (IUCN SSC Cat Specialist Group, 2006a). Where such policies do exist, they are often ineffectively drawn and/or implemented, thus actually contributing to greater loss of habitat for African lions and their prey (IUCN SSC Cat Specialist Group, 2006a). In Tanzania, habitat protection measures are largely ineffective in stopping the continuing loss of grasslands, woodlands and forests, which serve as habitat for African lions and their prey. Between 1990 and 2005, Tanzania lost forest cover at a rate twice the average for low human development countries and five times the mean global rate (Chardonnet et al., 2010). More than 37 percent of the country's forest and woodland habitat has disappeared since 1990 (Packer et al., 2009).

Indiscriminate lion killing – including poisoning, trapping and shooting - has been found to be one of the most important threats to the African lion in areas with the most dense lion populations (IUCN SSC Cat Specialist Group, 2006a) and in some countries is the primary cause of lion mortality (Chardonnet et al., 2009). It is clear that existing laws are not adequately addressing this continuing problem (IUCN SSC Cat Specialist Group, 2006a). For example, despite a number of laws in Tanzania addressing control of problem animals, the government's Problem Animal Control (PAC) efforts face significant challenges. Due to logistical and financial short-comings, PAC may have a negative impact on lion populations because the number of African lions killed is high and the operations often poorly controlled (Mésochina et al., 2010). In Mozambique, laws and regulations that govern hunting also allow for the control of problem lions through PAC. According to Chardonnet et al. (2009), "Lion PAC operations [in Mozambique] would be considerably improved with a clear logical framework, well-defined decision-making process and implementation procedures, as well as proper data analysis and reporting."

Ineffective lion conservation policies and inadequate enforcement throughout many lion range States, as well as lack of efficacy of management and lack of government resources, have been identified as threats to the survival of lions (IUCN SSC Cat Specialist Group, 2006a; IUCN SSC Cat Specialist Group, 2006b).

4. Conclusion

In conclusion, despite various local, national, regional and international regulatory mechanisms, African lion populations have continued to decline and therefore, existing regulatory mechanisms do not appear to be sufficiently adequate for protecting and conserving the African lion. The African lion population has declined approximately 30 percent in the past twenty years (Bauer et al., 2008). The African lion is continuing to lose habitat and their natural prey is declining due to growing human pressures. Existing regulatory mechanisms are not preventing this downward spiral. Given many glaring deficiencies in existing regulatory mechanisms, coupled with the alarming and ongoing decline of the subspecies, it is clear that the current regulatory framework simply cannot guarantee the effective protection of the African lion. Listing *Panthera leo leo* as Endangered under the ESA would substantively contribute to the preservation of this keystone subspecies.

E. Other Natural or Manmade Factors Affecting the Species' Existence

1. Retaliatory Killing

A lack of prey and useable habitat pose serious threats to the continued existence of the African lion, and both stem from continuous and increasing competition with humans for vital resources and space. When the African lion prey-base is reduced by human or natural means, lions rely on domestic herds, particularly those herds that reside in areas adjacent to Protected Areas (Chardonnet et al., 2010). For example, Gebresenbet et al. (2009) reported that in Ethiopia, as wild prey disappeared, predation by lions on cattle and attacks on humans increased.

Livestock depredation and attacks on humans are the main conflict between people and African lions (Chardonnet et al., 2010). As a result, retaliatory killing, as a consequence of livestock losses and threat to human life, is common throughout all of sub-Saharan Africa (Frank et al., 2006).

The indiscriminate nature of poisons is often responsible for the death of entire prides and together with spearing, retaliatory killings through poisoning are decimating lions in southern Kenya (Frank et al., 2006).

Historically, a variety of chemicals including strychnine and various organophosphates have been used and are still used by a small number of commercial ranchers to poison lions. Recently however, a carbamate insecticide, carbofuran, seems to be one of the most commonly used (Frank et al., 2006). Carbamate pesticides, developed in the 1930s, are neurotoxins and have a relatively high mammalian toxicity (Otieno, Lalah, Virani, Jondiko, & Schramm, 2010). Carbofuran is an acetylcholine esterase inhibitor and causes acetylcholine to accumulate at the

junction of a nerve cell and the receptor sites. This causes the nerves to fire continuously, leading to tremors, convulsions, and eventually death.

Carbofuran comes in a liquid and granular form, but in Africa the granular form is most commonly used. In eastern lion range States it was readily available and legally sold over the counter and used to kill soil insects and nematodes, which threaten the production of a variety of crops (Otieno et al., 2010). A few grams of the odorless, tasteless poison can kill an adult lion. A small bottle of carbofuran can kill an entire pride and costs just a few dollars. According to a report submitted to the Kenyan Parliament, carbofuran was blamed for the deaths of at least 40 lions in 2008 (Kahumbu, 2010). In addition to Kenya and Uganda, lion poisonings from carbofuran have been suspected in Tanzania, Zimbabwe, Namibia, South Africa, and Botswana and possible carbofuran poisonings have occurred in the Republic of the Congo, Rwanda and DRC (Joubert, personal communication, June 15, 2010). The American manufacturer of a carbofuran product called Furadan withdrew it from the markets in Kenyan, Tanzania and Uganda and instituted a buyback program in 2009 (FMC, 2009). However, as recently as January 19, 2011, a lion was suspected to be killed with Furadan on the Tanzania side of the Tanzania-Kenya border; this lion was most likely from Amboseli National Park on the Kenya side of the border (Frank, 2011). One year earlier, a pride of five Amboseli lions was poisoned suspectedly with Furadan on the Kenya side of the border (Frank, 2011). This illustrates that carbofuran and other chemicals, continue to threaten wild lions.

2. Compromised Viability

As habitat is lost across the continent, the African lion is increasingly restricted to small and disconnected populations, which increases the threat of inbreeding. Genetic population models have demonstrated that large lion populations with 50 to 100 prides are necessary to avoid negative consequences of inbreeding (Bjorklund, 2003). In addition, population connectivity is essential to allow males to be able to move to other areas in order to spread genes and conserve genetic variation (Bjorklund, 2003). In general, inbreeding has negative impacts on fecundity, survival, and growth, as well as increasing susceptibility to environmental stress and disease (Bjorklund, 2003). For example, it is believed that the lions in Ngorongoro Crater, Tanzania, are inbred, which increases their vulnerability to disease. As a result, canine distemper virus killed 35 to 45 percent of lions in this population (Kissui & Packer, 2004).

3. Ritual Killing

Maasai tribesmen in East Africa hunt and kill lions for ritual purposes; a process called *Ala-mayo.* In the Serengeti-Ngorongoro area, ritual kills, which number approximately 2 per year, are uncommon compared to retaliatory killing (3-4 per year), and trophy hunting (11.5 per year) (Packer et al., 2011). The same can also be said for the Tarangire National Park system (Packer et al., 2011). However, ritual killing may have more impact on lion populations than currently thought, or it may pose an exacerbating threat in conjunction with retaliatory killings and trophy hunting. At this point, there is a lack of information on the frequency and effect of ritual killing (Packer et al., 2011).

V. CONCLUSION

This Petition demonstrates that the African lion subspecies meets the statutory criteria for an Endangered listing under the ESA. The subspecies is in "danger of extinction throughout all or a significant portion of its range" and, therefore, must be listed as Endangered throughout its range. 16 U.S.C. § 1532(6). The future security and viability the African lion is uncertain. The subspecies faces a multitude of threats, from unsustainable international trade in trophies to habitat loss; disease to retaliatory killings; loss of natural prey to commercial trade in parts. Lion numbers continue to decline precipitously. The African lion was likely extirpated in three range States where as recently as 2008 they were thought to be present. The African lion is increasingly rare outside Protected Areas and they are growing more isolated and fragmented throughout their shrinking range. Existing regulatory measures at the international, regional, and national levels are not adequately protecting African lion from these threats.

As the U.S. is not part of the African lion's natural range, protection under the ESA would occur by, *inter alia*, a prohibition on the import into the U.S. of lion specimens except where the import enhances the propagation or survival of the species or is for scientific purposes. 16 U.S.C. §§ 1538(a), 1539(a). Listing the African lion under the ESA would allow for and encourage the U.S. to provide lion range States with assistance in the development and management of programs useful to the conservation of the subspecies. Such a listing would also serve to heighten awareness of the importance of conserving the African lion among foreign governments, conservation organizations, and the general public.

The iconic African lion is in danger of extinction if current trends are not reversed and if action is not taken now. The U.S. is the world's largest importer of African lions and their parts including hunting trophies and for commercial purposes such as the lion skin or claw trade. With this in mind, the U.S. must play a leading role in the effort to save the African lion. Listing the subspecies as Endangered under the ESA is a significant and necessary step toward controlling unsustainable exploitation of the subspecies by Americans, and toward bringing this crisis to the attention of the global conservation community.

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APPENDIX A: DETAILED RESULTS OF DATA ANALYSIS

Note: A list of country codes used in the following tables can be found at the end of Appendix A.

Table A1: International trade in lions and their parts for all sources and all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	8	26	5	12	12	7	12	13	20	21	136
bone carvings	1	0	0	0	0	0	0	0	0	2	3
bone pieces	0	0	0	0	4	0	0	0	1	8	13
bones	0	6	1	0	2	0	17	23	8	70	127
carvings	0	10	0	40	1	0	0	0	22	0	73
claws	120	338	121	68	151	115	115	157	26	80	1291
cloth	8	0	0	0	0	0	0	0	0	0	8
feet	0	56	21	1	4	0	0	0	0	0	82
garments	1	0	0	0	1	0	0	0	0	0	2
hair	0	1	0	0	50	5	1	2	106	58	223
handbags	0	1	0	0	0	0	0	0	0	0	1
leather items	0	0	0	0	0	0	0	1	0	0	1
leather products (l)	2	2	1	1	0	0	0	5	2	1	14
leather products (s)	4	6	3	0	0	8	0	0	1	0	22
live	216	181	183	213	185	165	135	171	160	235	1844
plates	20	21	10	19	9	6	1	0	6	2	94
skeletons	0	2	3	0	0	0	0	0	0	0	5
skin pieces	2	2	2	0	4	9	0	13	4	18	54
skins	198	209	118	87	47	45	51	136	81	53	1025
skulls	167	209	130	56	419	25	30	128	23	27	1214
specimens	718	349	445	2730	1253	1415	2382	3144	648	176	13260
tails	2	1	0	0	0	0	0	1	1	0	5
teeth	243	203	299	4	6	2	15	17	6	7	802
trophies	691	752	562	646	641	664	795	976	950	1220	7897
unspecified	0	0	0	0	0	1	0	0	0	0	1
Grand Total	2401	2375	1904	3877	2789	2467	3554	4787	2065	1978	28197

Source: UNEP-WCMC CITES Trade Database searched by "net imports", all sources, all purposes, on 30 June 2010.

Table A2. International trade in lion specimens for scientific purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
specimens	flasks	DE	0	0	0	0	0	0	1	0	0	0	1
specimens	flasks	US	90	115	0	500	26	25	83	0	0	35	874
specimens	g	GB	0	0	0	0	0	0	0	900	0	0	900
specimens	g	US	0	0	0	400	0	0	180	0	0	4	584
specimens	kg	DE	0	0	0	0	0	0	0	0	0	0	0
specimens	kg	NL	0	0	0	0	0	0	0	0	0	0	0
specimens	kg	US	0	0	0	5	0	0	0	0	0	0	5
specimens	ml	BE	0	0	0	0	100	0	0	0	0	0	100
specimens	ml	CH	0	0	0	0	0	0	0	19	0	0	19
specimens	ml	GB	0	0	0	0	0	0	400	225	0	0	625
specimens	ml	NL	0	0	0	0	0	0	0	0	0	4	4
specimens	ml	US	0	60	55	625	370	0	316	1092	0	1	2519
specimens	ml	ZA	0	0	0	0	0	0	0	9	0	0	9
specimens		BE	0	0	0	0	0	0	0	0	51	0	51
specimens		CH	0	0	0	0	61	366	28	77	124	65	721
specimens		DE	0	0	0	0	32	0	78	0	200	0	310

specimens		FR	0	0	0	0	0	0	4	0	0	0	4
specimens		GB	0	0	0	0	139	31	519	210	0	0	899
specimens		NA	0	0	0	0	0	0	23	0	0	0	23
specimens		NL	0	0	0	0	0	20	0	0	20	0	40
specimens		US	520	24	388	1198	884	973	160	604	213	37	5001
specimens		ZA	0	0	0	0	2	0	20	0	0	0	22
Grand total			2609	2199	2444	4730	3617	3419	3817	5142	2615	2154	32746

Source: UNEP-WCMC CITES Trade Database searched by "net imports", all sources, scientific purposes, on 19 August 2010.

Table A3. International trade in lion specimens for non-scientific purposes.

Purpose	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Commercial		CN	1	0	0	0	0	0	1	0	0	0
Commercial		JP	2	0	1	0	0	0	0	0	0	0
Commercial		US	0	110	0	0	0	0	547	8	0	0
Education	kg	KR	0	0	0	0	0	0	0	0	12	0
Education		CN	0	0	0	0	0	0	4	0	24	28
Hunting trophy		JP	0	0	1	0	0	0	0	0	0	0
Medical		CH	88	0	0	0	0	0	0	0	0	0
Medical		US	0	0	0	0	0	0	8	0	0	2
Personal		CN	0	0	0	0	0	0	0	0	4	0
Personal		US	0	0	0	0	0	0	16	0	0	0
Zoo		US	0	40	0	0	0	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net imports", all sources, listed purposes, on 19 August 2010.

Table A4: International trade in lions and their parts for "hunting trophy" purposes from all sources.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	4	1	4	1	4	6	3	5	0	28
bone pieces	0	0	0	0	4	0	0	0	0	4	8
bones	0	2	0	0	2	0	7	19	5	4	39
claws	112	51	79	22	21	36	0	43	17	36	417
feet	0	56	16	0	4	0	0	0	0	0	76
leather products (l)	1	0	0	0	0	0	0	0	0	0	1
leather products (s)	0	0	0	0	0	1	0	0	0	0	1
live	0	0	0	0	0	2	0	3	0	0	5
plates	0	0	0	2	0	0	0	0	0	2	4
skin pieces	0	0	0	0	0	0	0	1	0	0	1
skins	87	105	90	23	8	6	9	87	3	3	421
skulls	137	134	118	22	11	14	15	121	12	8	592
specimens	0	0	1	0	0	0	0	0	0	0	1
tails	1	1	0	0	0	0	0	1	0	0	3
teeth	12	201	295	3	0	1	0	4	0	0	516
trophies	518	652	526	537	571	607	745	907	908	1140	7111
Grand Total	868	1206	1126	613	622	671	782	1189	950	1197	9224

Source: UNEP-WCMC CITES Trade Database searched by "net imports" for "hunting trophy" purposes, all sources, on 30 June 2010.

Table A5: International trade in lions and their parts for "hunting trophy" purposes and from all sources: Importing countries.

Importing Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals

AD	0	0	0	1	0	0	0	0	0	0	1
AE	1	10	2	8	13	0	0	3	0	1	38
AL	0	0	0	0	0	1	0	0	0	0	1
AR	0	1	2	0	0	3	5	4	0	2	17
AT	16	17	3	7	9	14	4	9	4	17	100
AU	0	0	3	3	2	2	2	11	8	9	40
AZ	0	0	0	0	0	0	0	0	0	1	1
BE	9	11	11	4	4	8	7	8	7	7	76
BG	0	0	0	0	0	0	0	2	2	7	11
BH	0	0	0	0	0	0	0	1	0	0	1
BR	0	1	0	0	0	1	2	5	0	0	9
CA	14	30	15	5	1	3	9	26	7	17	127
CH	5	6	2	6	8	1	2	1	4	0	35
CI	1	0	0	0	0	0	1	1	0	0	3
CL	0	1	0	0	0	1	4	0	0	0	6
CM	0	0	0	0	0	0	0	2	0	0	2
CN	0	0	0	2	2	0	0	0	1	3	8
CO	0	0	1	0	0	1	0	0	0	0	2
CR	0	0	0	0	0	0	0	0	0	1	1
CZ	0	5	2	0	12	3	4	2	14	5	47
DE	127	74	90	63	23	26	42	27	25	28	525
DK	4	10	7	5	7	5	4	9	5	14	70
DO	0	1	0	0	0	0	0	0	0	0	1
EC	0	0	0	0	0	0	0	0	0	1	1
EE	0	0	0	0	2	0	3	1	1	0	7
EG	0	0	2	0	0	0	0	0	0	0	2
ES	90	95	138	74	71	57	85	137	101	110	958
FI	0	0	1	1	0	3	9	5	5	15	39
FR	88	164	57	32	38	23	54	50	28	30	564
GB	4	9	7	7	7	4	3	30	3	4	78
GT	0	0	0	0	1	0	0	0	0	0	1
HR	0	0	0	0	0	0	5	2	0	0	7
HU	1	2	3	2	9	2	6	8	6	7	46
ID	0	4	1	1	0	0	0	0	0	0	6
IM	0	1	0	0	0	0	0	0	0	0	1
IN	0	1	0	0	0	1	1	2	0	2	7
IS	0	1	0	0	0	0	0	5	3	0	9
IT	28	19	3	6	7	6	8	16	7	9	109
JE	0	1	0	0	0	0	1	0	0	0	2
JP	5	6	5	0	0	1	0	0	0	0	17
KE	0	1	0	0	1	0	0	0	0	0	2
KW	0	0	0	0	0	0	0	0	2	2	4
KZ	0	0	0	0	0	0	0	1	2	0	3
LB	0	6	0	0	0	0	1	0	0	1	8
LI	0	0	0	0	1	0	0	0	0	0	1
LT	0	0	0	0	0	0	1	8	3	3	15
LU	0	0	0	0	0	0	1	0	2	1	4
LV	0	0	0	0	0	1	0	4	0	0	5
MA	0	0	0	0	1	0	0	0	0	0	1
MC	2	0	0	0	0	0	0	0	0	0	2
MN	0	0	0	0	0	0	0	0	0	2	2
MX	15	20	24	35	14	29	21	43	33	32	266
MY	0	1	0	0	0	0	0	0	0	0	1

NG	0	0	0	0	0	1	0	0	2	0	3
NL	1	2	4	2	1	0	0	6	1	0	17
NO	2	3	39	3	0	4	8	14	13	17	103
NP	0	0	0	0	0	0	0	0	1	0	1
NZ	0	0	0	0	1	0	0	1	0	0	2
PA	0	0	0	0	0	0	0	0	1	0	1
PK	1	17	0	2	0	0	0	6	1	5	32
PL	2	0	0	4	2	7	13	10	12	7	57
PR	0	0	0	0	1	1	0	0	0	0	2
PT	1	11	7	7	7	8	12	13	8	5	79
QA	0	0	0	0	0	3	0	0	0	2	5
RO	0	0	0	0	0	1	2	0	0	2	5
RS	0	0	0	0	0	0	0	0	1	1	2
RU	0	0	3	4	10	10	12	24	24	34	121
SA	0	24	2	0	1	2	3	2	3	0	37
SE	42	3	3	0	2	12	6	2	3	3	76
SG	0	0	0	0	2	0	0	0	0	0	2
SI	0	0	2	1	0	0	0	0	0	2	5
SK	18	7	8	3	2	4	2	2	2	12	60
SZ	0	0	0	1	0	0	0	0	0	0	1
TR	0	2	0	0	0	0	0	0	0	0	2
UA	0	0	3	6	0	0	3	6	3	0	21
US	313	442	526	308	359	421	433	680	599	765	4846
UY	0	0	5	10	1	0	0	0	0	0	16
VE	0	0	0	0	0	0	0	0	2	0	2
VN	0	0	0	0	0	0	0	0	0	11	11
XX	4	0	0	0	0	1	3	0	1	0	9
ZA	74	197	145	0	0	0	0	0	0	0	416
Grand Total	868	1206	1126	613	622	671	782	1189	950	1197	9224

Source: UNEP-WCMC CITES Trade Database searched by "net imports" for "hunting trophy" purposes, all sources, on 30 June 2010.

Table A6: International trade in lions and their parts for "hunting trophy" purposes from all sources: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
BF	12	20	10	2	7	0	0	16	15	1	83
BH	0	0	0	0	0	0	0	0	1	0	1
BJ	4	4	3	0	0	0	2	2	0	0	15
BR	0	0	0	3	0	0	0	0	0	0	3
BW	18	34	8	1	0	0	27	26	28	16	158
CA	0	0	0	5	19	9	3	2	10	1	49
CF	9	13	9	0	0	0	3	3	9	1	47
CM	16	19	6	9	1	10	19	16	3	3	102
CZ	0	0	0	1	0	0	0	0	0	0	1
ET	3	0	2	2	3	1	0	1	1	1	14
FI	0	0	0	0	0	0	2	0	0	0	2
FR	0	0	0	0	1	0	1	0	0	0	2
GA	0	0	0	2	0	0	0	0	0	0	2
KE	0	0	0	0	0	1	0	0	0	0	1
LB	0	0	0	0	0	0	0	1	0	0	1
MZ	23	246	302	10	15	17	26	24	15	17	695
NA	6	9	36	4	10	17	25	13	22	21	163

NL	0	0	0	0	1	0	0	0	0	0	1
TD	0	1	8	3	0	1	0	0	0	1	14
TG	0	0	1	0	0	0	0	0	0	0	1
TW	0	0	0	0	0	0	0	0	0	1	1
TZ	339	373	249	237	213	144	214	239	106	133	2247
XX	0	0	0	0	1	0	0	0	0	0	1
ZA	197	323	349	240	228	331	301	707	627	899	4202
ZM	32	52	29	3	32	43	71	76	64	63	465
ZW	209	112	114	91	91	97	88	63	47	39	951
Grand Total	868	1206	1126	613	622	671	782	1189	948	1197	9222

Source: UNEP-WCMC CITES Trade Database searched by "net exports" for "hunting trophy" purposes, all sources, on 30 June 2010.

Table A7: International trade in lions and their parts for "commercial" purposes and from all sources.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	7	24	1	2	7	1	1	5	6	4	58
bone carvings	1	0	0	0	0	0	0	0	0	0	1
bones	0	4	0	0	0	0	0	2	0	0	6
carvings	0	4	0	26	0	0	0	0	21	0	51
claws	48	289	42	36	103	109	105	20	7	5	764
cloth	8	0	0	0	0	0	0	0	0	0	8
feet	0	0	3	0	0	0	0	0	0	0	3
hair	0	0	0	0	0	1	0	0	0	0	1
leather products (l)	1	2	1	0	0	0	0	0	0	0	4
leather products (s)	1	5	2	0	0	6	0	0	1	0	15
live	28	30	15	57	36	33	31	23	45	22	320
plates	11	19	3	15	3	3	1	0	6	0	61
skin pieces	0	0	2	0	4	3	0	0	0	2	11
skins	100	137	14	25	21	18	23	20	63	21	442
skulls	16	72	7	22	3	4	1	3	5	11	144
specimens	3	110	1	0	0	0	548	8	0	0	670
tails	1	0	0	0	0	0	0	0	1	0	2
teeth	0	2	5	4	3	0	5	12	1	1	33
trophies	90	48	10	143	106	12	28	25	15	31	508
Grand Total	315	746	106	330	286	190	743	118	171	97	3102

Source: UNEP-WCMC CITES Trade Database searched by "net imports" for "commercial" purposes, all sources, on 9 July 2010.

Table A8: International trade in lions and their parts for "commercial" purposes and from all sources: Importing countries.

Importing Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AE	0	3	0	3	1	0	17	8	6	7	45
AG	1	0	0	0	0	0	0	0	0	0	1
AL	0	0	0	0	0	0	2	0	0	0	2
AR	2	21	0	0	0	0	0	0	0	2	25
AT	2	5	1	3	4	3	0	0	0	0	18
AU	3	0	2	0	0	1	0	0	2	0	8
BE	4	0	0	0	0	0	0	0	0	0	4
BG	0	0	0	0	0	2	0	0	1	0	3
BR	8	2	0	0	0	0	2	0	0	0	12

BW	0	1	0	17	0	0	0	3	0	0	21
CA	7	22	1	0	4	0	0	0	0	3	37
CH	1	4	0	0	0	2	0	0	0	1	8
CL	0	0	0	1	0	0	0	0	0	0	1
CM	0	0	1	2	0	0	0	0	0	0	3
CN	3	1	2	4	5	0	11	5	2	13	46
CY	4	0	3	0	1	0	0	0	0	0	8
CZ	0	0	0	0	1	0	0	0	0	0	1
DE	20	60	2	11	16	0	24	25	10	10	178
DK	0	0	0	5	0	0	0	0	0	0	5
DO	1	0	0	0	0	0	0	0	0	0	1
ES	2	17	0	9	10	18	14	0	2	0	72
FR	2	3	1	0	2	0	1	2	3	0	14
GB	3	39	0	1	5	0	0	0	0	0	48
GM	0	4	0	0	0	0	0	0	0	0	4
GR	0	0	0	0	2	0	0	0	0	0	2
GY	0	0	0	2	0	0	0	0	0	0	2
HK	0	6	1	0	0	0	0	0	0	0	7
HU	1	0	0	0	1	0	1	0	0	0	3
ID	2	0	0	0	0	0	0	0	0	0	2
IN	0	0	0	3	0	0	0	0	0	0	3
IR	0	0	0	0	0	2	0	0	0	0	2
IT	0	6	0	3	5	2	3	1	4	1	25
JM	0	0	0	3	0	0	0	0	0	0	3
JP	10	2	2	0	0	3	1	0	0	0	18
KE	11	0	0	0	0	0	0	0	0	0	11
KH	0	0	0	0	1	0	0	0	0	0	1
KR	0	0	0	8	0	0	0	0	0	1	9
KW	0	1	0	4	0	0	0	0	0	1	6
KZ	0	0	0	0	0	0	10	3	0	0	13
LB	0	0	0	0	0	0	1	0	0	0	1
LT	0	1	0	0	0	0	0	0	0	0	1
LV	0	0	0	0	1	0	0	0	0	0	1
MA	0	0	0	0	0	0	0	0	1	0	1
MM	0	0	0	0	0	1	0	0	0	0	1
MO	0	1	0	0	0	0	0	0	0	1	2
MU	0	0	0	1	0	0	0	6	0	0	7
MX	1	8	0	1	1	0	2	0	1	0	14
MY	0	0	1	5	0	0	0	0	0	0	6
NA	0	0	1	0	20	0	0	1	0	7	29
NG	3	1	3	0	0	0	0	0	0	5	12
NL	0	0	0	1	5	2	6	7	14	14	49
NO	3	1	0	0	0	0	4	0	0	0	8
NZ	1	0	0	0	0	0	0	0	0	0	1
PH	4	0	0	1	0	0	0	0	1	0	6
PK	0	0	0	0	1	0	0	0	7	1	9
PL	0	5	1	0	1	0	0	0	0	0	7
PT	1	3	0	0	0	0	0	0	0	1	5
PY	0	0	0	1	0	0	0	0	0	0	1
QA	0	0	1	0	0	0	0	0	1	0	2
RO	0	0	0	0	0	1	3	0	1	0	5
RU	5	2	2	3	3	2	8	1	2	0	28
SA	0	0	0	0	2	2	0	0	0	0	4
SE	2	1	0	0	0	0	0	0	0	0	3

SG	3	1	0	1	0	0	0	0	0	0	5
SK	1	0	1	2	0	0	0	0	0	0	4
SY	0	0	0	0	0	0	0	2	9	0	11
SZ	0	2	0	0	3	0	0	0	0	0	5
TG	2	0	3	0	0	25	0	0	0	0	30
TH	0	0	0	4	0	0	3	2	12	2	23
TR	0	0	0	2	2	2	1	0	1	0	8
TW	0	0	0	0	0	2	1	0	0	0	3
UA	0	0	0	1	1	0	0	0	0	0	2
US	126	453	75	198	157	77	627	52	56	15	1836
VE	0	0	0	0	0	0	1	0	0	2	3
ZA	71	70	2	30	31	43	0	0	35	0	282
ZM	1	0	0	0	0	0	0	0	0	10	11
ZW	4	0	0	0	0	0	0	0	0	0	4
Grand Total	315	746	106	330	286	190	743	118	171	97	3102

Source: UNEP-WCMC CITES Trade Database searched by "net imports" for "commercial" purposes, all sources, on 9 July 2010.

Table A9: International trade in lions and their parts for "commercial" purposes and from all sources: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AR	0	0	0	0	0	0	2	12	0	0	14
AU	0	2	0	0	0	0	1	0	0	0	3
BE	1	0	2	2	0	2	5	2	4	0	18
BG	0	0	0	0	0	0	0	0	2	0	2
BJ	0	2	0	0	0	0	0	0	0	0	2
BW	82	80	5	0	0	15	557	10	59	8	816
CA	1	2	0	12	0	5	1	3	4	5	33
CH	0	0	0	2	0	0	0	1	5	1	9
CI	0	0	1	0	0	0	0	0	0	0	1
CN	0	0	0	0	0	0	10	0	0	0	10
CZ	5	1	2	2	0	0	0	0	9	1	20
DE	0	0	0	15	0	5	3	0	0	1	24
DK	0	0	1	0	0	0	0	0	0	0	1
ES	10	0	4	0	6	16	0	0	0	0	36
FI	0	0	0	0	0	1	0	0	0	0	1
FR	3	2	1	2	4	0	1	5	2	4	24
GB	2	1	2	0	0	1	0	0	1	2	9
HN	1	0	0	0	0	0	0	0	0	0	1
HT	0	0	0	0	0	0	0	1	0	0	1
HU	0	0	0	1	0	0	0	0	0	0	1
IN	2	0	0	0	1	0	0	0	0	0	3
IT	0	0	0	7	0	0	0	0	0	0	7
JO	0	0	0	0	0	0	0	0	3	0	3
JP	0	2	0	1	0	0	0	0	0	0	3
KE	0	110	0	0	0	0	0	0	0	0	110
LR	0	0	0	0	0	2	0	0	0	0	2
MX	3	2	0	0	0	2	0	1	0	0	8
NA	3	0	1	0	0	63	1	1	3	5	77
NE	0	0	2	0	0	0	0	0	0	0	2
NZ	0	0	1	0	0	0	0	0	0	0	1
PT	0	0	0	0	6	0	0	0	2	0	8

SD	0	0	0	0	0	0	0	2	12	0	14
SN	3	3	0	0	0	0	0	0	0	0	6
TZ	3	7	1	0	4	4	2	2	1	3	27
UA	0	0	2	0	0	0	0	3	0	0	5
US	8	3	0	1	0	0	1	0	0	0	13
VN	0	0	0	0	1	0	0	0	0	0	1
XX	0	0	0	0	0	0	0	0	2	0	2
ZA	107	76	76	152	94	21	154	67	61	59	867
ZM	0	2	0	0	0	0	0	1	0	0	3
ZW	81	451	5	133	170	53	5	7	1	8	914
Grand Total	315	746	106	330	286	190	743	118	171	97	3102

Source: UNEP-WCMC CITES Trade Database searched by "net exports" for "commercial" purposes, all sources, on 9 July 2010.

Table A10: International trade in lion "trophies" for "commercial" purposes and from all sources: Importing countries.

Importing Country (range States in bold)	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Totals**
AE	0	1	0	3	1	0	5	1	0	5	16
AR	2	0	0	0	0	0	0	0	0	0	2
AT	0	1	1	3	4	1	0	0	0	0	10
AU	2	0	1	0	0	0	0	0	0	0	3
BE	4	0	0	0	0	0	0	0	0	0	4
BG	0	0	0	0	0	2	0	0	0	0	2
BR	8	0	0	0	0	0	0	0	0	0	8
BW	0	1	0	9	0	0	0	0	0	0	10
CA	2	0	1	0	1	0	0	0	0	0	4
CH	1	2	0	0	0	2	0	0	0	1	6
CL	0	0	0	1	0	0	0	0	0	0	1
CN	2	0	2	3	0	0	6	4	1	4	22
DE	12	2	0	7	10	0	1	2	2	3	39
DK	0	0	0	5	0	0	0	0	0	0	5
DO	1	0	0	0	0	0	0	0	0	0	1
ES	2	1	0	7	10	0	1	0	2	0	23
FR	2	0	1	0	2	0	0	0	0	0	5
GB	2	1	0	1	4	0	0	0	0	0	8
GR	0	0	0	0	2	0	0	0	0	0	2
GY	0	0	0	2	0	0	0	0	0	0	2
HK	0	4	1	0	0	0	0	0	0	0	5
HU	0	0	0	0	1	0	1	0	0	0	2
IN	0	0	0	1	0	0	0	0	0	0	1
IT	0	2	0	3	3	0	1	0	0	1	10
JP	0	1	0	0	0	0	0	0	0	0	1
KR	0	0	0	0	0	0	0	0	0	1	1
KW	0	0	0	4	0	0	0	0	0	0	4
LB	0	0	0	0	0	0	1	0	0	0	1
LV	0	0	0	0	1	0	0	0	0	0	1
MO	0	1	0	0	0	0	0	0	0	0	1
MX	1	3	0	0	1	0	1	0	1	0	7
MY	0	0	0	1	0	0	0	0	0	0	1
NA	0	0	0	0	0	0	0	1	0	0	1
NG	3	0	0	0	0	0	0	0	0	5	8
NL	0	0	0	0	3	1	0	6	0	3	13

NO	2	0	0	0	0	0	0	0	0	0	2
PH	0	0	0	1	0	0	0	0	1	0	2
PK	0	0	0	0	1	0	0	0	0	0	1
PL	0	0	0	0	1	0	0	0	0	0	1
PT	1	1	0	0	0	0	0	0	0	1	3
PY	0	0	0	1	0	0	0	0	0	0	1
RU	2	0	0	3	2	2	6	0	0	0	15
SA	0	0	0	0	2	0	0	0	0	0	2
SE	2	0	0	0	0	0	0	0	0	0	2
SK	1	0	0	2	0	0	0	0	0	0	3
TR	0	0	0	0	0	0	1	0	0	0	1
UA	0	0	0	1	0	0	0	0	0	0	1
US	38	27	3	85	57	4	3	11	8	5	241
VE	0	0	0	0	0	0	1	0	0	2	3
Grand Total	90	48	10	143	106	12	28	25	15	31	508

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of "skins" for "commercial" purposes, on 9 July 2010.

Table A11: International trade in lion "trophies" for "commercial" purposes and for all sources: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
BW	0	0	1	0	0	0	1	0	0	0	2
CA	0	0	0	0	0	2	0	3	3	2	10
CZ	2	0	0	0	0	0	0	0	0	0	2
DE	0	0	0	0	0	2	0	0	0	0	2
FI	0	0	0	0	0	1	0	0	0	0	1
FR	0	2	0	0	0	0	0	0	0	0	2
GB	0	0	0	0	0	0	0	0	0	1	1
NA	0	0	1	0	0	0	0	0	0	0	1
TZ	0	1	1	0	4	2	1	2	1	3	15
ZA	37	40	6	62	13	4	26	17	11	25	241
ZM	0	1	0	0	0	0	0	1	0	0	2
ZW	51	4	1	81	89	1	0	2	0	0	229
Grand Total	90	48	10	143	106	12	28	25	15	31	508

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of "trophies" for "commercial" purposes, on 9 July 2010.

Table A12: International trade in lion "skins" for "commercial" purposes and from all sources: Importing countries.

Importing Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AE	0	0	0	0	0	0	4	4	0	0	8
AR	0	2	0	0	0	0	0	0	0	0	2
AT	1	1	0	0	0	1	0	0	0	0	3
AU	1	0	0	0	0	0	0	0	1	0	2
BG	0	0	0	0	0	0	0	0	1	0	1
BW	0	0	0	2	0	0	0	0	0	0	2
CA	2	0	0	0	0	0	0	0	0	0	2
CH	0	1	0	0	0	0	0	0	0	0	1
CN	0	0	0	1	1	0	4	1	0	9	16
CY	4	0	0	0	1	0	0	0	0	0	5
CZ	0	0	0	0	1	0	0	0	0	0	1
DE	5	15	2	4	2	0	5	6	7	0	46

ES	0	7	0	0	0	1	0	0	0	0	8
FR	0	0	0	0	0	0	1	0	0	0	1
GB	0	2	0	0	0	0	0	0	0	0	2
HU	1	0	0	0	0	0	0	0	0	0	1
IN	0	0	0	1	0	0	0	0	0	0	1
IT	0	0	0	0	2	2	2	1	4	0	11
JP	3	0	0	0	0	2	0	0	0	0	5
KW	0	1	0	0	0	0	0	0	0	1	2
MO	0	0	0	0	0	0	0	0	0	1	1
MU	0	0	0	1	0	0	0	0	0	0	1
NA	0	0	0	0	0	0	0	0	0	5	5
NG	0	1	0	0	0	0	0	0	0	0	1
NL	0	0	0	0	1	1	0	0	7	1	10
NO	0	0	0	0	0	0	4	0	0	0	4
PL	0	3	0	0	0	0	0	0	0	0	3
PT	0	1	0	0	0	0	0	0	0	0	1
QA	0	0	1	0	0	0	0	0	1	0	2
RO	0	0	0	0	0	0	0	0	1	0	1
RU	0	0	0	0	1	0	1	0	0	0	2
SA	0	0	0	0	0	2	0	0	0	0	2
SE	0	1	0	0	0	0	0	0	0	0	1
SG	1	1	0	1	0	0	0	0	0	0	3
US	11	53	11	15	12	1	2	8	6	4	123
ZA	71	48	0	0	0	8	0	0	35	0	162
Grand Total	100	137	14	25	21	18	23	20	63	21	442

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of "skins" for "commercial" purposes, on 9 July 2010.

Table A13: International trade in lion "skins" for "commercial" purposes and from all sources: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
BE	1	0	2	0	0	0	0	0	0	0	3
BW	80	66	0	0	0	15	10	2	58	8	239
CA	0	0	0	8	0	0	1	0	1	0	10
CH	0	0	0	0	0	0	0	1	0	0	1
CI	0	0	1	0	0	0	0	0	0	0	1
DE	0	0	0	0	0	0	0	0	0	1	1
FR	0	0	0	0	0	0	0	0	0	2	2
GB	1	0	0	0	0	0	0	0	0	0	1
MX	3	2	0	0	0	0	0	1	0	0	6
NA	3	0	0	0	0	2	1	1	3	0	10
TZ	1	4	0	0	0	1	1	0	0	0	7
XX	0	0	0	0	0	0	0	0	1	0	1
ZA	0	0	9	16	19	0	10	10	0	2	66
ZW	11	65	2	1	2	0	0	5	0	8	94
Grand Total	100	137	14	25	21	18	23	20	63	21	442

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of "skins" for "commercial" purposes, on 9 July 2010.

Table A14: International trade in "live" lions for "commercial" purposes and from all sources: Importing countries.

Importing Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AE	0	2	0	0	0	0	8	0	6	2	18

AG	1	0	0	0	0	0	0	0	0	0	1
AL	0	0	0	0	0	0	2	0	0	0	2
AR	0	0	0	0	0	0	0	0	0	2	2
AU	0	0	1	0	0	0	0	0	0	0	1
BR	0	2	0	0	0	0	2	0	0	0	4
CA	0	4	0	0	0	0	0	0	0	3	7
CM	0	0	1	2	0	0	0	0	0	0	3
ES	0	0	0	2	0	0	1	0	0	0	3
FR	0	0	0	0	0	0	0	0	3	0	3
GM	0	4	0	0	0	0	0	0	0	0	4
JM	0	0	0	3	0	0	0	0	0	0	3
JP	2	0	0	0	0	0	0	0	0	0	2
KE	10	0	0	0	0	0	0	0	0	0	10
KH	0	0	0	0	1	0	0	0	0	0	1
KR	0	0	0	8	0	0	0	0	0	0	8
KZ	0	0	0	0	0	0	10	3	0	0	13
MA	0	0	0	0	0	0	0	0	1	0	1
MM	0	0	0	0	0	1	0	0	0	0	1
MU	0	0	0	0	0	0	0	6	0	0	6
MX	0	0	0	1	0	0	1	0	0	0	2
MY	0	0	1	4	0	0	0	0	0	0	5
NA	0	0	1	0	0	0	0	0	0	0	1
NG	0	0	3	0	0	0	0	0	0	0	3
NL	0	0	0	1	0	0	0	0	0	0	1
NZ	1	0	0	0	0	0	0	0	0	0	1
PH	4	0	0	0	0	0	0	0	0	0	4
PK	0	0	0	0	0	0	0	0	7	1	8
RO	0	0	0	0	0	1	3	0	0	0	4
RU	3	2	2	0	0	0	0	0	2	0	9
SK	0	0	1	0	0	0	0	0	0	0	1
SY	0	0	0	0	0	0	0	2	9	0	11
SZ	0	2	0	0	3	0	0	0	0	0	5
TG	2	0	3	0	0	25	0	0	0	0	30
TH	0	0	0	4	0	0	3	2	12	2	23
TR	0	0	0	2	0	2	0	0	1	0	5
TW	0	0	0	0	0	2	1	0	0	0	3
US	0	0	0	0	1	2	0	10	4	2	19
ZA	0	14	2	31	31	0	0	0	0	0	78
ZM	1	0	0	0	0	0	0	0	0	10	11
ZW	4	0	0	0	0	0	0	0	0	0	4
Grand Total	28	30	15	58	36	33	31	23	45	22	321

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of "live" animals for "commercial" purposes, all sources, on 9 July 2010.

Table A15: International trade in "live" lions for "commercial" purposes and from all sources: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AR	0	0	0	0	0	0	2	12	0	0	14
AU	0	2	0	0	0	0	1	0	0	0	3
BE	0	0	0	2	0	2	5	0	4	0	13
BG	0	0	0	0	0	0	0	0	2	0	2
BJ	0	2	0	0	0	0	0	0	0	0	2
BW	0	14	4	0	0	0	0	0	0	0	18

CA	1	0	0	0	0	0	0	0	0	0	1
CH	0	0	0	2	0	0	0	0	5	0	7
CN	0	0	0	0	0	0	10	0	0	0	10
CZ	3	1	2	2	0	0	0	0	9	1	18
DE	0	0	0	14	0	3	3	0	0	0	20
ES	10	0	4	0	6	16	0	0	0	0	36
FR	2	0	0	2	0	0	0	4	0	0	8
HN	1	0	0	0	0	0	0	0	0	0	1
HT	0	0	0	0	0	0	0	1	0	0	1
HU	0	0	0	1	0	0	0	0	0	0	1
IN	2	0	0	0	1	0	0	0	0	0	3
IT	0	0	0	7	0	0	0	0	0	0	7
JO	0	0	0	0	0	0	0	0	3	0	3
JP	0	2	0	1	0	0	0	0	0	0	3
LR	0	0	0	0	0	2	0	0	0	0	2
MX	0	0	0	0	0	2	0	0	0	0	2
NE	0	0	2	0	0	0	0	0	0	0	2
NZ	0	0	1	0	0	0	0	0	0	0	1
PT	0	0	0	0	6	0	0	0	2	0	8
SD	0	0	0	0	0	0	0	2	12	0	14
SN	3	3	0	0	0	0	0	0	0	0	6
TZ	1	0	0	0	0	0	0	0	0	0	1
UA	0	0	2	0	0	0	0	3	0	0	5
US	3	3	0	1	0	0	1	0	0	0	8
VN	0	0	0	0	1	0	0	0	0	0	1
ZA	2	0	0	0	0	6	9	1	8	21	47
ZW	0	3	0	25	22	2	0	0	0	0	52
Grand Total	28	30	15	57	36	33	31	23	45	22	320

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of "live" animals for "commercial" purposes, on 9 July 2010.

Table A16: International trade in wild source lions and their parts for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	4	26	5	12	5	6	11	5	15	11	100
bone carvings	1	0	0	0	0	0	0	0	0	0	1
bone pieces	0	0	0	0	0	0	0	0	0	2	2
bones	0	6	0	0	2	0	10	4	8	4	34
carvings	0	10	0	40	1	0	0	0	8	0	59
claws	118	338	121	68	148	60	115	44	24	44	1080
cloth	8	0	0	0	0	0	0	0	0	0	8
feet	0	56	8	1	4	0	0	0	0	0	69
garments	1	0	0	0	1	0	0	0	0	0	2
hair	0	0	0	0	50	5	1	1	6	51	114
handbags	0	1	0	0	0	0	0	0	0	0	1
leather items	0	0	0	0	0	0	0	1	0	0	1
leather products (l)	2	2	1	1	0	0	0	5	0	1	12
leather products (s)	4	6	3	0	0	8	0	0	0	0	21
live	18	4	7	17	38	30	16	16	16	17	179
plates	20	21	9	19	8	4	1	0	6	2	90
skeletons	0	1	3	0	0	0	0	0	0	0	4
skin pieces	2	2	2	0	4	3	0	13	4	1	31
skins	194	200	95	70	38	38	38	50	78	39	840
skulls	164	202	105	51	413	14	19	27	15	20	1030
specimens	718	349	441	1128	1485	1079	2291	3109	394	141	11135

tails	2	1	0	0	0	0	0	0	1	0	4
teeth	243	203	299	4	5	2	10	5	0	0	771
trophies	655	738	541	536	550	491	676	702	708	729	6326
Grand Total	2154	2166	1640	1947	2752	1740	3188	3982	1283	1062	21914

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of "wild" source specimens, all purposes, on 9 July 2010.

Table A17: International trade in captive bred lions and their parts for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	2	0	0	6	0	2	7	5	13	35
bone carvings	0	0	0	0	0	0	0	0	0	2	2
bone pieces	0	0	0	0	4	0	0	0	1	2	7
bones	0	0	1	0	0	0	7	19	4	64	95
claws	0	0	0	0	4	8	0	41	0	18	71
feet	0	0	11	1	0	0	0	0	0	0	12
hair	0	0	0	0	0	0	0	0	100	0	100
live	231	174	180	201	154	148	117	153	126	202	1686
plates	0	0	0	0	1	2	0	0	0	0	3
skeletons	0	1	0	0	0	0	0	0	0	0	1
skin pieces	0	0	0	0	0	0	0	0	0	16	16
skins	9	10	23	18	5	4	16	82	20	14	201
skulls	3	8	25	6	10	4	8	101	8	5	178
specimens	0	0	0	1630	153	336	91	36	254	0	2500
tails	0	0	0	0	0	0	0	1	0	0	1
teeth	0	0	0	0	1	0	0	12	0	0	13
trophies	29	37	73	112	135	241	213	405	411	710	2366
unspecified	0	0	0	0	0	1	0	0	0	0	1
Grand Total	272	232	313	1968	473	744	454	857	929	1046	7288

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of "captive-bred" sources, all purposes, on 9 July 2010.

Table A18: International trade in captive bred lions and their parts for all purposes: Exporting countries.

Exporting Country (range States in bold)	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
AR	0	40	10	29	4	2	4	14	3	0	106
AT	9	0	0	0	0	1	0	0	13	0	23
AU	3	2	1	0	0	0	0	0	0	0	6
BE	9	7	2	2	11	4	5	4	2	0	46
BG	2	0	0	0	0	0	0	0	2	0	4
BJ	0	2	0	0	0	2	2	0	0	0	6
BO	13	0	0	7	0	0	0	3	0	0	23
BR	0	2	6	3	25	320	8	0	0	0	364
BY	0	0	0	0	1	0	0	0	10	0	11
CA	1	0	2	11	0	2	7	5	1	0	29
CH	0	0	5	6	2	9	16	5	7	1	51
CM	0	0	0	0	0	0	1	0	0	0	1
CN	0	4	0	3	0	0	11	0	0	12	30
CO	1	0	0	8	0	0	0	0	0	0	9
CU	4	0	6	0	0	6	0	0	0	0	16
CZ	0	17	4	0	7	8	0	0	9	1	46
DE	0	2	5	11	0	1	0	8	0	3	30
DK	0	0	3	0	1	0	0	2	7	0	13

DZ	0	0	0	0	0	0	0	0	0	1	1
EC	0	0	19	0	0	0	0	0	0	0	19
EG	0	3	6	12	9	15	0	17	0	14	76
ES	11	0	4	0	18	0	0	0	0	2	35
ET	0	0	0	0	0	0	0	0	206	0	206
FI	0	0	0	0	0	0	1	0	0	0	1
FR	15	0	0	30	2	8	8	10	0	0	73
GB	3	6	6	0	5	0	0	0	0	0	20
GR	0	2	0	0	0	0	0	0	0	0	2
GT	0	0	8	7	4	3	6	1	2	0	31
GY	0	2	0	0	0	0	0	0	0	0	2
HN	0	0	0	0	0	3	0	0	0	0	3
HU	13	2	0	5	9	1	1	0	0	0	31
ID	0	0	0	15	0	0	0	0	0	0	15
IL	0	2	5	3	0	0	0	0	0	0	10
IN	2	0	0	0	0	0	0	0	0	0	2
IT	0	0	7	7	1	0	0	0	4	0	19
JO	0	0	0	0	0	2	0	0	3	0	5
JP	38	4	49	17	9	0	5	0	0	0	122
KR	0	0	0	0	0	0	2	0	8	22	32
KW	0	4	0	0	0	0	0	0	0	0	4
KZ	2	0	0	0	0	0	0	23	0	0	25
LK	12	6	0	0	0	0	0	0	0	0	18
LR	0	0	0	0	0	1	0	0	0	0	1
LV	0	0	0	2	0	6	0	0	0	4	12
MA	0	4	4	4	5	36	0	0	0	0	53
MC	0	0	0	0	4	0	0	0	0	0	4
MN	0	0	0	1	0	0	0	0	0	0	1
MX	14	15	0	19	2	0	1	1	1	3	56
MY	5	0	0	0	0	0	0	0	0	0	5
MZ	0	0	0	0	0	0	2	0	0	0	2
NA	2	0	0	0	0	0	0	0	0	1	3
NE	2	2	1	0	0	2	0	0	0	0	7
NI	0	3	0	0	0	0	0	0	0	0	3
NL	4	0	1	2	2	0	0	1	0	0	10
NZ	0	0	1	2	0	0	1	0	0	0	4
PE	0	7	0	0	0	3	0	0	0	0	10
PL	2	0	1	2	1	2	0	0	0	3	11
PT	0	0	1	1	6	0	12	0	2	0	22
RE	0	0	0	0	0	0	6	0	0	0	6
RO	0	0	0	0	0	0	3	4	8	16	31
RS	0	0	0	0	0	0	0	0	2	0	2
RU	16	29	0	7	0	0	4	0	5	17	78
SG	0	2	0	1600	29	2	80	1	12	0	1726
SK	0	0	0	4	0	0	0	0	0	0	4
SN	3	5	0	0	0	0	0	0	0	0	8
SV	0	0	6	0	0	0	0	0	0	0	6
SZ	0	0	0	6	7	0	0	0	0	16	29
TG	0	0	0	1	0	0	0	0	0	0	1
TH	0	0	0	0	3	0	0	0	0	0	3
TN	0	0	0	0	0	0	0	0	0	4	4
TR	0	0	0	0	0	2	0	0	0	0	2
TZ	0	1	0	0	0	0	0	0	0	0	1
UA	0	0	2	0	13	10	0	16	0	0	41

US	4	0	7	0	0	1	0	0	0	0	12
UY	0	0	0	0	0	0	0	0	0	1	1
UZ	0	0	1	1	1	1	0	0	2	0	6
VE	10	0	0	0	2	0	0	0	0	0	12
XX	0	0	0	0	0	0	0	3	0	0	3
ZA	32	55	138	122	258	279	258	690	580	921	3333
ZM	0	0	0	0	0	0	2	0	0	0	2
ZW	35	4	0	0	17	15	0	56	36	2	165
Grand Total	267	234	311	1950	458	747	446	864	925	1044	7246

Source: UNEP-WCMC CITES Trade Database searched by "net imports" from "captive-bred" sources, all purposes, on 9 July 2010.

Table A19: International trade in F1 captive born lions and their parts for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	2	0	2	0	0	0	0	1	0	0	5
feet	0	0	6	0	0	0	0	0	0	0	6
live	3	20	2	12	11	28	10	12	24	27	149
skins	2	2	8	0	0	0	0	1	0	0	13
skulls	1	1	16	0	0	0	0	0	0	0	18
specimens	0	0	4	0	0	0	0	0	0	0	4
trophies	14	15	21	23	19	2	0	0	0	1	95
Grand Total	22	38	59	35	30	30	10	14	24	28	290

Source: UNEP-WCMC CITES Trade Database searched by "net imports" from "F1 captive born" sources, all purposes, on 9 July 2010.

Table A20: International trade in pre-Convention lions and their parts from "pre-Convention" for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	2	0	0	0	1	0	1	0	1	0	5
claws	0	0	2	0	0	0	0	2	0	0	4
leather products (l)	0	0	0	0	0	0	0	0	2	0	2
leather products (s)	0	0	0	0	0	0	0	0	1	0	1
live	1	0	0	0	0	0	0	0	0	0	1
skins	2	1	2	0	0	3	1	3	5	4	21
skulls	0	1	2	1	0	5	2	0	0	2	13
teeth	0	0	0	0	0	0	0	0	1	0	1
trophies	4	3	1	4	0	0	1	1	1	2	17
Grand Total	9	5	7	5	1	8	5	6	11	8	65

Source: UNEP-WCMC CITES Trade Database searched by "net imports" from "pre-Convention" sources, all purposes, on 9 July 2010.

Table A21: International trade in ranched raised lions and their parts for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Live	**NG**	0	0	0	0	2	0	0	0	0	0	2
Skins	**ZA**	0	0	1	0	0	0	0	0	0	0	1
Specimens	US	0	0	0	0	0	0	0	16	0	0	16
Trophies	**ZA**	0	0	0	0	0	0	1	0	0	0	1
Grand Total		1999	2000	2002	2002	2005	2004	2006	2022	2007	2008	20

Source: UNEP-WCMC CITES Trade Database searched by "net imports" from "ranch raised" sources, on 9 July 2010.

Table A22: International trade in lions and their parts from "illegal" sources and for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	1	0	2	2	1	0	0	0	0	6
bone pieces	0	0	0	0	0	0	0	0	0	4	4
bones	0	0	0	0	0	0	0	0	0	2	2

carvings	0	0	0	0	0	0	0	0	14	0	14
claws	2	0	0	0	0	54	0	72	2	18	148
feet	0	0	1	1	0	0	0	0	0	0	2
hair	0	1	0	0	0	0	0	1	0	7	9
live	0	4	0	5	4	4	4	2	3	4	30
plates	0	0	1	0	0	0	0	0	0	0	1
skin pieces	0	0	0	0	0	6	0	0	0	1	7
skins	0	0	1	1	4	4	0	1	0	1	12
skulls	0	0	1	0	0	5	2	1	2	0	11
specimens	0	0	0	0	0	0	1	19	0	35	55
teeth	0	0	0	0	0	0	5	0	5	7	17
trophies	2	1	0	0	1	2	1	5	1	5	18
Grand Total	4	7	4	9	11	76	13	101	27	84	336

Source: UNEP-WCMC CITES Trade Database searched by "net imports" from "illegal" sources, all purposes, on 9 July 2010.

Table A23: International trade in lions and their parts from Benin, from all sources and for all purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Live		AE	0	2	0	0	0	2	2	0	0	0	6
skin pieces		US	0	0	0	0	0	0	0	12	0	0	12
Skins		FR	1	0	0	0	0	0	0	0	0	0	1
Skins		US	0	0	0	0	0	0	0	10	0	0	10
Specimens	ml	NL	0	0	0	0	0	0	0	0	0	4	4
Trophies		DE	0	0	0	0	0	0	0	1	0	0	1
Trophies		FR	3	4	0	0	0	0	2	0	0	0	9
Trophies		RU	0	0	1	0	0	0	0	0	0	0	1
Trophies		US	0	0	2	0	0	0	0	1	0	0	3
Grand Total													47

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Benin", all sources, all purposes, on 3 August 2010. Subsequent analysis indicated that all were from wild sources except for the six live animals exported to the United Arab Emirates which were captive bred; two were exported for commercial purposes, two for zoo purposes and two for personal purposes.

Table A24: International trade in wild source lion parts from Benin for listed purposes.

Purpose	Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hunting trophy	skins		FR	1	0	0	0	0	0	0	0	0	0
Hunting trophy	trophies		DE	0	0	0	0	0	0	0	1	0	0
Hunting trophy	trophies		FR	3	4	0	0	0	0	2	0	0	0
Hunting trophy	trophies		RU	0	0	1	0	0	0	0	0	0	0
Hunting trophy	trophies		US	0	0	2	0	0	0	0	1	0	0
Personal	trophies		FR	0	1	0	0	0	0	0	0	0	0
Scientific	skin pieces		US	0	0	0	0	0	0	0	12	0	0
Scientific	skins		US	0	0	0	0	0	0	0	10	0	0
Scientific	specimens	ml	NL	0	0	0	0	0	0	0	0	0	4

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Benin", wild source, listed purposes, on 3 August 2010.

Table A25: International trade in lions and their parts from Botswana from all sources and for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	0	0	0	0	0	1	1	2
claws	4	0	0	0	0	0	0	0	0	0	4
hair	0	0	0	0	0	4	0	1	6	0	11
live	0	14	4	0	0	0	4	3	6	0	31

skins	94	72	0	0	1	15	10	6	68	8	274
skulls	2	2	0	0	0	0	0	3	0	1	8
specimens	538	1	150	0	997	928	786	1672	40	36	5148
trophies	22	30	9	2	0	0	27	22	28	15	155
Grand Total	660	119	163	2	998	947	827	1707	149	61	5633

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", all sources, all purposes, on 2 August 2010.

Table A26: International trade in wild source lions and their parts from Botswana for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	0	0	0	0	0	1	1	2
claws	4	0	0	0	0	0	0	0	0	0	4
hair	0	0	0	0	0	4	0	1	6	0	11
live	0	0	4	0	0	0	0	0	0	0	4
skins	94	72	0	0	1	15	10	6	68	8	274
skulls	2	2	0	0	0	0	0	3	0	1	8
specimens	538	1	150	0	997	928	786	1672	40	36	5148
trophies	22	30	9	2	0	0	27	22	28	15	155
Grand Total	660	105	163	2	998	947	823	1704	143	61	5606

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", wild source, all purposes, on 2 August 2010.

Table A27: International trade in captive bred lions from Botswana for all purposes.

Source	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Captive bred	live	**ZA**	0	0	0	0	0	0	4	3	6	0	13
Captive born	live	**ZA**	0	14	0	0	0	0	0	0	0	0	14

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", various sources, all purposes, on 2 August 2010.

Table A28: International trade in wild source lions and their parts from Botswana for commercial purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	**ZA**	0	0	0	0	0	0	0	0	1	0	1
live	**ZA**	0	0	4	0	0	0	0	0	0	0	4
skins	**NA**	0	0	0	0	0	0	0	0	0	5	5
skins	US	0	5	0	0	0	0	0	0	0	0	5
skins	**ZA**	80	61	0	0	0	15	10	2	58	3	229
skulls	**ZA**	2	0	0	0	0	0	0	0	0	0	2
specimens	US	0	0	0	0	0	0	546	8	0	0	554
trophies	US	0	0	0	0	0	0	1	0	0	0	1
trophies	**ZA**	0	0	1	1	0	0	0	0	0	0	2
Grand Total												803

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", wild source, commerce purpose, on 2 August 2010.

Table A29: International trade in wild source lion parts from Botswana for hunting trophy purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
claws	XX	4	0	0	0	0	0	0	0	0	0	4
Subtotal claws		**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
skins	DE	0	1	0	0	0	0	0	0	0	0	1
skins	**ZA**	0	1	0	0	0	0	0	2	0	0	3
Subtotal skins		**2007**	**2002**	**2001**	**2002**	**2003**	**2004**	**2005**	**2008**	**2007**	**2008**	**12**
skulls	US	0	0	0	0	0	0	0	0	0	1	1
skulls	**ZA**	0	2	0	0	0	0	0	3	0	0	5
Subtotal skulls		**4014**	**4006**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**6**

trophies	AR	0	1	0	0	0	0	0	0	0	0	1
trophies	BE	0	0	0	0	0	0	0	0	0	1	1
trophies	DE	1	0	0	0	0	0	2	0	0	0	3
trophies	ES	1	1	0	0	0	0	0	1	1	1	5
trophies	FI	0	0	0	0	0	0	2	1	0	0	3
trophies	MX	0	0	2	0	0	0	1	2	0	0	5
trophies	RU	0	0	0	0	0	0	2	0	1	0	3
trophies	SK	0	1	0	0	0	0	0	0	0	0	1
trophies	US	5	26	6	1	0	0	16	17	22	11	104
trophies	**ZA**	5	0	0	0	0	0	4	1	4	2	16
trophies	**ZM**	0	1	0	0	0	0	0	0	0	0	1
trophies	**ZW**	2	0	0	0	0	0	0	0	0	0	2
Subtotal trophies		**8042**	**8042**	**4010**	**4005**	**4006**	**4008**	**4037**	**4044**	**4042**	**4033**	**181**
Grand Total												**362**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", wild source, hunting trophy purpose, on 2 August 2010.

Table A30: International trade in wild source lion parts from Botswana for personal purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	IS	0	0	0	0	0	0	0	0	0	1	1
skins	CN	0	0	0	0	1	0	0	0	0	0	1
skins	NO	1	0	0	0	0	0	0	0	0	0	1
skins	SK	0	0	0	0	0	0	0	1	0	0	1
skins	**ZA**	13	6	0	0	0	0	0	1	10	0	30
specimens	US	0	0	0	0	0	0	16	0	0	0	16
trophies	US	1	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", wild source, personal purposes, on 2 August 2010.

Table A31: International trade in wild source lion parts from Botswana for scientific purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
hair		CH	0	0	0	0	0	4	0	1	6	0
specimens	g	US	0	0	0	0	0	0	180	0	0	0
specimens	ml	CH	0	0	0	0	0	0	0	19	0	0
specimens	ml	US	0	0	0	0	0	0	0	1092	0	0
specimens		CH	0	0	0	0	61	66	28	7	34	36
specimens		US	520	1	150	0	934	862	16	546	6	0
specimens		**ZA**	0	0	0	0	2	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Botswana", wild source, scientific purposes, on 2 August 2010.

Table A32: International trade in lion parts from Burkina Faso from all sources and for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
trophies	BE	1	0	0	0	0	0	0	0	0	0	1
trophies	CZ	0	0	2	1	2	0	0	0	0	0	5
trophies	DE	0	2	0	0	0	0	0	0	0	0	2
trophies	FR	8	18	7	9	18	11	11	8	14	0	104
trophies	IT	1	0	0	1	0	2	2	0	1	0	7
trophies	MX	0	0	0	0	0	0	0	6	0	0	6
trophies	**NA**	0	0	1	0	0	0	0	0	0	0	1
trophies	NO	0	0	0	0	0	1	0	0	0	0	1
trophies	PL	0	0	0	0	0	0	0	2	0	0	2
trophies	US	2	0	0	2	0	0	0	0	0	1	5
Grand Total		2011	2020	2011	2015	2023	2018	2018	2022	2022	2009	134

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Burkina Faso", all sources, all purposes, on 3 August 2010.

Table A33: International trade in wild source lion parts from Burkina Faso for hunting trophy or personal purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Trophies	BE	1	0	0	0	0	0	0	0	0	0	1
Trophies	CZ	0	0	2	1	2	0	0	0	0	0	5
Trophies	DE	0	2	0	0	0	0	0	0	0	0	2
Trophies	FR	8	18	7	9	18	11	11	8	14	0	104
Trophies	IT	1	0	0	1	0	2	2	0	1	0	7
Trophies	MX	0	0	0	0	0	0	0	6	0	0	6
Trophies	**NA**	0	0	1	0	0	0	0	0	0	0	1
Trophies	NO	0	0	0	0	0	1	0	0	0	0	1
Trophies	PL	0	0	0	0	0	0	0	2	0	0	2
Trophies	US	2	0	0	2	0	0	0	0	0	1	5
Grand Total												134

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Burkina Faso", wild source, all purposes, on 3 August 2010. Subsequent analysis revealed that all wild specimens were exported for hunting trophy or personal purposes. UNITED STATES imports in 2008 and 2009 were from NAMOUNGOU SAFARI and FARO SAFARI (LEMIS data).

Table A34: International trade in lions and their parts from Cameroon from all sources and for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Live	**ZA**	0	0	0	0	0	0	1	0	0	0	1
skin pieces	US	0	0	0	0	0	0	0	0	4	0	4
Skins	DE	1	0	0	0	0	0	0	0	0	0	1
Skulls	DE	1	0	0	0	0	0	0	0	0	0	1
specimens	NL	0	0	0	0	0	20	0	0	20	0	40
specimens	US	0	0	0	0	0	0	20	1	0	0	21
specimens	**ZA**	0	0	0	0	0	0	20	0	0	0	20
Teeth	US	0	0	0	0	1	0	0	0	0	0	1
Trophies	AU	0	0	0	0	0	0	1	0	0	0	1
Trophies	BE	1	0	0	1	0	2	3	2	0	0	9
Trophies	BR	0	1	0	0	0	0	0	0	0	0	1
Trophies	DE	3	0	0	0	0	0	1	0	1	0	5
Trophies	ES	2	3	3	0	0	0	0	1	1	0	10
Trophies	FR	8	12	0	6	1	6	9	11	0	0	53
Trophies	IT	1	2	0	0	0	1	2	0	0	0	6
Trophies	RU	0	0	0	0	0	0	1	0	0	0	1
Trophies	SE	1	0	0	0	0	0	0	0	0	0	1
Trophies	US	0	2	3	2	0	1	1	2	1	3	15
Trophies	**ZA**	0	0	0	0	0	0	1	0	0	0	1
Subtotal trophies		2017	2020	2007	2011	2005	2034	2065	2023	2034	2011	192
Grand Total		4034	4040	4014	4022	4010	4068	4130	4046	4068	4022	384

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Cameroon", all sources, all purposes, on 3 August 2010. Upon further investigation, all were found to be from wild sources with the exception of the one live specimen exported to South Africa in 2005 which was captive bred and traded for zoo purposes. All skins, skulls, teeth and trophies were exported as hunting trophies or for personal purposes. Cameroon exporters: FARO WEST-PIERRE GUERRLINI, COMORES SAFARIE SERVICES, LIFE-FORM TAXIDERMY, TRADITION ET SAFARI, HIPPO-CAMP. All "specimens" were exported for scientific purposes as were the four skin pieces exported to the UNITED STATES in 2007.

Table A35: International trade in lion parts from Central African Republic from all sources and for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Trophies	BE	1	0	0	0	0	0	0	1	0	0	2
Trophies	CH	0	2	0	0	0	0	0	0	0	0	2

Trophies	DK	0	1	2	0	0	0	1	0	0	1	5
Trophies	ES	1	0	0	0	0	0	0	0	0	0	1
Trophies	FR	7	10	5	0	0	0	2	1	8	0	33
Trophies	MX	0	0	1	0	0	0	0	0	0	0	1
Trophies	RU	0	0	0	0	0	0	0	1	0	0	1
Trophies	US	1	1	1	0	0	0	0	0	1	0	4
Grand Total		2009	2014	2010	2002	2003	2004	2008	2009	2016	2009	49

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Central African Republic", all sources, all purposes, on 3 August 2010. Upon further investigation, all were found to be from wild sources and were traded as hunting trophies or for personal purposes.

Table A36: International trade in lion parts from Ethiopia from all sources and for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Claws	GB	0	0	0	0	0	4	0	0	0	0	4
Skins	**NG**	0	0	0	2	2	0	0	0	0	0	4
Skins	US	0	0	0	0	0	1	0	0	0	0	1
specimens	DE	0	0	0	0	0	0	0	0	200	0	200
specimens	US	0	0	0	0	0	0	0	0	171	0	171
Trophies	AE	0	0	0	0	0	1	0	0	0	0	1
Trophies	BH	0	0	0	0	0	0	0	5	0	0	5
Trophies	IT	3	0	0	0	0	0	0	0	0	0	3
Trophies	US	0	0	2	2	3	0	0	1	1	1	10
Subtotal trophies		2002	2000	2003	2006	2008	2010	2005	2012	2379	2009	399
Grand Total		4004	4000	4006	4012	4016	4020	4010	4024	4758	4018	798

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Ethiopia", all sources, all purposes, on 3 August 2010. Upon further investigation, all were found to be from wild sources with the exception of the one live specimen exported to South Africa in 2005 which was captive bred and traded for zoo purposes. All skins, skulls, teeth and trophies were exported as hunting trophies or for personal purposes. All "specimens" were exported for scientific purposes as were the four skin pieces exported to the UNITED STATES in 2007.

Table A37: International trade in lion parts from Ethiopia from listed sources and for all purposes.

Sources	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Wild	skins	**NG**	0	0	0	2	0	0	0	0	0	0	2
Wild	specimens	US	0	0	0	0	0	0	0	0	165	0	165
Wild	trophies	AE	0	0	0	0	0	1	0	0	0	0	1
Wild	trophies	IT	3	0	0	0	0	0	0	0	0	0	3
Wild	trophies	US	0	0	2	2	3	0	0	1	1	1	10
Illegal	claws	GB	0	0	0	0	0	4	0	0	0	0	4
Illegal	skins	**NG**	0	0	0	0	2	0	0	0	0	0	2
Illegal	skins	US	0	0	0	0	0	1	0	0	0	0	1
Illegal	trophies	BH	0	0	0	0	0	0	0	5	0	0	5
Captive bred	specimens	DE	0	0	0	0	0	0	0	0	200	0	200
Captive bred	specimens	US	0	0	0	0	0	0	0	0	6	0	6
Grand total			2002	2000	2003	2006	2008	2010	2005	2012	2379	2009	399

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Ethiopia", listed sources, all purposes, on 3 August 2010.

Table A38: International trade in wild source lion parts from Ethiopia for the listed purposes.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Hunting trophy	trophies	AE	0	0	0	0	0	1	0	0	0	0	1
Hunting trophy	trophies	IT	3	0	0	0	0	0	0	0	0	0	3
Hunting trophy	trophies	US	0	0	2	2	3	0	0	1	1	1	10
Personal	skins	**NG**	0	0	0	2	0	0	0	0	0	0	2
Scientific	specimens	US	0	0	0	0	0	0	0	0	165	0	165

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Ethiopia", wild source, listed purposes, on 3 August 2010. Notes: Ethiopian exporters: TAXIDERMY COOPERATIVE SOCIETY, TAXIDERMY PRODUCERS COOPERATIVE SOCIETY, ETHIOPIAN RIFT VALLEY SAFARIS P.L.C. Scientific specimens went to: LGD, NCI-Frederick, NIH

Table A39: International trade in lions and their parts from Kenya from all sources and for all purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Bodies		AE	0	0	0	0	0	0	0	0	0	1	1
Bodies		JP	0	0	0	0	0	0	1	0	0	0	1
Bodies		US	0	0	0	0	0	0	0	1	0	0	1
Claws		AU	0	0	0	0	0	0	0	0	0	1	1
Claws		GB	1	0	0	0	0	1	0	0	0	0	2
Claws		US	4	0	0	0	0	0	1	0	0	0	5
Garments		GB	1	0	0	0	0	0	0	0	0	0	1
Hair		US	0	0	0	0	50	0	0	0	0	0	50
leather products (l)		GB	0	0	0	0	0	0	0	0	2	0	2
leather products (s)		GB	2	0	0	0	0	0	0	0	0	0	2
leather products (s)		US	1	0	0	0	0	0	0	0	0	0	1
Live		**UG**	1	0	0	0	0	0	0	0	0	0	1
skin pieces		GB	0	2	0	0	0	0	0	0	0	0	2
Skins		FR	0	0	0	0	1	0	0	0	0	0	1
Skins		GB	0	0	0	0	0	0	0	0	3	0	3
Skins		NL	0	0	0	1	0	0	0	0	0	0	1
Skins		US	1	1	0	0	0	0	0	0	1	0	3
Specimens	flasks	US	90	110	0	0	0	0	40	0	0	35	275
Specimens	g	US	0	0	0	0	0	0	0	0	0	4	4
Specimens	kg	NL	0	0	0	0	0	0	0	0	0	0	0
Specimens	kg	US	0	0	0	5	0	0	0	0	0	0	5
Specimens	ml	US	0	60	55	625	370	0	316	0	0	1	1427
Specimens	ml	**ZA**	0	0	0	0	0	0	0	9	0	0	9
Specimens		US	0	110	0	0	30	38	92	0	0	35	305
Subtotal Specimens													2103
Teeth		GB	0	0	2	0	0	0	0	0	0	0	2
Teeth		US	0	0	0	0	0	1	0	0	0	0	1
Trophies		GB	0	0	1	0	0	0	0	0	0	0	1
Trophies		US	1	0	0	0	0	0	0	0	0	0	1
Grand Total													4211

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Kenya", all sources, all purposes, on 3 August 2010.

Table A40: International trade in wild source lions and their parts from Kenya for all purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Bodies		AE	0	0	0	0	0	0	0	0	0	1	1
Bodies		JP	0	0	0	0	0	0	1	0	0	0	1
Bodies		US	0	0	0	0	0	0	0	1	0	0	1
Claws		AU	0	0	0	0	0	0	0	0	0	1	1
Claws		US	4	0	0	0	0	0	1	0	0	0	5
Garments		GB	1	0	0	0	0	0	0	0	0	0	1
Hair		US	0	0	0	0	50	0	0	0	0	0	50
leather products (s)		GB	2	0	0	0	0	0	0	0	0	0	2
leather products		US	1	0	0	0	0	0	0	0	0	0	1

(s)													
Live		UG	1	0	0	0	0	0	0	0	0	0	1
skin pieces		GB	0	2	0	0	0	0	0	0	0	0	2
Skins		NL	0	0	0	1	0	0	0	0	0	0	1
Skins		US	1	1	0	0	0	0	0	0	1	0	3
Specimens	flasks	US	90	110	0	0	0	0	40	0	0	35	275
Specimens	g	US	0	0	0	0	0	0	0	0	0	4	4
Specimens	kg	NL	0	0	0	0	0	0	0	0	0	0	0
Specimens	kg	US	0	0	0	5	0	0	0	0	0	0	5
Specimens	ml	US	0	60	55	625	370	0	316	0	0	1	1427
Specimens	ml	**ZA**	0	0	0	0	0	0	0	9	0	0	9
Specimens		US	0	110	0	0	30	38	92	0	0	0	270
Teeth		GB	0	0	2	0	0	0	0	0	0	0	2
Teeth		US	0	0	0	0	0	1	0	0	0	0	1
Trophies		GB	0	0	1	0	0	0	0	0	0	0	1
Trophies		US	1	0	0	0	0	0	0	0	0	0	1
Grand Total													2065

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Kenya", wild sources, all purposes, on 3 August 2010.

Table A41: International trade in lion parts from Kenya from listed sources and for all purposes.

Source	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Captive born	skins	FR	0	0	0	0	1	0	0	0	0	0	1
Illegal	claws	GB	1	0	0	0	0	1	0	0	0	0	2
Illegal	specimens	US	0	0	0	0	0	0	0	0	0	35	35
Pre-Convention	leather products (l)	GB	0	0	0	0	0	0	0	0	2	0	2
Pre-Convention	skins	GB	0	0	0	0	0	0	0	0	3	0	3

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Kenya", listed sources, all purposes, on 3 August 2010.

Table A42: International trade in wild source lion specimens from Kenya for listed purposes.

Purpose	Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Travelling exhibit	bodies		AE	0	0	0	0	0	0	0	0	0	1
Travelling exhibit	bodies		JP	0	0	0	0	0	0	1	0	0	0
Commercial	specimens		US	0	110	0	0	0	0	0	0	0	0
Hunting trophy	teeth		US	0	0	0	0	0	1	0	0	0	0
Personal	bodies		US	0	0	0	0	0	0	0	1	0	0
Personal	claws		AU	0	0	0	0	0	0	0	0	0	1
Personal	claws		US	4	0	0	0	0	0	1	0	0	0
Personal	garments		GB	1	0	0	0	0	0	0	0	0	0
Personal	leather products (s)		GB	2	0	0	0	0	0	0	0	0	0
Personal	leather products (s)		US	1	0	0	0	0	0	0	0	0	0
Personal	skin pieces		GB	0	2	0	0	0	0	0	0	0	0

Personal	skins		NL	0	0	0	1	0	0	0	0	0	0
Personal	skins		US	1	1	0	0	0	0	0	0	1	0
Personal	teeth		GB	0	0	2	0	0	0	0	0	0	0
Personal	trophies		GB	0	0	1	0	0	0	0	0	0	0
Personal	trophies		US	1	0	0	0	0	0	0	0	0	0
Reintroduction	live		UG	1	0	0	0	0	0	0	0	0	0
Scientific	hair		US	0	0	0	0	50	0	0	0	0	0
Scientific	skins		US	0	0	0	0	0	0	0	0	1	0
Scientific	specimens	flasks	US	90	110	0	0	0	0	40	0	0	35
Scientific	specimens	g	US	0	0	0	0	0	0	0	0	0	4
Scientific	specimens	kg	NL	0	0	0	0	0	0	0	0	0	0
Scientific	specimens	kg	US	0	0	0	5	0	0	0	0	0	0
Scientific	specimens	ml	US	0	60	55	625	370	0	316	0	0	1
Scientific	specimens	ml	**ZA**	0	0	0	0	0	0	0	9	0	0
Scientific	specimens		US	0	0	0	0	30	38	92	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Kenya", wild source, listed purposes, on 3 August 2010. Lion specimens imported to the UNITED STATES for scientific purposes by FIELD MUSEUM OF NATURAL HISTORY, NATIONAL INSTITUTES OF HEATLH NATIONAL CANCER CTR, and Montana State University, Department of Ecology. Kenya exporters are MPALA RESEARCH CENTRE, LAIKIPIA PREDATOR PROJECT, and AFRICAN CONSERVATION CENTRE (LEMIS).

Table A43: International trade in lions and lion parts from Mozambique, all sources, all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
carvings	0	0	0	0	0	0	0	0	1	0	1
live	0	0	0	0	0	2	0	0	0	0	2
skin pieces	0	0	0	0	0	1	0	0	0	0	1
skins	21	7	13	0	0	0	0	3	0	0	44
skulls	20	9	13	0	0	0	1	3	0	0	46
teeth	231	201	265	0	0	0	0	0	0	0	697
trophies	1	29	15	10	15	15	26	18	15	18	162
Grand Total	273	246	306	10	15	18	27	24	16	18	953

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Mozambique", all sources, all purposes, on 21 July 2010.

Table A44. International trade in wild source lion skins from Mozambique for "hunting trophy" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
live	PT	0	0	0	0	0	2	0	0	0	0	2
skins	**ZA**	11	7	12	0	0	0	0	3	0	0	33
skulls	US	0	0	0	0	0	0	1	0	0	0	1
skulls	**ZA**	11	9	12	0	0	0	0	3	0	0	35
teeth	**ZA**	0	201	265	0	0	0	0	0	0	0	466
trophies	ES	1	6	2	2	4	4	14	3	2	3	41
trophies	FR	0	0	1	0	0	0	0	0	0	0	1
trophies	GB	0	0	0	1	0	0	0	0	0	0	1
trophies	IT	0	0	0	1	0	0	0	0	0	0	1
trophies	MX	0	0	0	0	0	0	0	0	3	1	4
trophies	**NA**	0	0	0	0	0	0	0	1	0	0	1
trophies	PL	0	0	0	0	0	0	0	1	0	0	1
trophies	PT	0	0	0	0	1	2	0	2	2	3	10
trophies	US	0	6	4	3	6	5	4	3	5	5	41
trophies	XX	0	0	0	0	0	0	1	0	0	0	1
trophies	**ZA**	0	17	6	3	3	3	4	5	3	3	47
trophies	**ZW**	0	0	0	0	1	1	1	3	0	2	8

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Mozambique", "wild" source, "hunting trophy" purposes, on 21 July 2010.

Table A45. International trade in wild source lion skins from Mozambique for "personal" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
carvings	CZ	0	0	0	0	0	0	0	0	1	0
skins	TN	1	0	0	0	0	0	0	0	0	0
skins	US	9	0	0	0	0	0	0	0	0	0
skins	**ZA**	0	0	1	0	0	0	0	0	0	0
skulls	US	9	0	0	0	0	0	0	0	0	0
skulls	**ZA**	0	0	1	0	0	0	0	0	0	0
teeth	US	231	0	0	0	0	0	0	0	0	0
trophies	AU	0	0	2	0	0	0	0	0	0	0
trophies	**ZA**	0	0	0	1	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Mozambique", "wild" source, "personal" purposes, on 21 July 2010.

Table A46: International trade in lions and their parts from Namibia from all sources and for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	0	0	0	0	0	0	2	2
claws	0	0	0	0	0	60	0	0	0	5	65
leather products (s)	0	0	0	0	0	1	0	0	0	0	1
live	5	0	0	0	0	0	0	0	0	0	5
skins	9	7	1	2	0	5	3	6	5	4	42
skulls	2	4	2	1	4	0	3	0	0	1	17
specimens	0	45	184	400	4	50	0	0	0	0	683
teeth	0	0	30	0	0	0	0	0	0	0	30
trophies	7	11	12	6	16	21	31	18	23	23	168
Grand Total	23	67	229	409	24	137	37	24	28	35	1013

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", all sources, all purposes, on 3 August 2010.

Table A47: International trade in wild source lions and their parts from Namibia for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	0	0	0	0	0	0	2	2
claws	0	0	0	0	0	60	0	0	0	5	65
leather products (s)	0	0	0	0	0	1	0	0	0	0	1
live	1	0	0	0	0	0	0	0	0	0	1
skins	9	7	1	2	0	5	3	6	5	4	42
skulls	2	4	2	1	4	0	3	0	0	1	17
specimens	0	45	184	400	4	50	0	0	0	0	683
teeth	0	0	30	0	0	0	0	0	0	0	30
Trophies	7	11	12	6	16	20	31	18	23	23	167
Grand Total	19	67	229	409	24	136	37	24	28	35	1008

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", wild source, all purposes, on 3 August 2010.

Table A48: International trade in lions and their parts from Namibia from the listed sources and for all purposes.

Source	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Captive bred	live	**ZA**	4	0	0	0	0	0	0	0	0	0	4
Captive bred	trophies	US	0	0	0	0	0	0	0	0	0	1	1
Captive born	live	**ZA**	2	0	0	0	0	0	0	0	0	0	2

Illegal	trophies	PL	0	0	0	0	0	1	0	0	0	0	1
Pre-convention	trophies	US	0	0	0	1	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", listed sources, all purposes, on 3 August 2010.

Table A49: International trade in wild source lion specimens from Namibia for hunting trophy purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Skins	DE	2	2	1	0	0	1	0	0	0	1	7
Skulls	DE	0	1	1	0	0	0	0	0	0	0	2
Teeth	DE	0	0	30	0	0	0	0	0	0	0	30
Trophies	AT	0	0	0	0	0	0	0	0	1	0	1
Trophies	BE	0	0	0	0	2	0	0	0	0	0	2
trophies	BG	0	0	0	0	0	0	0	1	0	0	1
trophies	CH	0	0	2	0	0	0	0	0	0	0	2
trophies	CZ	0	0	0	0	0	0	0	0	0	1	1
trophies	DE	1	2	1	0	4	3	3	1	1	3	19
trophies	DK	0	1	0	0	0	0	1	0	0	0	2
trophies	ES	0	0	0	0	0	0	2	0	0	0	2
trophies	FR	0	0	0	0	0	0	0	1	0	0	1
trophies	GB	0	0	0	2	3	1	1	0	0	0	7
trophies	HR	0	0	0	0	0	0	0	1	0	0	1
trophies	IT	1	0	0	0	0	0	0	0	0	0	1
trophies	**KE**	0	1	0	0	0	0	0	0	0	0	1
trophies	MX	0	0	0	0	0	0	0	2	3	1	6
trophies	NL	0	0	0	0	0	0	0	1	0	0	1
trophies	NO	0	0	0	0	0	0	0	0	0	3	3
trophies	PL	0	0	0	2	0	0	3	3	10	0	18
trophies	PT	0	0	0	0	0	0	2	0	1	0	3
trophies	RU	0	0	0	0	0	0	0	0	0	3	3
trophies	SE	0	0	0	0	0	1	0	0	0	0	1
trophies	US	2	2	2	1	2	9	11	6	7	8	50
trophies	**ZA**	0	0	0	1	0	2	3	0	0	1	7
Subtotal trophies		**2005**	**2009**	**2038**	**2008**	**2014**	**2021**	**2031**	**2022**	**2030**	**2029**	**172**
Grand Total		4010	4018	4076	4016	4028	4042	4062	4044	4060	4058	344

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", wild source, hunting trophy purpose, on 3 August 2010.

Table A50: International trade in wild source lion parts from Namibia for personal purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	0	0	0	0	0	0	2	2
skins	7	6	0	2	0	2	2	5	2	3	29
skulls	2	3	1	1	1	0	0	0	0	1	9
Trophies	3	5	7	0	5	6	7	2	0	3	38
Grand Total	12	14	8	3	6	8	9	7	2	9	78

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", wild source, personal purposes, on 3 August 2010.

Table A51: International trade in wild source lions and their parts from Namibia for the listed purposes.

Purpose	Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Circus	Live		**ZA**	1	0	0	0	0	0	0	0	0	0	1
Commercial	claws		DE	0	0	0	0	0	0	0	0	0	5	5
Commercial	claws		**ZA**	0	0	0	0	0	60	0	0	0	0	60
Commercial	leather products		JP	0	0	0	0	0	1	0	0	0	0	1

	(s)													
Commercial	skins		DE	0	0	0	0	0	0	0	1	0	0	1
Commercial	skins		JP	0	0	0	0	0	2	0	0	0	0	2
Commercial	skins		**ZA**	3	0	0	0	0	0	1	0	3	0	70
Commercial	trophies		**ZA**	0	0	1	0	0	0	0	0	0	0	1
Educational	skulls		US	0	0	0	0	3	0	0	0	0	0	
Scientific	skulls		US	0	0	0	0	0	0	3	0	0	0	
Scientific	specimens	flasks	US	0	5	0	0	0	25	0	0	0	0	
Scientific	specimens	g	US	0	0	0	400	0	0	0	0	0	0	
Scientific	specimens		US	0	0	184	0	4	25	0	0	0	0	
Scientific	trophies		US	0	0	0	0	0	0	3	0	0	0	3
Zoo	specimens		US	0	40	0	0	0	0	0	0	0	0	

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Namibia", wild source, listed purposes, on 3 August 2010.

Table A52: International trade in lions and their parts from South Africa from all sources and for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	2	10	3	3	4	0	3	3	12	19	59
bone carvings	0	0	0	0	0	0	0	0	0	2	2
bone pieces	0	0	0	0	4	0	0	0	0	8	12
bones	0	2	1	0	2	0	17	23	5	70	120
carvings	0	10	0	0	0	0	0	0	21	0	31
claws	62	52	119	68	82	61	114	85	24	74	741
feet	0	56	19	1	4	0	0	0	0	0	80
hair	0	0	0	0	0	0	0	0	100	0	100
handbags	0	1	0	0	0	0	0	0	0	0	1
leather products (l)	1	2	1	0	0	0	0	3	0	1	8
leather products (s)	1	6	3	0	0	7	0	0	0	0	17
live	42	18	17	36	31	62	47	66	66	129	514
plates	11	21	9	16	9	5	1	0	5	1	78
skeletons	0	0	3	0	0	0	0	0	0	0	3
skin pieces	0	0	1	0	4	3	0	1	0	16	25
skins	75	111	91	58	34	19	45	109	54	34	630
skulls	120	124	115	39	14	7	18	125	15	20	597
specimens	89	0	52	0	100	0	2	0	79	32	354
tails	1	0	0	0	0	0	0	1	1	0	3
teeth	0	4	125	4	2	1	10	16	0	0	162
trophies	171	202	177	304	266	355	353	552	659	944	3983
Grand Total	575	619	736	529	556	520	610	984	1041	1350	7520

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", all sources, all purposes, on 21 July 2010.

Table A53: International trade in wild source lions and their parts from South Africa for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
bodies	2	10	3	3	1	0	3	2	9	6	39
bone pieces	0	0	0	0	0	0	0	0	0	2	2
bones	0	2	0	0	2	0	10	4	1	4	23
carvings	0	10	0	0	0	0	0	0	7	0	17
claws	62	52	119	68	79	53	114	44	24	38	653
feet	0	56	8	1	4	0	0	0	0	0	69
handbags	0	1	0	0	0	0	0	0	0	0	1
leather products (l)	1	2	1	0	0	0	0	3	0	1	8
leather products (s)	1	6	3	0	0	7	0	0	0	0	17

live	17	0	0	18	6	5	4	3	0	4	57
plates	11	21	9	16	8	3	1	0	5	1	75
skeletons	0	0	3	0	0	0	0	0	0	0	3
skin pieces	0	0	1	0	4	3	0	1	0	0	9
skins	73	106	69	50	29	13	28	27	36	22	453
skulls	117	117	89	37	8	2	10	24	7	14	425
specimens	89	0	52	0	0	0	1	0	79	32	253
tails	1	0	0	0	0	0	0	0	1	0	2
teeth	0	4	125	4	1	1	10	4	0	0	149
trophies	137	189	149	192	177	182	235	284	414	454	2413
Grand Total	511	576	631	389	319	269	416	396	583	578	4668

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa" form "wild sources", all purposes, on 21 July 2010.

Table A54: International trade in wild source lions and their parts to South Africa.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
bodies	0	0	0	0	0	0	0	0	1	2	3
bones	0	0	0	0	0	0	0	0	8	0	8
claws	90	36	16	0	0	60	0	0	0	0	202
live	3	3	4	30	29	20	0	3	0	0	92
skins	140	97	28	0	0	16	17	24	71	4	397
skulls	47	36	27	0	2	0	6	22	0	0	140
specimens	0	0	0	0	2	0	20	9	0	0	31
teeth	0	201	265	0	0	0	0	0	0	0	466
trophies	25	32	35	37	34	35	42	26	23	27	316
Grand Total	305	405	375	67	67	131	85	84	103	33	1655

Source: UNEP-WCMC CITES Trade Database searched by "gross exports" to "South Africa", from "wild" sources, all purposes, on 21 July 2010.

Table A55. International trade in wild source lions from South Africa for "hunting trophy" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
bodies	CA	0	3	0	0	0	0	0	1	0	0
bodies	SE	0	0	1	0	0	0	0	0	0	0
bone pieces	US	0	0	0	0	0	0	0	0	0	2
bones	DE	0	2	0	0	0	0	0	0	0	0
bones	US	0	0	0	0	2	0	0	0	1	2
claws	DE	0	2	18	18	0	0	0	0	0	0
claws	ES	0	0	18	0	0	0	0	0	0	0
claws	FR	16	16	0	0	0	0	0	0	0	0
claws	SA	0	18	0	0	0	0	0	0	0	0
claws	US	0	0	43	4	1	36	0	12	17	36
feet	DE	0	4	0	0	0	0	0	0	0	0
feet	ES	0	12	8	0	0	0	0	0	0	0
feet	FR	0	0	0	0	4	0	0	0	0	0
feet	MX	0	4	0	0	0	0	0	0	0	0
feet	US	0	36	0	0	0	0	0	0	0	0
leather products (s)	JP	0	0	0	0	0	1	0	0	0	0
plates	US	0	0	0	0	0	0	0	0	0	1
skin pieces	US	0	0	0	0	0	0	0	1	0	0
skins	AR	0	0	1	0	0	0	0	0	0	0
skins	AT	2	2	0	0	0	0	0	0	0	0
skins	BE	0	1	1	0	0	0	1	0	0	0
skins	CA	2	5	2	2	0	0	0	1	0	0
skins	CH	0	1	0	1	0	0	0	0	1	0

skins	DE	6	12	5	3	0	0	0	0	0	1
skins	ES	13	9	13	0	0	0	0	0	0	0
skins	FR	0	1	0	0	0	0	0	0	0	0
skins	GB	0	1	0	0	0	0	0	0	0	0
skins	IT	0	2	0	0	0	0	0	1	0	0
skins	JP	1	0	0	0	0	0	0	0	0	0
skins	MX	2	1	0	0	0	0	0	0	0	0
skins	NO	0	0	2	0	0	0	0	2	0	0
skins	PT	0	2	0	0	0	0	0	0	0	0
skins	SA	0	1	0	0	0	0	0	0	0	0
skins	SK	0	2	0	0	0	0	0	0	0	0
skins	US	38	42	31	2	0	0	0	7	0	0
skins	UY	0	0	0	1	0	0	0	0	0	0
skulls	AE	0	0	1	0	0	0	0	0	0	0
skulls	AR	0	0	1	0	0	0	0	0	0	0
skulls	AT	2	4	0	0	0	0	0	0	0	0
skulls	AU	0	0	1	0	0	0	0	0	0	0
skulls	BE	0	3	1	0	0	0	0	0	0	0
skulls	CA	3	7	3	2	0	0	0	2	0	0
skulls	CH	1	1	0	1	2	0	0	0	1	0
skulls	DE	5	11	4	4	0	0	0	1	0	0
skulls	ES	17	11	14	0	0	0	0	0	0	0
skulls	FR	3	2	0	0	1	0	0	0	0	0
skulls	GB	0	5	0	0	0	0	1	1	0	0
skulls	ID	0	1	0	0	0	0	0	0	0	0
skulls	IT	1	3	0	0	0	0	0	1	0	0
skulls	JP	2	2	1	0	0	0	0	0	0	0
skulls	MX	2	1	0	0	0	0	0	0	0	0
skulls	NO	0	0	2	0	0	0	0	1	0	0
skulls	PK	1	1	0	0	0	0	0	0	0	0
skulls	SI	0	0	1	0	0	0	0	0	0	0
skulls	SK	3	2	0	0	0	0	0	0	0	0
skulls	TR	0	1	0	0	0	0	0	0	0	0
skulls	UA	0	0	1	0	0	0	0	2	0	0
skulls	US	71	57	50	1	2	2	3	13	2	6
specimens	JP	0	0	1	0	0	0	0	0	0	0
teeth	BR	0	0	0	0	0	0	0	4	0	0
teeth	NO	0	0	30	0	0	0	0	0	0	0
teeth	US	0	4	90	3	0	0	0	0	0	0
trophies	AE	0	0	1	0	1	0	0	2	0	1
trophies	AT	0	1	0	5	0	2	0	4	2	4
trophies	AU	0	0	2	1	0	0	0	4	2	2
trophies	AZ	0	0	0	0	0	0	0	0	0	1
trophies	BE	1	2	1	1	1	0	0	2	2	1
trophies	BR	0	0	0	0	0	1	2	1	0	0
trophies	CA	2	2	1	2	1	0	4	3	1	4
trophies	CH	2	1	1	1	2	0	0	0	1	0
trophies	CI	0	0	0	0	0	0	1	0	0	0
trophies	CL	0	0	0	0	0	0	2	0	0	0
trophies	CN	0	0	0	0	1	0	0	0	0	0
trophies	CO	0	0	1	0	0	0	0	0	0	0
trophies	CZ	0	1	0	0	1	0	0	0	2	2
trophies	DE	4	7	3	6	1	3	6	6	4	2

trophies	DK	0	0	0	1	3	3	1	0	2	3
trophies	ES	19	12	22	10	6	11	11	4	11	19
trophies	FI	0	0	0	1	0	1	3	1	0	2
trophies	FR	3	4	0	0	1	3	2	0	0	1
trophies	GB	0	2	0	2	1	1	1	2	1	1
trophies	HU	0	0	1	0	0	0	0	0	1	0
trophies	ID	0	3	1	1	0	0	0	0	0	0
trophies	IN	0	0	0	0	0	1	0	1	0	0
trophies	IS	0	0	0	0	0	0	0	5	3	0
trophies	IT	3	3	0	1	1	4	0	1	1	1
trophies	JP	2	2	0	0	0	0	0	0	0	0
trophies	KW	0	0	0	0	0	0	0	0	2	2
trophies	LB	0	6	0	0	0	0	0	0	0	0
trophies	LT	0	0	0	0	0	0	0	3	0	0
trophies	LV	0	0	0	0	0	0	0	1	0	0
trophies	MA	0	0	0	0	1	0	0	0	0	0
trophies	MC	0	0	0	1	0	0	0	0	0	0
trophies	MN	0	0	0	0	0	0	0	0	0	2
trophies	MX	0	1	0	2	3	1	0	0	4	1
trophies	MY	0	1	0	0	0	0	0	0	0	0
trophies	MZ	0	0	0	0	0	0	1	0	0	0
trophies	**NG**	0	0	0	0	0	1	0	0	0	0
trophies	NL	0	0	1	0	0	0	0	0	1	0
trophies	NO	0	1	2	2	0	2	0	1	3	1
trophies	NP	0	0	0	0	0	0	0	0	1	0
trophies	NZ	0	0	0	0	1	0	0	0	0	0
trophies	PK	0	1	0	2	0	0	0	0	0	0
trophies	PL	0	0	0	0	0	2	2	0	2	0
trophies	PR	0	0	0	0	1	0	0	0	0	0
trophies	PT	0	2	1	2	0	0	0	1	0	0
trophies	RS	0	0	0	0	0	0	0	0	0	1
trophies	RU	0	0	0	1	4	0	1	0	1	4
trophies	SA	0	4	0	0	1	0	0	0	1	0
trophies	SE	1	0	0	0	1	0	5	1	0	0
trophies	SG	0	0	0	0	2	0	0	0	0	0
trophies	SI	0	0	1	0	0	0	0	0	0	0
trophies	SK	15	1	4	0	0	0	0	1	0	0
trophies	TR	0	1	0	0	0	0	0	0	0	0
trophies	**TZ**	0	0	0	0	0	0	1	0	0	1
trophies	UA	0	0	2	6	0	0	2	3	2	0
trophies	US	41	84	91	99	126	138	161	195	333	346
trophies	VE	0	0	0	0	0	0	0	0	2	0
trophies	XX	0	0	0	0	0	0	2	0	0	0
trophies	**ZM**	0	2	0	0	2	0	0	0	0	0
trophies	**ZW**	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "wild source", and "hunting trophy" purposes, on 29 July 2010.

Table A56. International trade in wild source lions from South Africa for "circus or travelling exhibition" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	KR	0	0	0	0	0	0	0	0	0	1	1
live	**NA**	1	0	0	0	0	0	0	0	0	0	1

live	US	0	0	0	0	2	0	0	0	0	0	2
live	**ZW**	0	0	0	15	0	0	0	0	0	0	15
Grand Total		2000	2000	2001	2017	2005	2004	2005	2006	2007	2009	19

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "wild source", and "circus" purposes, on 29 July 2010.

Table A57. International trade in wild source lions from South Africa for "commercial" purposes.

Term	**Country**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Totals**
bodies	HK	0	2	0	0	0	0	0	0	0	0	2
bodies	MX	0	4	0	0	0	0	0	0	0	0	4
bodies	NL	0	0	0	0	1	0	0	1	4	4	10
bodies	SG	2	0	0	0	0	0	0	0	0	0	2
bodies	US	0	0	0	1	0	0	0	0	1	0	2
Subtotal bodies		**2001**	**2006**	**2001**	**2003**	**2004**	**2004**	**2005**	**2007**	**2012**	**2012**	**20**
bones	US	0	0	0	0	0	0	0	2	0	0	2
carvings	US	0	4	0	0	0	0	0	0	7	0	11
claws	**BW**	0	0	0	6	0	0	0	3	0	0	9
claws	CN	0	0	0	0	3	0	0	0	0	0	3
claws	DE	0	0	0	0	0	0	17	17	0	0	34
claws	ES	0	0	0	0	0	17	12	0	0	0	29
claws	GB	0	0	0	0	1	0	0	0	0	0	1
claws	**NA**	0	0	0	0	20	0	0	0	0	0	20
claws	NL	0	0	0	0	0	0	6	0	0	0	6
claws	US	46	10	40	30	27	5	70	0	7	0	235
Subtotal claws		**4048**	**4026**	**4042**	**4042**	**4059**	**4030**	**4115**	**4036**	**4038**	**4024**	**390**
leather products (l)	US	1	2	1	0	0	0	0	0	0	0	4
leather products (s)	IR	0	0	0	0	0	2	0	0	0	0	2
leather products (s)	US	1	5	2	0	0	3	0	0	0	0	11
Subtotal leather products		**8098**	**8059**	**8087**	**8084**	**8118**	**8065**	**8230**	**8072**	**8076**	**8048**	**797**
live	**SZ**	0	0	0	0	3	0	0	0	0	0	3
live	**ZW**	14	0	0	0	0	0	0	0	0	0	14
Subtotal live		**16210**	**16118**	**16174**	**16168**	**16239**	**16130**	**16460**	**16144**	**16152**	**16096**	**1611**
plates	CN	0	0	0	0	1	0	0	0	0	0	1
plates	JP	0	0	0	0	0	0	1	0	0	0	1
plates	UA	0	0	0	0	1	0	0	0	0	0	1
plates	US	10	19	2	15	1	0	0	0	5	0	52
Subtotal plates		**32430**	**32255**	**32350**	**32351**	**32481**	**32260**	**32921**	**32288**	**32309**	**32192**	**3277**
skin pieces	DE	0	0	0	0	4	0	0	0	0	0	4
skin pieces	US	0	0	1	0	0	3	0	0	0	0	4
Subtotal skin pieces		**64860**	**64510**	**64701**	**64702**	**64966**	**64523**	**65842**	**64576**	**64618**	**64384**	**6562**
skins	BG	0	0	0	0	0	0	0	0	1	0	1
skins	**BW**	0	0	0	2	0	0	0	0	0	0	2
skins	CA	2	0	1	0	0	0	0	0	0	0	3
skins	CN	0	0	0	1	1	0	4	0	0	0	6
skins	CZ	0	0	0	0	1	0	0	0	0	0	1
skins	DE	4	4	2	5	1	2	4	3	3	1	29
skins	GB	0	0	0	0	0	0	0	0	0	1	1
skins	HU	1	0	0	0	0	0	0	0	0	0	1
skins	IT	0	0	0	0	2	2	2	1	4	0	11
skins	JP	1	0	0	0	0	0	0	0	0	0	1

skins	KW	0	1	0	0	0	0	0	0	0	0	1
skins	MU	0	0	0	1	0	0	0	0	0	0	1
skins	MX	1	0	0	0	0	0	0	0	0	0	1
skins	**NG**	0	1	0	0	0	0	0	0	0	0	1
skins	NL	0	0	0	0	1	1	0	0	7	1	10
skins	QA	0	0	1	0	0	0	0	0	1	0	2
skins	RO	0	0	0	0	0	0	0	0	1	0	1
skins	RU	0	0	0	0	1	0	1	0	0	0	2
skins	SE	0	1	0	0	0	0	0	0	0	0	1
skins	SG	0	0	0	1	0	0	0	0	0	0	1
skins	US	2	8	4	4	11	1	2	3	5	2	42
skins	**ZM**	0	1	0	0	0	0	0	0	0	0	1
Subtotal skins		**129731**	**129036**	**129410**	**129418**	**129950**	**129052**	**131697**	**129159**	**129258**	**128773**	**13244**
skulls	CA	2	0	0	0	0	0	0	0	0	0	2
skulls	DE	1	0	0	0	0	0	1	0	0	1	3
skulls	ES	0	1	0	0	0	0	0	0	0	0	1
skulls	FR	0	0	0	0	0	0	0	2	0	0	2
skulls	JP	1	1	1	0	0	0	0	0	0	0	3
skulls	NL	0	0	0	0	0	0	0	0	3	6	9
skulls	NO	0	1	0	0	0	0	0	0	0	0	1
skulls	US	2	0	5	18	0	0	0	1	0	0	26
Subtotal skulls		**259468**	**258075**	**258826**	**258854**	**259900**	**258104**	**263395**	**258321**	**258519**	**257553**	**26535**
specimens	CN	0	0	0	0	0	0	1	0	0	0	1
specimens	JP	1	0	1	0	0	0	0	0	0	0	2
Subtotal specimens		**518937**	**516150**	**517653**	**517708**	**519800**	**516208**	**526791**	**516642**	**517038**	**515106**	**53073**
tails	GB	1	0	0	0	0	0	0	0	0	0	1
tails	US	0	0	0	0	0	0	0	0	1	0	1
Subtotal tails		**1037875**	**1032300**	**1035306**	**1035416**	**1039600**	**1032416**	**1053582**	**1033284**	**1034077**	**1030212**	**106148**
teeth	US	0	0	5	4	0	0	0	0	0	0	9
Subtotal teeth		**0**	**0**	**5**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**9**
trophies	AE	0	1	0	1	1	0	0	1	0	5	9
trophies	AU	0	0	1	0	0	0	0	0	0	0	1
trophies	BE	3	0	0	0	0	0	0	0	0	0	3
trophies	**BW**	0	1	0	9	0	0	0	0	0	0	10
trophies	CA	1	0	1	0	0	0	0	0	0	0	2
trophies	CN	2	0	2	3	0	0	6	4	1	3	21
trophies	CZ	1	0	0	0	0	0	0	0	0	0	1
trophies	DE	3	1	0	7	2	0	2	0	2	1	18
trophies	ES	0	1	0	0	0	0	0	0	0	0	1
trophies	GB	1	1	0	0	1	0	0	0	0	0	3
trophies	GR	0	0	0	0	2	0	0	0	0	0	2
trophies	HK	0	4	1	0	0	0	0	0	0	0	5
trophies	HU	0	0	0	0	0	0	1	0	0	0	1
trophies	IN	0	0	0	1	0	0	0	0	0	0	1
trophies	IT	0	0	0	2	2	0	1	0	0	1	6
trophies	JP	0	1	0	0	0	0	0	0	0	0	1
trophies	KR	0	0	0	0	0	0	0	0	0	1	1
trophies	KW	0	0	0	4	0	0	0	0	0	0	4
trophies	LV	0	0	0	0	1	0	0	0	0	0	1
trophies	MX	1	1	0	0	0	0	0	0	1	0	3

trophies	MY	0	0	0	1	0	0	0	0	0	0	1
trophies	**NG**	2	0	0	0	0	0	0	0	0	5	7
trophies	NL	0	0	0	0	3	1	0	6	0	3	13
trophies	NO	1	1	0	0	0	0	0	0	0	0	2
trophies	PH	0	0	0	0	0	0	0	0	1	0	1
trophies	PT	1	1	0	0	0	0	0	0	0	0	2
trophies	PY	0	0	0	1	0	0	0	0	0	0	1
trophies	RU	0	0	0	0	0	0	6	0	0	0	6
trophies	TR	0	0	0	0	0	0	1	0	0	0	1
trophies	US	18	26	4	33	8	2	3	5	4	3	106
trophies	VE	0	0	0	0	0	0	1	0	0	2	3
Subtotal trophies		**2073 658**	**2064 661**	**2070 659**	**2070 826**	**2079 269**	**2064 895**	**2107 081**	**2066 676**	**2068 152**	**2060 466**	**21259 1**
Grand Total		4147 316	4129 322	4141 318	4141 652	4158 538	4129 790	4214 162	4133 352	4136 304	4120 932	41452 686

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", from "wild sources", for "commercial" purposes, on 29 July 2010.

Table A58. International trade in wild source lions from South Africa for "education" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
bodies	CN	0	0	0	0	0	0	2	0	0	0
skeletons	DE	0	0	3	0	0	0	0	0	0	0
skins	CN	0	0	0	0	0	0	0	0	3	0
skulls	SG	0	1	0	0	0	0	0	0	0	0
specimens	CN	0	0	0	0	0	0	0	0	24	28
trophies	CN	0	0	0	0	0	0	0	4	6	10
trophies	ID	0	0	0	0	0	0	0	2	0	0
trophies	MW	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "wild source", and "education" purposes, on 29 July 2010.

Table A59. International trade of wild source lions from South Africa for "medical" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
specimens	CH	88	0	0	0	0	0	0	0	0	0
specimens	US	0	0	0	0	0	0	0	0	0	2

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "wild source", and "medical" purposes, on 29 July 2010.

Table A60. International trade of wild source lions from South Africa for "personal" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
bodies	CA	0	1	1	0	0	0	0	0	0	0
bodies	CN	0	0	0	2	0	0	0	0	0	1
bodies	FR	0	0	0	0	0	0	0	0	2	0
bodies	HU	0	0	0	0	0	0	1	0	0	0
bodies	US	0	0	1	0	0	0	0	0	2	0
bones	US	0	0	0	0	0	0	0	2	0	0
carvings	AU	0	6	0	0	0	0	0	0	0	0
claws	AU	0	6	0	0	7	0	0	0	0	0
claws	ES	0	0	0	0	20	0	0	0	0	0
claws	GB	0	0	0	0	0	0	0	4	0	0
claws	NZ	0	0	0	0	0	0	0	0	0	2
claws	US	0	0	4	10	1	10	9	18	0	4
feet	NZ	0	0	0	1	0	0	0	0	0	0
handbags	AU	0	1	0	0	0	0	0	0	0	0

leather products (l)	CN	0	0	0	0	0	0	0	1	0	0
leather products (l)	DE	0	0	0	0	0	0	0	1	0	0
leather products (l)	RU	0	0	0	0	0	0	0	1	0	0
leather products (l)	US	0	0	0	0	0	0	0	0	0	1
leather products (s)	AU	0	1	0	0	0	0	0	0	0	0
leather products (s)	FR	0	0	0	0	0	1	0	0	0	0
leather products (s)	US	0	0	1	0	0	0	0	0	0	0
plates	DE	0	0	0	0	1	0	0	0	0	0
plates	FR	0	0	2	0	0	0	0	0	0	0
plates	GB	0	0	1	0	0	0	0	0	0	0
plates	ID	0	0	0	0	0	1	0	0	0	0
plates	IT	0	0	0	0	0	2	0	0	0	0
plates	PH	0	0	0	0	1	0	0	0	0	0
plates	RU	0	0	1	0	1	0	0	0	0	0
plates	US	0	1	4	1	2	0	0	0	1	0
skins	AT	0	0	0	0	0	0	2	0	0	0
skins	AU	0	2	0	4	0	0	0	1	0	1
skins	BE	0	0	1	0	0	3	1	0	0	1
skins	BR	0	0	1	1	1	0	0	0	0	0
skins	**BW**	0	0	0	0	0	0	0	0	2	1
skins	CA	0	0	0	2	0	0	0	2	1	0
skins	**CG**	0	0	0	0	0	0	1	0	0	0
skins	CH	0	0	0	2	0	1	0	0	0	0
skins	CL	0	0	0	2	0	0	0	0	0	0
skins	CN	1	0	0	0	0	0	0	2	0	4
skins	DE	0	2	2	3	1	2	2	0	1	1
skins	DK	0	0	1	0	0	0	0	0	0	0
skins	FR	0	2	0	0	1	0	0	1	0	0
skins	GB	1	1	0	1	1	0	0	1	1	0
skins	HU	0	0	0	0	0	0	0	1	1	0
skins	IE	0	0	0	0	2	0	0	0	0	0
skins	IS	0	1	0	0	0	0	0	0	0	0
skins	IT	0	0	0	0	0	0	0	0	0	1
skins	MK	0	0	0	0	0	0	0	0	1	0
skins	MX	0	0	0	0	0	0	0	0	1	0
skins	**MZ**	0	0	0	0	0	0	0	0	0	1
skins	NL	0	0	0	0	0	0	0	1	0	0
skins	NZ	0	0	0	1	0	0	0	0	0	2
skins	PH	0	0	0	0	0	1	0	0	0	0
skins	PL	0	0	0	2	0	0	0	0	0	0
skins	RU	0	0	0	3	1	0	1	0	1	5
skins	SA	0	0	0	2	0	0	0	0	0	0
skins	SE	0	0	0	0	1	0	0	0	0	0
skins	TR	0	1	0	1	0	0	0	0	0	0
skins	UA	0	0	0	1	0	0	0	0	0	0
skins	US	0	1	6	8	3	2	7	4	2	0
skulls	AT	0	0	0	0	0	0	2	0	0	0
skulls	AU	0	1	0	1	0	0	0	0	0	1
skulls	CA	0	1	1	0	0	0	0	0	0	0
skulls	DE	1	0	0	0	0	0	0	0	0	0
skulls	ES	0	0	0	0	0	0	0	0	1	0
skulls	GB	0	0	1	0	0	0	0	0	0	0
skulls	**MZ**	0	0	0	0	0	0	2	0	0	0

skulls	NL	0	0	0	2	0	0	0	0	0	0
skulls	NZ	0	0	1	4	0	0	0	0	0	0
skulls	**TZ**	0	0	0	0	0	0	1	0	0	0
skulls	US	1	0	1	4	3	1	0	1	0	1
specimens	CN	0	0	0	0	0	0	0	0	4	0
teeth	AU	0	0	0	0	1	0	0	0	0	0
teeth	US	0	0	0	0	0	1	0	0	0	0
trophies	AE	0	0	0	0	0	2	0	2	1	1
trophies	AT	0	2	2	3	1	0	0	0	0	0
trophies	AU	1	0	3	0	0	0	0	1	0	0
trophies	BE	0	0	0	0	0	0	0	1	0	0
trophies	BG	0	0	0	0	0	0	0	1	0	0
trophies	BR	0	0	0	0	0	0	0	1	1	0
trophies	CA	0	0	2	1	0	0	0	0	0	0
trophies	**CI**	0	0	0	0	0	1	0	0	0	0
trophies	CN	0	0	0	0	0	0	0	7	11	5
trophies	DE	1	1	0	1	0	0	0	0	0	1
trophies	ES	0	0	0	0	1	0	1	1	1	0
trophies	FI	0	0	0	0	0	0	0	0	0	1
trophies	FR	0	0	0	0	1	0	1	0	2	0
trophies	GB	2	1	0	0	0	0	0	0	0	0
trophies	GR	0	0	0	0	0	0	0	1	0	0
trophies	HU	0	0	0	0	0	0	1	0	0	0
trophies	IE	0	4	0	0	0	0	0	0	0	0
trophies	IN	0	0	0	0	1	0	0	0	0	0
trophies	MY	0	0	0	0	1	0	0	0	1	0
trophies	**MZ**	0	0	0	0	0	0	0	0	0	1
trophies	NA	0	0	1	0	0	0	0	1	0	0
trophies	**NG**	0	0	0	1	0	0	0	0	0	0
trophies	NO	0	0	0	0	0	1	0	0	0	0
trophies	PL	0	0	0	1	0	0	1	1	0	0
trophies	RU	0	0	0	0	0	0	3	4	2	3
trophies	SA	0	0	0	0	0	0	0	0	0	1
trophies	SE	1	0	0	0	0	0	0	0	0	0
trophies	**TG**	0	0	1	0	0	0	0	0	0	0
trophies	TR	0	0	0	0	0	0	0	0	1	3
trophies	**TZ**	0	0	0	0	0	0	1	0	0	0
trophies	UA	0	0	0	0	0	0	0	0	1	0
trophies	US	5	10	2	3	3	4	1	5	3	4

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "wild source", and "personal" purposes, on 29 July 2010

Table A61: International trade in captive bred lions and lion parts from South Africa.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Grand Total
bodies	0	0	0	0	0	0	0	1	4	13	18
bone carvings	0	0	0	0	0	0	0	0	0	2	2
bone pieces	0	0	0	0	4	0	0	0	0	2	6
bones	0	0	1	0	0	0	7	19	4	64	95
claws	0	0	0	0	4	8	0	41	0	18	71
feet	0	0	11	0	0	0	0	0	0	0	11
hair	0	0	0	0	0	0	0	0	100	0	100
live	24	18	17	18	26	57	43	66	66	128	463
plates	0	0	0	0	1	2	0	0	0	0	3
skin pieces	0	0	0	0	0	0	0	0	0	16	16

skins	2	6	20	8	4	4	16	82	20	14	176
skulls	3	8	25	2	10	4	8	101	8	5	174
specimens	0	0	0	0	100	0	1	0	0	0	101
tails	0	0	0	0	0	0	0	1	0	0	1
teeth	0	0	0	0	1	0	0	12	0	0	13
trophies	27	36	73	112	134	241	211	403	411	707	2355
Grand Total	56	68	147	140	284	316	286	726	613	969	3605

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa" and "captive-bred source", on 21 July 2010.

Table A62: International trade in captive bred lions and lion parts from South Africa for "hunting trophy" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Select Totals
bone pieces	US	0	0	0	0	4	0	0	0	0	2	
bones	DE	0	0	0	0	0	0	7	0	0	2	
bones	US	0	0	0	0	0	0	0	19	4	0	23
claws	ES	0	0	0	0	0	0	0	8	0	0	
claws	US	0	0	0	0	4	0	0	33	0	0	37
feet	ES	0	0	8	0	0	0	0	0	0	0	
live	US	0	0	0	0	0	0	0	3	0	0	
skins	AT	0	0	0	0	0	0	2	0	0	0	
skins	AU	0	0	0	0	0	0	0	2	0	0	
skins	BE	0	1	0	0	0	0	0	1	0	0	
skins	CA	0	1	1	0	0	1	0	3	0	0	
skins	DE	0	0	0	0	0	0	1	0	0	0	
skins	DK	0	0	0	0	0	0	0	1	0	1	
skins	ES	0	2	8	0	0	0	0	26	0	0	36
skins	FR	0	0	0	0	0	0	2	1	0	0	
skins	HU	0	0	0	0	0	0	0	1	0	0	
skins	IT	0	0	0	0	0	0	0	1	0	0	
skins	MX	0	0	1	0	0	0	0	2	0	0	
skins	NO	0	0	0	0	0	0	0	1	0	0	
skins	PL	0	0	0	0	0	0	0	1	0	0	
skins	PT	0	0	0	0	2	0	0	1	1	0	
skins	US	0	2	9	1	1	0	0	35	0	0	48
skulls	AE	0	0	0	0	3	0	0	0	0	0	
skulls	AT	0	0	0	0	0	0	2	0	0	0	
skulls	AU	0	0	0	0	0	0	0	1	0	0	
skulls	BE	0	1	0	0	0	0	0	1	0	0	
skulls	CA	0	1	2	0	0	1	0	3	0	0	
skulls	DE	0	0	0	0	0	0	1	0	0	0	
skulls	DK	0	0	0	0	0	0	0	2	0	0	
skulls	ES	0	2	7	0	0	0	0	31	0	0	40
skulls	FR	0	0	0	0	0	0	2	3	0	0	
skulls	GB	0	0	0	1	0	0	0	0	0	0	
skulls	HU	0	0	0	0	0	0	0	1	0	0	
skulls	MX	0	0	1	0	0	0	0	3	0	0	
skulls	NL	0	0	1	0	0	0	0	0	0	0	
skulls	NO	0	0	0	0	0	0	0	1	0	0	
skulls	PL	0	0	0	0	0	0	0	1	0	0	
skulls	PT	0	0	0	0	2	0	0	3	0	0	
skulls	SA	0	0	1	0	0	0	0	0	0	0	

skulls	SK	0	1	0	0	0	0	0	0	0	0	
skulls	US	0	3	13	1	0	0	0	50	4	1	72
tails	US	0	0	0	0	0	0	0	1	0	0	
trophies	AE	0	0	0	0	6	1	0	1	0	0	
trophies	AL	0	0	0	0	0	1	0	0	0	0	
trophies	AR	0	0	0	0	0	3	4	3	0	2	
trophies	AT	0	0	0	0	5	6	2	4	1	11	
trophies	AU	0	0	0	2	1	2	0	4	4	5	
trophies	BE	0	0	0	0	0	1	0	0	3	3	
trophies	BG	0	0	0	0	0	0	0	0	1	7	
trophies	CA	1	1	3	5	0	4	0	16	7	16	53
trophies	CH	0	0	0	0	1	1	0	1	0	0	
trophies	**CI**	0	0	0	0	0	0	0	1	0	0	
trophies	CN	0	0	0	2	0	0	0	0	1	3	
trophies	CO	0	0	0	0	0	1	0	0	0	0	
trophies	CZ	0	0	0	1	5	2	3	1	12	3	27
trophies	DE	0	0	1	1	2	9	7	10	15	15	60
trophies	DK	0	0	0	0	0	2	1	4	5	4	
trophies	EE	0	0	0	0	2	0	1	1	1	0	
trophies	ES	2	7	4	21	26	21	27	37	68	72	285
trophies	FI	0	0	0	1	0	2	1	3	4	13	24
trophies	FR	0	0	0	4	3	1	4	10	3	22	47
trophies	GB	0	0	1	1	2	2	1	1	1	2	
trophies	GT	0	0	0	0	1	0	0	0	0	0	
trophies	HU	0	1	2	0	1	2	5	3	4	5	
trophies	IN	0	0	0	0	0	0	1	1	0	2	
trophies	IT	0	0	0	0	1	0	0	6	2	5	
trophies	JP	0	0	3	0	0	0	0	0	0	0	
trophies	KZ	0	0	0	0	0	0	0	1	2	0	
trophies	LB	0	0	0	0	0	0	0	0	0	1	
trophies	LI	0	0	0	0	1	0	0	0	0	0	
trophies	LT	0	0	0	0	0	0	0	6	1	1	
trophies	LV	0	0	0	0	0	0	0	1	0	0	
trophies	MX	0	0	3	4	3	0	3	9	12	10	44
trophies	**NA**	0	0	0	0	0	0	1	0	1	0	
trophies	**NG**	0	0	0	0	0	0	0	0	2	0	
trophies	NL	0	0	1	0	0	0	0	4	0	0	
trophies	NO	0	0	2	2	0	1	6	6	9	13	
trophies	NZ	0	0	0	0	0	0	0	1	0	0	
trophies	PK	0	0	0	0	0	0	0	6	1	5	
trophies	PL	0	0	0	0	0	4	6	0	2	6	
trophies	PR	0	0	0	0	0	1	0	0	0	0	
trophies	PT	0	0	0	4	2	4	8	7	3	1	
trophies	RO	0	0	0	0	0	1	0	0	0	2	
trophies	RU	0	0	0	2	2	8	1	19	20	24	76
trophies	SA	0	0	1	0	0	1	2	2	2	0	
trophies	SE	0	0	1	0	0	10	0	0	1	3	
trophies	SI	0	0	0	0	0	0	0	0	0	2	
trophies	SK	0	1	2	0	2	4	2	1	2	11	25
trophies	UA	0	0	0	0	0	0	0	0	1	0	
trophies	US	17	23	45	54	63	125	117	223	214	403	1284
trophies	UY	0	0	3	2	0	0	0	0	0	0	
trophies	VN	0	0	0	0	0	0	0	0	0	11	

trophies	**ZW**	0	0	1	0	0	0	0	0	0	0	
Grand Total		0	2019	2047	2126	2111	2148	2226	2225	2639	2421	19962

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "captive-bred source", and "hunting trophy" purposes, on 21 July 2010.

Table A63: International trade in captive bred lions and lion parts from South Africa for "commercial" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
bodies	AE	0	0	0	0	0	0	0	1	0	0
claws	US	0	0	0	0	0	8	0	0	0	0
feet	CY	0	0	3	0	0	0	0	0	0	0
live	AE	0	0	0	0	0	0	8	0	0	2
live	AR	0	0	0	0	0	0	0	0	0	2
live	CA	0	0	0	0	0	0	0	0	0	3
live	**CM**	0	0	1	2	0	0	0	0	0	0
live	FR	0	0	0	0	0	0	0	1	0	0
live	**GM**	0	4	0	0	0	0	0	0	0	0
live	MU	0	0	0	0	0	0	0	6	0	0
live	**NA**	0	0	1	0	0	0	0	0	0	0
live	**NG**	0	0	1	0	0	0	0	0	0	0
live	**SZ**	0	2	0	0	0	0	0	0	0	0
live	**TG**	0	0	3	0	0	25	0	0	0	0
live	TH	0	0	0	0	0	0	0	2	10	2
live	TW	0	0	0	0	0	2	1	0	0	0
live	US	0	0	0	0	0	0	0	4	4	2
live	**ZM**	0	0	0	0	0	0	0	0	0	10
plates	US	0	0	0	0	0	2	0	0	0	0
skins	AE	0	0	0	0	0	0	4	4	0	0
skins	AT	1	0	0	0	0	1	0	0	0	0
skins	DE	0	0	0	0	0	0	0	1	4	1
skins	NO	0	0	0	0	0	0	4	0	0	0
skins	SG	1	0	0	0	0	0	0	0	0	0
skins	US	0	0	1	5	1	0	0	0	0	0
skulls	AT	1	0	0	0	0	1	0	0	0	0
skulls	DE	0	0	0	0	0	0	0	0	1	0
skulls	NO	1	0	0	0	0	0	0	0	0	0
skulls	US	1	0	0	0	3	0	0	0	0	0
specimens	US	0	0	0	0	0	0	1	0	0	0
teeth	US	0	0	0	0	0	0	0	12	0	0
trophies	AE	0	0	0	0	0	0	5	0	0	1
trophies	AT	0	0	0	0	1	1	0	0	0	0
trophies	BR	6	0	0	0	0	0	0	0	0	0
trophies	DE	0	0	0	0	0	0	0	1	0	1
trophies	ES	0	0	0	0	0	0	0	0	2	0
trophies	GY	0	0	0	2	0	0	0	0	0	0
trophies	MO	0	1	0	0	0	0	0	0	0	0
trophies	NO	1	0	0	0	0	0	0	0	0	0
trophies	PT	0	0	0	0	0	0	0	0	0	1
trophies	US	0	0	0	3	0	0	0	0	1	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "captive-bred source", and "commercial" purposes, on 21 July 2010.

Table A64: International trade in captive bred lions and lion parts from South Africa for "education" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
live	AU	0	0	0	0	0	3	0	0	0	0
live	CN	0	0	0	0	2	8	0	0	0	0
live	DE	0	0	0	0	0	0	0	2	0	0
live	ES	0	0	0	0	0	0	1	1	0	0
live	MX	0	0	0	0	0	0	3	0	0	0
live	**UG**	0	0	0	0	0	0	0	0	0	1
trophies	AE	0	0	0	0	0	0	1	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "captive-bred source", and "education" purposes, on 21 July 2010.

Table A65: International trade in captive bred lions and lion parts from South Africa for "personal" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
bodies	AE	0	0	0	0	0	0	0	0	0	2
bodies	CH	0	0	0	0	0	0	0	0	0	2
bodies	DK	0	0	0	0	0	0	0	0	0	1
bodies	FR	0	0	0	0	0	0	0	0	0	8
bodies	GR	0	0	0	0	0	0	0	0	2	0
bodies	**NA**	0	0	0	0	0	0	0	0	1	0
bodies	US	0	0	0	0	0	0	0	0	1	0
bone carvings	US	0	0	0	0	0	0	0	0	0	2
bones	AU	0	0	0	0	0	0	0	0	0	2
bones	US	0	0	1	0	0	0	0	0	0	0
bones	VN	0	0	0	0	0	0	0	0	0	60
claws	US	0	0	0	0	0	0	0	0	0	18
live	AE	0	0	0	0	0	0	0	2	0	3
live	UA	0	0	0	0	0	0	0	2	0	0
plates	US	0	0	0	0	1	0	0	0	0	0
skin pieces	VN	0	0	0	0	0	0	0	0	0	16
skins	AE	0	0	0	0	0	0	0	0	0	3
skins	AT	0	0	0	0	0	1	2	0	1	0
skins	AU	0	0	0	0	0	0	0	0	2	2
skins	CL	0	0	0	0	0	0	1	0	0	0
skins	CY	0	0	0	0	0	0	0	0	1	0
skins	DE	0	0	0	0	0	1	1	0	3	0
skins	ES	0	0	0	0	0	0	0	0	0	3
skins	FR	0	0	0	0	0	0	0	0	3	0
skins	**GA**	0	0	0	0	0	0	0	0	0	1
skins	IT	0	0	0	0	0	0	0	0	1	1
skins	NO	0	0	0	0	0	0	0	0	1	0
skins	US	0	0	0	2	0	0	0	1	4	2
skulls	AT	0	0	0	0	0	1	3	0	1	0
skulls	AU	0	0	0	0	0	0	0	1	2	2
skulls	CA	0	0	0	0	0	1	0	0	0	0
skulls	DE	0	0	0	0	0	0	0	0	1	0
skulls	FR	0	0	0	0	0	0	0	0	0	2
skulls	**NA**	0	0	0	0	0	0	0	1	0	0
skulls	US	0	0	0	1	2	0	0	0	0	0
teeth	IN	0	0	0	0	1	0	0	0	0	0
trophies	AE	0	0	0	0	0	0	0	0	0	2

trophies	AL	0	0	0	0	0	3	0	0	0	0
trophies	AT	0	0	0	0	0	0	0	1	0	0
trophies	AU	0	0	0	0	0	0	0	1	4	3
trophies	AZ	0	0	0	0	0	0	0	0	0	1
trophies	CY	0	0	0	0	0	0	0	0	2	1
trophies	DE	0	0	0	0	0	1	0	0	0	0
trophies	DK	0	0	0	0	0	0	0	0	0	1
trophies	ES	0	0	0	0	0	2	1	0	1	3
trophies	FR	0	0	0	0	0	0	0	2	0	6
trophies	HU	0	0	0	0	0	0	1	0	0	0
trophies	IT	0	0	0	0	0	1	0	0	0	0
trophies	LB	0	0	0	0	0	0	0	0	0	1
trophies	LS	0	0	0	0	0	0	0	1	0	0
trophies	MA	0	0	0	0	0	0	0	1	0	0
trophies	MX	0	0	0	0	1	0	0	0	0	0
trophies	NO	0	0	0	0	0	0	0	3	0	2
trophies	PT	0	0	0	0	0	0	0	0	0	1
trophies	RU	0	0	0	0	0	1	0	0	0	0
trophies	US	0	2	0	2	5	14	1	2	1	2

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "captive-bred source", and "personal" purposes, on 21 July 2010.

Table A66. International trade in captive bred lions and lion parts from South Africa for "zoo" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
live	AE	0	0	0	0	0	6	0	0	0	2
live	AM	0	0	0	0	0	0	0	0	0	2
live	AR	0	0	0	0	0	0	0	1	0	0
live	AU	0	0	0	0	0	0	1	0	0	2
live	BE	0	0	0	0	0	1	1	0	0	0
live	**BW**	0	0	0	0	0	0	4	0	0	0
live	**CG**	0	0	0	0	0	0	0	0	2	0
live	CN	4	2	0	0	0	4	0	0	0	0
live	CS	0	0	0	0	0	0	2	0	0	0
live	ES	0	0	0	0	0	0	0	4	0	1
live	FR	0	0	0	0	0	0	0	1	0	3
live	GB	0	0	0	0	0	0	0	2	2	2
live	ID	0	0	0	0	0	0	0	0	0	2
live	JP	0	0	0	0	0	0	0	5	0	0
live	KR	0	0	0	0	0	0	0	2	0	0
live	MM	0	0	0	0	0	0	0	6	0	0
live	MU	0	0	0	0	0	0	0	0	0	4
live	MX	0	0	0	0	0	0	2	7	0	0
live	MY	0	0	3	0	0	0	0	0	0	0
live	**NA**	0	0	0	0	0	0	0	0	0	3
live	**NI**	0	0	0	0	0	0	0	0	1	0
live	NL	0	0	6	0	0	0	0	0	0	0
live	NZ	0	0	0	2	2	0	3	0	0	0
live	PK	0	0	0	0	0	0	0	0	6	0
live	RS	0	0	0	0	0	0	0	1	0	0
live	SA	0	0	0	0	3	0	2	0	0	0
live	**SN**	0	0	0	0	0	2	0	0	0	0
live	TH	15	0	0	0	0	0	0	8	10	36

live	TN	0	2	0	0	0	0	0	0	0	0
live	TR	0	0	0	0	0	0	0	0	0	2
live	TW	0	2	0	0	0	0	0	0	0	0
live	US	0	0	0	0	0	6	0	3	0	0
live	VN	0	0	0	0	0	0	0	0	2	0
trophies	AR	0	0	0	0	0	0	0	1	0	0
trophies	HU	0	0	0	0	0	0	0	1	0	0
trophies	US	0	0	0	0	0	0	0	2	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "South Africa", "captive-bred source", and "zoo" purposes, on 21 July 2010.

Table A67: International trade in lions and their parts from Sudan from the listed sources and for all purposes.

Source	Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wild	Personal	leather product	AE	0	0	0	0	0	0	0	2	0	0
Wild	Personal	live	AE	0	0	0	0	0	4	6	4	7	0
Wild	Commercial	live	AE	0	0	0	0	0	0	0	0	6	0
Illegal	Unknown	live	AE	0	0	0	0	1	0	0	0	0	0
Wild	Personal	live	SA	0	0	0	0	0	0	4	0	2	0
Wild	Commercial	live	SY	0	0	0	0	0	0	0	2	6	0
Wild	Zoo	live	SY	0	0	0	0	0	0	5	6	0	0
Wild	Personal	trophies	SA	0	0	0	0	0	1	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Sudan", listed sources, all purposes, on 4 August 2010.

Table A68. International trade in lions and lion parts from Tanzania, all sources and purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
claws	1	15	0	0	0	0	0	0	0	0	16
hair	0	0	0	0	0	0	0	1	0	51	52
leather products	1	0	0	0	0	0	0	0	0	0	1
live	1	0	0	0	0	0	0	0	0	0	1
skins	32	28	13	6	2	7	3	11	0	0	102
skulls	35	23	10	6	1	6	5	9	0	0	95
specimens	0	0	0	0	84	43	992	1326	90	29	2564
teeth	12	0	0	0	0	0	0	0	0	0	12
trophies	272	317	230	228	216	141	210	223	108	138	2083
Grand Total	354	383	253	240	303	197	1210	1570	198	218	4926

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", all sources and purposes, on 21 July 2010.

Table A69. International trade in lion parts from Tanzania from "illegal" sources.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
claws	US	1	0	0	0	0	0	0	0	0	0
hair	US	0	0	0	0	0	0	0	1	0	0
trophies	ES	0	0	0	0	1	0	0	0	0	0
trophies	US	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "illegal" sources and all purposes, on 21 July 2010.

Table A70. International trade in wild source lion parts from Tanzania for "commercial" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
live	US	1	0	0	0	0	0	0	0	0	0
skins	CA	1	0	0	0	0	1	0	0	0	0

skins	DE	0	4	0	0	0	0	1	0	0	0
skulls	CA	1	0	0	0	0	1	0	0	0	0
skulls	DE	0	2	0	0	0	0	0	0	0	0
trophies	DE	0	0	0	0	2	2	0	1	0	3
trophies	ES	0	0	0	0	0	0	1	0	0	0
trophies	FR	0	0	1	0	0	0	0	0	0	0
trophies	MX	0	1	0	0	0	0	0	0	0	0
trophies	US	0	0	0	0	2	0	0	1	1	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources and "commercial" purpose, on 21 July 2010.

Table A71. International trade in wild source lion parts from Tanzania for "scientific" purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
hair	kg	NL	0	0	0	0	0	0	0	0	0	1
hair		NL	0	0	0	0	0	0	0	0	0	50
specimens	g	GB	0	0	0	0	0	0	0	900	0	0
specimens	ml	GB	0	0	0	0	0	0	400	225	0	0
specimens		CH	0	0	0	0	0	0	0	0	90	29
specimens		DE	0	0	0	0	32	0	77	0	0	0
specimens		GB	0	0	0	0	41	31	515	201	0	0
specimens		US	0	0	0	0	11	12	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources and "scientific" purpose, on 21 July 2010.

Table A72. International trade in wild source lion parts from Tanzania for "hunting trophy" purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
claws	0	15	0	0	0	0	0	0	0	0	15
leather products (l)	1	0	0	0	0	0	0	0	0	0	1
skins	29	23	13	6	1	3	2	10	0	0	87
skulls	31	21	10	6	0	2	4	9	0	0	83
teeth	12	0	0	0	0	0	0	0	0	0	12
trophies	266	314	226	225	213	139	209	220	106	134	2052
Grand Total	339	373	249	237	214	144	215	239	106	134	2250

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources and "hunting trophy" purpose, on 21 July 2010.

Table A73. International trade in wild source lion parts from Tanzania for "personal" purposes: Importing countries.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
skins	AT	1	0	0	0	0	1	0	0	0	0	2
skins	AU	0	0	0	0	0	1	0	0	0	0	1
skins	DE	0	1	0	0	0	0	0	0	0	0	1
skins	US	0	0	0	0	1	0	0	1	0	0	2
skulls	AT	1	0	0	0	0	1	0	0	0	0	2
skulls	AU	0	0	0	0	0	1	0	0	0	0	1
skulls	DE	0	0	0	0	0	0	1	0	0	0	1
skulls	US	0	0	0	0	1	0	0	0	0	0	1
trophies	AE	0	0	0	0	1	0	0	0	0	0	1
trophies	AT	7	4	2	0	0	0	0	0	1	0	14
trophies	DE	0	0	0	0	1	0	1	0	0	0	2
trophies	FR	0	0	0	0	0	0	0	0	0	1	1
trophies	IM	0	0	0	1	0	0	0	0	0	0	1
trophies	IT	1	1	0	0	0	0	0	0	0	0	2

trophies	MX	6	0	0	0	0	0	0	0	0	0	6
trophies	US	20	3	3	2	0	0	0	1	0	0	29
Grand total		2035	2009	2006	2005	2007	2008	2007	2008	2008	2009	20102

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources and "personal" purpose, on 21 July 2010.

Table A74. International trade in wild source lion skins from Tanzania for "hunting trophy" purposes: Importing countries.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
skins	AT	0	0	0	0	0	2	0	0	0	0	2
skins	CA	1	3	1	0	0	0	2	0	0	0	7
skins	DE	13	5	3	6	1	1	0	0	0	0	29
skins	ES	0	0	1	0	0	0	0	0	0	0	1
skins	GB	0	0	2	0	0	0	0	0	0	0	2
skins	PT	0	2	0	0	0	0	0	0	0	0	2
skins	**ZA**	15	13	6	0	0	0	0	10	0	0	44

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources, "hunting trophy" purpose, and "skin", on 21 July 2010.

Table A75. International trade in wild source lion trophies from Tanzania for "hunting trophy" purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
trophies	AE	0	1	0	0	4	0	0	0	0	0	5
trophies	AR	0	0	0	0	0	0	0	1	0	0	1
trophies	AT	9	11	3	2	4	2	0	0	0	1	32
trophies	AU	0	0	0	0	1	0	0	0	0	0	1
trophies	BE	4	3	8	2	1	5	3	1	0	3	30
trophies	CA	2	3	2	0	1	1	2	2	0	0	13
trophies	CH	1	0	0	0	1	0	0	0	1	0	3
trophies	CZ	1	4	4	0	4	1	1	1	0	0	16
trophies	DE	23	10	4	12	8	8	9	7	4	3	88
trophies	DK	4	8	5	5	3	0	1	1	0	2	29
trophies	ES	31	24	21	23	25	10	26	22	18	12	212
trophies	FI	0	0	0	0	0	0	1	1	0	0	2
trophies	FR	36	98	31	28	28	15	30	12	2	3	283
trophies	GB	1	1	2	0	1	0	1	21	0	0	27
trophies	HR	0	0	0	0	0	0	5	1	0	0	6
trophies	HU	1	1	0	2	6	0	1	2	0	1	14
trophies	IN	0	1	0	0	0	0	0	0	0	0	1
trophies	IT	13	4	3	4	5	0	6	5	0	3	43
trophies	JP	0	2	0	0	0	0	0	0	0	0	2
trophies	**KE**	0	0	0	0	1	0	0	0	0	0	1
trophies	LU	0	0	0	0	0	0	1	0	2	1	4
trophies	MX	9	12	12	23	3	7	14	17	12	13	122
trophies	**NA**	0	0	0	2	1	0	0	1	0	0	4
trophies	NL	1	2	1	2	0	0	0	1	0	0	7
trophies	NO	0	0	2	0	0	1	1	0	0	0	4
trophies	PL	1	0	0	1	1	1	2	1	0	0	7
trophies	PT	1	1	1	1	0	0	2	0	1	0	7
trophies	RS	0	0	0	0	0	0	0	0	1	0	1
trophies	RU	0	0	2	0	2	2	0	3	0	1	10
trophies	SA	0	1	0	0	0	0	0	0	0	0	1
trophies	SE	1	3	1	0	0	0	0	0	0	0	5

trophies	**SZ**	0	0	0	1	0	0	0	0	0	0	1
trophies	US	115	107	110	103	95	75	96	108	61	86	956
trophies	**ZA**	11	15	12	14	18	11	7	12	4	5	109
trophies	**ZW**	1	2	2	0	0	0	0	0	0	0	5

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Tanzania", "wild" sources, "hunting trophy" purpose, and "trophies", on 21 July 2010.

Table A76: International trade in lions and their parts from Zambia from all sources and for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
leather items	0	0	0	0	0	0	0	1	0	0	1
live	0	0	0	0	0	0	0	0	0	3	3
skins	11	9	4	0	0	0	0	4	0	1	29
skulls	9	9	2	0	0	0	1	5	0	0	26
specimens	0	0	0	0	0	0	0	9	0	0	9
tails	0	1	0	0	0	0	0	0	0	0	1
trophies	74	47	24	3	38	45	70	70	64	63	498
Grand Total	94	66	30	3	38	45	71	89	64	67	567

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zambia", all sources, all purposes, on 30 July 2010.

Table A77: International trade in lions and their parts from Zambia from the listed sources and all purposes.

Source	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Captive bred	live	**ZA**	0	0	0	0	0	0	0	0	0	3	3
Captive bred	trophies	**ZA**	0	0	0	0	0	0	2	0	0	0	2
Illegal	trophies	US	1	0	0	0	0	0	0	0	1	1	3
Ranch raised	trophies	**ZA**	0	0	0	0	0	0	1	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zambia", various sources, all purposes, on 30 July 2010.

Table A78: International trade in wild source lion parts from Zambia for all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
leather items	0	0	0	0	0	0	0	1	0	0	1
skins	11	9	4	0	0	0	0	4	0	1	29
skulls	9	9	2	0	0	0	1	5	0	0	26
specimens	0	0	0	0	0	0	0	9	0	0	9
tails	0	1	0	0	0	0	0	0	0	0	1
trophies	74	47	24	3	38	45	68	70	63	62	494
Grand Total	94	66	30	3	38	45	69	89	63	63	560

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zambia", wild source, all purposes, on 30 July 2010.

Table A79: International trade in wild source lion parts from Zambia for hunting trophy purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
skins	DE	0	2	1	0	0	0	0	0	0	0	3
skins	FR	0	0	2	0	0	0	0	0	0	0	2
skins	**ZA**	9	6	1	0	0	0	0	4	0	0	20
skulls	CA	0	0	0	0	0	0	1	0	0	0	1
skulls	DE	0	2	1	0	0	0	0	0	0	0	3
skulls	**ZA**	7	6	1	0	0	0	0	4	0	0	18
tails	DE	0	1	0	0	0	0	0	0	0	0	1
trophies	AT	3	0	0	0	0	0	0	0	0	0	3
trophies	AU	0	0	0	0	0	0	0	0	0	1	1
trophies	BE	0	0	0	0	0	0	0	0	2	0	2

trophies	**BW**	0	0	0	0	0	0	0	1	0	0	1
trophies	CA	0	0	1	0	0	0	1	1	1	0	4
trophies	CN	0	0	0	0	1	0	0	0	0	0	1
trophies	DE	0	0	1	0	1	2	1	0	0	0	5
trophies	DK	0	0	0	0	1	0	0	1	1	3	6
trophies	EG	0	0	2	0	0	0	0	0	0	0	2
trophies	ES	2	6	2	0	0	1	4	3	4	6	28
trophies	FI	0	0	0	0	0	0	0	1	1	0	2
trophies	FR	0	6	2	0	0	0	1	3	1	4	17
trophies	GB	0	0	0	0	0	0	1	5	0	1	7
trophies	HU	0	0	0	0	2	0	0	1	1	1	5
trophies	IT	0	1	0	0	0	0	0	0	0	0	1
trophies	LT	0	0	0	0	0	0	0	0	1	1	2
trophies	LV	0	0	0	0	0	1	0	3	0	0	4
trophies	MC	2	0	0	0	0	0	0	0	0	0	2
trophies	MX	0	0	0	0	0	0	2	0	0	2	4
trophies	NL	0	0	0	0	1	0	0	0	0	0	1
trophies	NO	2	2	1	0	0	0	0	2	0	0	7
trophies	PL	1	0	0	0	0	0	0	0	0	0	1
trophies	PT	0	0	0	0	0	0	0	0	0	1	1
trophies	RU	0	0	0	0	0	0	0	0	2	1	3
trophies	SE	0	0	0	0	0	0	0	1	2	0	3
trophies	UA	0	0	0	0	0	0	0	1	0	0	1
trophies	US	6	23	11	1	29	33	47	41	39	32	262
trophies	XX	0	0	0	0	0	0	0	0	1	0	1
trophies	**ZA**	0	0	3	1	3	6	11	4	7	8	43
trophies	**ZW**	0	0	0	1	0	0	0	0	0	1	2
Grand Total												470

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zambia", wild source, hunting trophy purposes, on 30 July 2010.

Table A80: International trade in wild source lion parts from Zambia for listed purposes.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Commercial	skins	**ZA**	0	1	0	0	0	0	0	0	0	0	1
Commercial	skulls	**ZA**	0	1	0	0	0	0	0	0	0	0	1
Commercial	trophies	MX	0	1	0	0	0	0	0	0	0	0	1
Commercial	trophies	US	0	0	0	0	0	0	0	1	0	0	1
Personal	leather items	CN	0	0	0	0	0	0	0	1	0	0	1
Personal	skins	AU	0	0	0	0	0	0	0	0	0	1	1
Personal	skins	**ZA**	1	0	0	0	0	0	0	0	0	0	1
Personal	skulls	CA	0	0	0	0	0	0	0	1	0	0	1
Personal	skulls	**ZA**	1	0	0	0	0	0	0	0	0	0	1
Personal	trophies	CN	0	0	0	0	0	0	0	1	0	0	1
Personal	trophies	US	5	1	1	0	0	0	0	0	0	0	7
Scientific	specimens	GB	0	0	0	0	0	0	0	9	0	0	9
Grand Total													26

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zambia", wild source, various purposes, on 30 July 2010.

Table A81: International trade in lion parts from Zimbabwe, all sources, all purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	16	0	1	2	1	0	0	0	0	20
bone carvings	1	0	0	0	0	0	0	0	0	0	1
bones	0	4	0	0	0	0	0	0	0	0	4

carvings	0	0	0	32	0	0	0	0	0	0	32
claws	110	307	16	0	52	49	0	0	2	0	536
cloth	8	0	0	0	0	0	0	0	0	0	8
leather products	0	0	0	1	0	0	0	0	0	0	1
live	38	6	0	27	37	17	0	20	0	0	145
plates	9	0	1	2	0	0	0	0	1	0	13
skin pieces	2	0	1	0	0	0	0	0	0	0	3
skins	24	69	20	8	3	0	2	7	2	11	146
skulls	24	73	16	5	1	6	1	4	2	2	134
specimens	1	0	0	0	0	0	23	51	36	0	111
tails	1	0	0	0	0	0	0	0	0	0	1
teeth	0	2	0	0	3	0	5	0	1	6	17
trophies	126	95	101	105	107	94	90	63	47	43	871
Grand Total	344	572	155	181	205	167	121	145	91	62	2043

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", all sources, all purposes, on 21 July 2010.

Table A82: International trade in captive bred lions and their parts from Zimbabwe for the listed purposes.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Breeding	live	**ZA**	27	0	0	0	15	15	0	20	0	0	77
Circus	live	**ZA**	0	6	0	10	0	0	0	0	0	0	16
Commercial	bodies	US	0	0	0	0	2	0	0	0	0	0	2
Commercial	live	**KE**	10	0	0	0	0	0	0	0	0	0	10
Commercial	live	**ZA**	0	0	0	0	11	0	0	0	0	0	11
Hunting trophy	trophies	US	1	0	0	0	0	0	0	0	0	2	3
Personal	skins	PT	0	1	0	0	0	0	0	0	0	0	1
Reintroduction	specimens	US	0	0	0	0	0	0	0	36	36	0	72

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", captive-bred sources, various purposes, on 30 July 2010.

Table A83: International trade in F1 captive born lion parts from Zimbabwe for all purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
trophies		ZA	1	1	0	0	0	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", F1 captive-born sources, all purposes, on 30 July 2010.

Table A84: International trade in illegal source lion parts from Zimbabwe, for all purposes.

Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	GB	0	0	0	0	0	1	0	0	0	0	1
claws	NZ	0	0	0	0	0	0	0	0	2	0	2
claws	US	0	0	0	0	0	49	0	0	0	0	49
plates	US	0	0	1	0	0	0	0	0	0	0	1
skins	GB	0	0	0	0	1	0	0	0	0	0	1
skulls	US	0	0	0	0	0	4	0	0	0	0	4
specimens	US	0	0	0	0	0	0	0	19	0	0	19
teeth	NZ	0	0	0	0	0	0	0	0	1	6	7
teeth	US	0	0	0	0	0	0	5	0	0	0	5
Grand Total												89

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", illegal sources, all purposes, on 30 July 2010.

Table A85: International trade in ranch raised lion parts from Zimbabwe for all purposes.

Term	Unit	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
specimens		US	0	0	0	0	0	0	0	16	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", ranched raised sources, all purposes, on 30 July 2010.

Table A86: International trade in wild source lion specimens from Zimbabwe for commercial purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
bodies	0	15	0	0	0	0	0	0	0	0	15
bone carvings	1	0	0	0	0	0	0	0	0	0	1
bones	0	4	0	0	0	0	0	0	0	0	4
carvings	0	0	0	26	0	0	0	0	0	0	26
claws	2	289	0	0	52	0	0	0	0	0	343
cloth	8	0	0	0	0	0	0	0	0	0	8
live	11	3	0	25	22	2	0	0	0	0	63
plates	1	0	0	0	0	0	0	0	1	0	2
skin pieces	0	0	1	0	0	0	0	0	0	0	1
skins	11	65	2	1	2	0	0	5	0	8	94
skulls	6	69	0	0	0	1	0	0	0	0	76
specimens	1	0	0	0	0	0	0	0	0	0	1
teeth	0	2	0	0	3	0	0	0	0	0	5
trophies	51	4	1	81	89	1	0	2	0	0	229
Grand Total	92	451	4	133	168	4	0	7	1	8	868

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, commercial purposes, on 30 July 2010.

Table A87. International trade in wild source lions and lion parts from Zimbabwe, for commercial purposes: Importing countries.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Commercial	bodies	AT	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	CA	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	CN	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	ES	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	FR	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	IT	0	1	0	0	0	0	0	0	0	0
Commercial	bodies	US	0	9	0	0	0	0	0	0	0	0
Commercial	bone carvings	US	1	0	0	0	0	0	0	0	0	0
Commercial	bones	FR	0	2	0	0	0	0	0	0	0	0
Commercial	bones	US	0	2	0	0	0	0	0	0	0	0
Commercial	carvings	US	0	0	0	26	0	0	0	0	0	0
Commercial	claws	AR	0	17	0	0	0	0	0	0	0	0
Commercial	claws	CA	0	18	0	0	0	0	0	0	0	0
Commercial	claws	DE	0	38	0	0	0	0	0	0	0	0
Commercial	claws	GB	0	36	0	0	0	0	0	0	0	0
Commercial	claws	US	2	162	0	0	52	0	0	0	0	0
Commercial	claws	ZA	0	18	0	0	0	0	0	0	0	0
Commercial	cloth	US	8	0	0	0	0	0	0	0	0	0
Commercial	live	KE	10	0	0	0	0	0	0	0	0	0
Commercial	live	ZA	0	3	0	25	22	2	0	0	0	0
Commercial	live	ZM	1	0	0	0	0	0	0	0	0	0
Commercial	plates	US	1	0	0	0	0	0	0	0	1	0
Commercial	skin pieces	US	0	0	1	0	0	0	0	0	0	0
Commercial	skins	AR	0	2	0	0	0	0	0	0	0	0
Commercial	skins	AT	0	1	0	0	0	0	0	0	0	0

Commercial	skins	AU	1	0	0	0	0	0	0	0	0	0
Commercial	skins	CA	0	1	0	0	0	0	0	0	0	0
Commercial	skins	CH	0	1	0	0	0	0	0	0	0	0
Commercial	skins	CN	0	0	0	0	0	0	0	1	0	8
Commercial	skins	CY	4	0	0	0	1	0	0	0	0	0
Commercial	skins	DE	1	7	0	0	1	0	0	0	0	0
Commercial	skins	ES	0	7	0	0	0	0	0	0	0	0
Commercial	skins	GB	0	2	0	0	0	0	0	0	0	0
Commercial	skins	PL	0	3	0	0	0	0	0	0	0	0
Commercial	skins	PT	0	1	0	0	0	0	0	0	0	0
Commercial	skins	SG	0	1	0	0	0	0	0	0	0	0
Commercial	skins	US	5	37	2	1	0	0	0	4	0	0
Commercial	skins	ZA	0	2	0	0	0	0	0	0	0	0
Commercial	skulls	AR	0	2	0	0	0	0	0	0	0	0
Commercial	skulls	AT	0	2	0	0	0	0	0	0	0	0
Commercial	skulls	AU	0	0	0	0	0	1	0	0	0	0
Commercial	skulls	CA	0	1	0	0	0	0	0	0	0	0
Commercial	skulls	CH	0	1	0	0	0	0	0	0	0	0
Commercial	skulls	DE	2	3	0	0	0	0	0	0	0	0
Commercial	skulls	ES	0	7	0	0	0	0	0	0	0	0
Commercial	skulls	FR	0	1	0	0	0	0	0	0	0	0
Commercial	skulls	IT	0	3	0	0	0	0	0	0	0	0
Commercial	skulls	PL	0	2	0	0	0	0	0	0	0	0
Commercial	skulls	PT	0	1	0	0	0	0	0	0	0	0
Commercial	skulls	US	4	44	0	0	0	0	0	0	0	0
Commercial	skulls	ZA	0	2	0	0	0	0	0	0	0	0
Commercial	specimens	CN	1	0	0	0	0	0	0	0	0	0
Commercial	teeth	US	0	2	0	0	3	0	0	0	0	0
Commercial	trophies	AE	0	0	0	2	0	0	0	0	0	0
Commercial	trophies	AR	2	0	0	0	0	0	0	0	0	0
Commercial	trophies	AT	0	1	1	3	3	0	0	0	0	0
Commercial	trophies	AU	2	0	0	0	0	0	0	0	0	0
Commercial	trophies	BE	1	0	0	0	0	0	0	0	0	0
Commercial	trophies	BR	2	0	0	0	0	0	0	0	0	0
Commercial	trophies	BW	0	0	0	1	0	0	0	0	0	0
Commercial	trophies	CA	1	0	0	0	1	0	0	0	0	0
Commercial	trophies	CH	1	0	0	0	0	0	0	0	0	0
Commercial	trophies	CL	0	0	0	1	0	0	0	0	0	0
Commercial	trophies	DE	9	0	0	0	6	0	0	0	0	0
Commercial	trophies	DK	0	0	0	5	0	0	0	0	0	0
Commercial	trophies	DO	1	0	0	0	0	0	0	0	0	0
Commercial	trophies	ES	2	0	0	7	10	0	0	0	0	0
Commercial	trophies	FI	0	0	0	0	0	1	0	0	0	0
Commercial	trophies	FR	2	0	0	0	2	0	0	0	0	0
Commercial	trophies	GB	1	0	0	1	3	0	0	0	0	0
Commercial	trophies	HU	0	0	0	0	1	0	0	0	0	0
Commercial	trophies	IT	0	2	0	1	1	0	0	0	0	0

Commercial	trophies	MX	0	0	0	0	1	0	0	0	0	0
Commercial	trophies	NA	0	0	0	0	0	0	0	1	0	0
Commercial	trophies	PH	0	0	0	1	0	0	0	0	0	0
Commercial	trophies	PK	0	0	0	0	1	0	0	0	0	0
Commercial	trophies	PL	0	0	0	0	1	0	0	0	0	0
Commercial	trophies	RU	0	0	0	3	2	0	0	0	0	0
Commercial	trophies	SA	0	0	0	0	2	0	0	0	0	0
Commercial	trophies	SE	2	0	0	0	0	0	0	0	0	0
Commercial	trophies	SK	0	0	0	2	0	0	0	0	0	0
Commercial	trophies	UA	0	0	0	1	0	0	0	0	0	0
Commercial	trophies	US	21	1	0	49	47	0	0	1	0	0
Commercial	trophies	ZA	4	0	0	4	8	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, commercial purposes, on 25 August 2010.

Table A88: International trade in wild source lion parts from Zimbabwe for hunting trophy purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	1	0	0	0	0	0	0	0	0	1
claws	108	36	16	0	0	0	0	0	0	0	160
plates	0	0	0	2	0	0	0	0	0	0	2
skins	12	7	13	4	1	0	1	2	0	0	40
skulls	19	8	13	5	1	1	0	3	1	0	51
tails	1	0	0	0	0	0	0	0	0	0	1
trophies	70	61	75	81	90	93	88	61	46	41	706
Grand Total	210	113	117	92	92	94	89	66	47	41	961

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, hunting trophy purposes, on 30 July 2010.

Table A89. International trade in wild source lions and lion parts from Zimbabwe, for hunting trophy purposes: Importing countries.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Hunting trophy	bodies	CA	0	1	0	0	0	0	0	0	0	0
Hunting trophy	claws	DE	18	0	0	0	0	0	0	0	0	0
Hunting trophy	claws	ZA	90	36	16	0	0	0	0	0	0	0
Hunting trophy	plates	US	0	0	0	2	0	0	0	0	0	0
Hunting trophy	skins	DE	7	1	5	4	1	0	0	0	0	0
Hunting trophy	skins	FI	0	0	0	0	0	0	1	0	0	0
Hunting trophy	skins	PT	0	2	0	0	0	0	0	0	0	0
Hunting trophy	skins	ZA	5	4	8	0	0	0	0	2	0	0
Hunting trophy	skulls	CA	0	1	0	0	0	0	0	0	0	0
Hunting trophy	skulls	DE	12	1	6	4	0	0	0	0	0	0
Hunting trophy	skulls	PT	0	2	0	0	0	0	0	0	0	0
Hunting trophy	skulls	US	0	0	0	1	0	1	0	0	1	0
Hunting trophy	skulls	ZA	7	4	7	0	1	0	0	3	0	0
Hunting trophy	tails	DE	1	0	0	0	0	0	0	0	0	0
Hunting trophy	trophies	AR	0	0	0	0	0	0	1	0	0	0
Hunting trophy	trophies	AT	0	0	0	0	0	0	0	1	0	1
Hunting trophy	trophies	AU	0	0	0	0	0	0	1	0	2	1
Hunting trophy	trophies	BE	1	0	0	0	0	0	0	0	0	0
Hunting trophy	trophies	BG	0	0	0	0	0	0	0	1	1	0
Hunting trophy	trophies	CA	0	0	0	0	1	0	2	1	0	0

Hunting trophy	trophies	CH	1	0	0	0	0	0	2	0	0	0
Hunting trophy	trophies	CL	0	0	0	0	0	0	2	0	0	0
Hunting trophy	trophies	DE	3	1	2	0	5	2	3	4	0	3
Hunting trophy	trophies	DK	0	0	0	0	0	2	0	0	0	0
Hunting trophy	trophies	EE	0	0	0	0	0	0	2	0	0	0
Hunting trophy	trophies	ES	6	6	6	14	11	11	7	1	3	1
Hunting trophy	trophies	FI	0	0	1	0	0	0	2	0	0	1
Hunting trophy	trophies	FR	2	4	1	1	0	2	1	3	1	1
Hunting trophy	trophies	GB	1	0	2	0	0	0	0	0	2	0
Hunting trophy	trophies	IM	0	1	0	0	0	0	0	0	0	0
Hunting trophy	trophies	IT	5	4	0	0	0	1	0	1	1	0
Hunting trophy	trophies	JE	0	1	0	0	0	0	0	0	0	0
Hunting trophy	trophies	LT	0	0	0	0	0	0	1	2	1	1
Hunting trophy	trophies	MX	0	0	0	0	3	21	1	1	0	2
Hunting trophy	trophies	NA	0	0	0	0	0	0	0	1	0	0
Hunting trophy	trophies	NO	0	0	0	0	0	0	1	0	0	0
Hunting trophy	trophies	PL	0	0	0	1	1	0	0	1	0	0
Hunting trophy	trophies	PT	0	0	5	0	0	0	0	0	0	0
Hunting trophy	trophies	RU	0	0	0	0	0	0	2	0	0	0
Hunting trophy	trophies	SA	0	0	0	0	0	1	1	0	0	0
Hunting trophy	trophies	SE	39	0	0	0	1	1	1	0	0	0
Hunting trophy	trophies	SI	0	0	0	1	0	0	0	0	0	0
Hunting trophy	trophies	SK	0	0	0	2	0	0	0	0	0	1
Hunting trophy	trophies	UA	0	0	0	0	0	0	1	0	0	0
Hunting trophy	trophies	US	10	44	55	44	58	41	51	40	30	24
Hunting trophy	trophies	UY	0	0	2	3	0	0	0	0	0	0
Hunting trophy	trophies	ZA	2	0	1	15	9	11	6	4	5	5
Hunting trophy	trophies	ZM	0	0	0	0	1	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, hunting trophy purposes, on 25 August 2010.

Table A90: International trade in wild source lions and their parts from Zimbabwe for personal purposes.

Term	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
bodies	0	0	0	1	0	0	0	0	0	0	1
carvings	0	0	0	6	0	0	0	0	0	0	6
claws	0	27	0	0	0	0	0	0	0	0	27
leather products (l)	0	0	0	1	0	0	0	0	0	0	1
live	0	0	0	2	0	0	0	0	0	0	2
skin pieces	2	0	0	0	0	0	0	0	0	0	2
skins	2	4	3	4	0	0	1	0	2	3	19
skulls	1	5	3	0	0	0	1	1	1	2	14
trophies	18	11	6	4	0	0	5	2	1	1	48
Grand Total	23	47	12	18	0	0	7	3	4	6	120

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, personal purposes, on 30 July 2010.

Table A91. International trade in wild source lions and lion parts from Zimbabwe, for personal purposes: Importing countries.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Personal	bodies	CN	0	0	0	1	0	0	0	0	0	0
Personal	carvings	GR	0	0	0	6	0	0	0	0	0	0
Personal	claws	DE	0	18	0	0	0	0	0	0	0	0
Personal	claws	US	0	9	0	0	0	0	0	0	0	0
Personal	leather products (l)	CN	0	0	0	1	0	0	0	0	0	0

Personal	live	NG	0	0	0	2	0	0	0	0	0	0
Personal	skin pieces	AU	2	0	0	0	0	0	0	0	0	0
Personal	skins	AT	1	0	0	0	0	0	0	0	0	1
Personal	skins	AU	0	0	0	0	0	0	1	0	1	1
Personal	skins	DE	1	3	3	1	0	0	0	0	0	0
Personal	skins	GR	0	0	0	1	0	0	0	0	0	0
Personal	skins	JP	0	0	0	0	0	0	0	0	1	0
Personal	skins	US	0	1	0	2	0	0	0	0	0	1
Personal	skulls	AT	0	2	0	0	0	0	0	1	0	1
Personal	skulls	AU	1	0	0	0	0	0	0	0	1	1
Personal	skulls	DE	0	3	3	0	0	0	0	0	0	0
Personal	skulls	UA	0	0	0	0	0	0	1	0	0	0
Personal	trophies	AE	0	0	0	0	0	0	0	1	0	0
Personal	trophies	AT	4	1	0	1	0	0	0	0	0	0
Personal	trophies	CA	0	0	0	0	0	0	1	0	0	0
Personal	trophies	CH	0	0	0	0	0	0	3	0	0	0
Personal	trophies	CN	0	0	1	0	0	0	0	0	0	0
Personal	trophies	CY	3	0	0	0	0	0	0	0	0	0
Personal	trophies	DE	0	4	0	0	0	0	0	0	1	0
Personal	trophies	DK	0	0	0	1	0	0	0	0	0	0
Personal	trophies	DO	1	0	0	0	0	0	0	0	0	0
Personal	trophies	ES	0	0	0	0	0	0	0	1	0	0
Personal	trophies	IM	0	0	2	0	0	0	0	0	0	0
Personal	trophies	IT	2	1	0	0	0	0	0	0	0	0
Personal	trophies	NA	0	1	0	0	0	0	0	0	0	0
Personal	trophies	NZ	0	0	1	0	0	0	0	0	0	0
Personal	trophies	SE	0	1	0	0	0	0	0	0	0	0
Personal	trophies	US	8	3	2	2	0	0	1	0	0	0
Personal	trophies	ZA	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, personal purposes, on 25 August 2010.

Table A92: International trade in wild source lions and their parts from Zimbabwe for the listed purposes.

Purpose	Term	Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Totals
Circus	live	**ZA**	0	0	0	15	0	0	0	0	0	0	15
Education	skins	CN	0	0	2	0	0	0	0	0	0	0	2
Scientific	specimens	**NA**	0	0	0	0	0	0	23	0	0	0	23
Scientific	specimens	US	0	0	0	0	0	0	0	16	0	0	16
Grand Total													56

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" from "Zimbabwe", wild sources, various purposes, on 30 July 2010.

Country Codes

AD Andorra
AE United Arab Emirates
AF Afghanistan
AG Antigua and Barbuda
AI Anguilla
AL Albania
AM Armenia
AN Netherlands Antilles
AO Angola
AQ Antarctica
AR Argentina
AS American Samoa
AT Austria
AU Australia
AW Aruba
AX Åland Islands
AZ Azerbaijan
BA Bosnia and Herzegovina
BB Barbados
BD Bangladesh
BE Belgium
BF Burkina Faso
BG Bulgaria
BH Bahrain
BI Burundi
BJ Benin
BM Bermuda
BN Brunei Darussalam
BO Bolivia
BR Brazil
BS Bahamas
BT Bhutan
BV Bouvet Island
BW Botswana
BY Belarus
BZ Belize
CA Canada
CC Cocos (Keeling) Islands
CD Congo, Democratic Republic of
CF Central African Republic
CG Congo
CH Switzerland
CI Côte d'Ivoire
CK Cook Islands
CL Chile
CM Cameroon
CN China
CO Colombia
CR Costa Rica
CS Serbia and Montenegro
CU Cuba
CV Cape Verde
CX Christmas Island
CY Cyprus
CZ Czech Republic
DD former East Germany
DE Germany
DJ Djibouti
DK Denmark
DM Dominica
DO Dominican Republic
DZ Algeria
EC Ecuador
EE Estonia
EG Egypt
EH Western Sahara
ER Eritrea
ES Spain
ET Ethiopia
FI Finland
FJ Fiji
FK Falkland Islands (Malvinas)
FM Micronesia, Federated States of
FO Faroe Islands
FR France
FX France, Metropolitan
GA Gabon
GB United Kingdom
GD Grenada
GE Georgia
GF French Guiana
GH Ghana
GI Gibraltar
GL Greenland
GM Gambia
GN Guinea
GP Guadeloupe
GQ Equatorial Guinea

GR Greece
GS South Georgia and the South Sandwich Islands
GT Guatemala
GU Guam
GW Guinea-Bissau
GY Guyana
HK Hong Kong
HM Heard and McDonald Islands
HN Honduras
HR Croatia
HT Haiti
HU Hungary
ID Indonesia
IE Ireland
IL Israel
IM Isle of Man
IN India
IO British Indian Ocean Territory
IQ Iraq
IR Iran, Islamic Republic of
IS Iceland
IT Italy
JE Jersey
JM Jamaica
JO Jordan
JP Japan
KE Kenya
KG Kyrgyzstan
KH Cambodia
KI Kiribati
KM Comoros
KN Saint Kitts and Nevis
KP Korea, Democratic People's Republic of
KR Korea, Republic of
KW Kuwait
KY Cayman Islands
KZ Kazakhstan
LA Lao People's Democratic Republic
LB Lebanon
LC Saint Lucia
LI Liechtenstein
LK Sri Lanka
LR Liberia
LS Lesotho
LT Lithuania
LU Luxembourg
LV Latvia
LY Libyan Arab Jamahiriya
MA Morocco
MC Monaco
MD Moldova, Republic of
MG Madagascar
MH Marshall Islands
MK Macedonia
ML Mali
MM Myanmar
MN Mongolia
MO Macau
MP Northern Mariana Islands
MQ Martinique
MR Mauritania
MS Montserrat
MT Malta
MU Mauritius
MV Maldives
MW Malawi
MX Mexico
MY Malaysia
MZ Mozambique
NA Namibia
NC New Caledonia
NE Niger
NF Norfolk Island
NG Nigeria
NI Nicaragua
NL Netherlands
NO Norway
NP Nepal
NR Nauru
NU Niue
NZ New Zealand
OM Oman
PA Panama
PC former Pacific Trust Territory
PE Peru
PF French Polynesia
PG Papua New Guinea
PH Philippines
PK Pakistan
PL Poland
PM St Pierre and Miquelon

PN Pitcairn
PR Puerto Rico
PS Occupied Palestinian Territory
PT Portugal
PW Palau
PY Paraguay
QA Qatar
RE Réunion
RO Romania
RS Serbia
RU Russian Federation
RW Rwanda
SA Saudi Arabia
SB Solomon Islands
SC Seychelles
SD Sudan
SE Sweden
SG Singapore
SH St Helena and Dependencies
SI Slovenia
SJ Svalbard and Jan Mayen Islands
SK Slovakia
SL Sierra Leone
SM San Marino
SN Senegal
SO Somalia
SR Suriname
ST Sao Tome and Principe
SU former Soviet Union
SV El Salvador
SY Syrian Arab Republic
SZ Swaziland
TC Turks and Caicos Islands
TD Chad
TF French Southern Territories
TG Togo
TH Thailand
TJ Tajikistan
TK Tokelau
TL Timor-Leste
TM Turkmenistan
TN Tunisia
TO Tonga
TR Turkey
TT Trinidad and Tobago
TV Tuvalu
TW Taiwan, Province of China
TZ Tanzania, United Republic of
UA Ukraine
UG Uganda
UM United States Minor Outlying Islands
US United States of America
UY Uruguay
UZ Uzbekistan
VA Vatican City State (Holy See)
VC Saint Vincent and the Grenadines
VE Venezuela
VG Virgin Islands (British)
VI Virgin Islands (UNITED STATES)
VN Viet Nam
VU Vanuatu
WF Wallis and Futuna Islands
WS Samoa
XA[l] French Antilles
XC[l] Caribbean
XE[l] Europe
XF[l] Africa
XM[l] South America
XS[l] Asia
XV[l] Various
XX[l] Unknown
YE Yemen
YT Mayotte
YU former Yugoslavia/ Serbia & Montenegro
ZA South Africa
ZC[l] former Czechoslovakia
ZM Zambia
ZW Zimbabwe
ZZ Introduction of the sea

APPENDIX B:
U.S.-BASED INTERNET OFFERS FOR SALE OF AFRICAN LION SPECIMENS

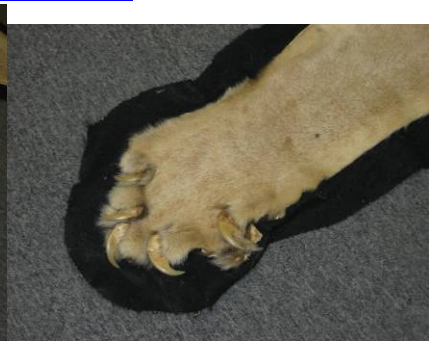
Searched on July 30th, 2010:

►**8 ft Genuine African Lion Skin Rug Fur Hide Taxidermy**
$6,300
http://cgi.ebay.com/8-ft-Genuine-African-Lion-Skin-Rug-Fur-Hide-Taxidermy-/110487724123?cmd=ViewItem&pt=LH_DefaultDomain_0&hash=item19b994e05b

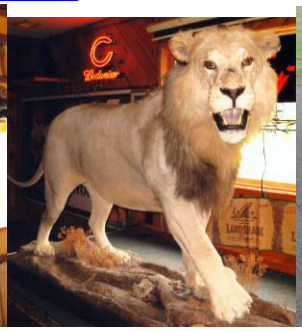
►**Antique African Lion Teeth, Pendants, Beads, from Congo**
$250-$300
http://cgi.ebay.com/Antique-African-Lion-Teeth-Pendants-Beads-Congo-/360268077796?cmd=ViewItem&pt=LH_DefaultDomain_0&hash=item53e1a69ae4

►**African Lion Rugs and Mounts**
$1,260-$22,400
http://www.trophyroomcollection.com/lion.html

► **Authentic Female Lion Skin Rug Mounted**
$5200
http://www.african-exotics.com/lion/lion1.html

► **African Lion Mounts**
$395-$8,500
http://www.macstaxidermy.com/feline.htm


► **African Lion Mounts and Rugs**
$7,999-$12,500
http://www.timberlinefurniture.com/



Click For Larger Image Click For Larger Image Click For Larger Image

► **Skulls, Canines, Claws and Bones**
$14-$335
http://www.skullsunlimited.com/index.php




► **African Lion Claws**
$700
http://www.cherokeespirits.com/africanlionclaws.htm

► **African Lion Rug, Skull**
$2,999-$3,500
http://www.wildlifeetc.com/


Searched on August 2nd, 2010:

► **African Lion Mount**
$2,950
http://superioranimalbrokers.com/default.aspx


► **African Lion Claws**
$20-$70
http://www.eidnesfurs.com

► **African Lion Claws, Mount, Skull**
$600-$2,950
http://littletonystradingpost.com/african.html




Searched on February 24th, 2011:

►8 ft Genuine African Lion Skin Rug Fur Hide Taxidermy
$3,500
http://cgi.ebay.com/8-ft-Genuine-African-Lion-Skin-Rug-Fur-Hide-Taxidermy-/110651041417?pt=LH_DefaultDomain_0&hash=item19c350e689

►African Lion Life Size
$7000
http://www.mountsforsale.com/catalog/item/4493288/7478541.htm

► **Claws and Skulls**
Claws $75-150 each, skulls $950
http://www.chichesterinc.com

► **African Lion Rug**
$4250
http://www.paulfrasercollectibles.com/section.asp?docid=2704&catid=71

► **African Lion Skull (Real)**
$471
http://www.collectibles-articles.com/antique/African-Lion-Skull-Real_170598296789.html

► **African Lion Full Set Claws**
$48 for the full set
http://www.collectibles-articles.com/antique/African-Lion-FULL-Set-Claws-Taxidermy-King_260741257738.html

► **Vintage Lion Head Taxidermy**
$405
http://www.collectibles-articles.com/antique/Vintage-Lion-Head-Taxidermy_130487318301.html

► **Vintage African Lion Head Mount Taxidermy - 1960**
$1,225
http://www.fast-autos.net/diecast-cars-models/Great-Vintage-African-Lion-Head-Mount-Taxidermy-1960_160539962007.html

Annex XIX

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Petition to the Department of the Interior

Petition to the Secretary of the Interior to List the African Elephant (*Loxodonta africana*) as Endangered Pursuant to the Endangered Species Act; February 11, 2015 (130 pages)

Attached below.

PETITION TO THE SECRETARY OF THE INTERIOR TO LIST THE AFRICAN ELEPHANT (*Loxodonta africana*) AS ENDANGERED PURSUANT TO THE ENDANGERED SPECIES ACT

Photo credit: Vanessa Mignon

February 11, 2015

The International Fund for Animal Welfare,
Humane Society International,
The Humane Society of the United States, and
The Fund for Animals

Contents

LIST OF TABLES

LIST OF FIGURES

Petition to List the African Elephant as Endangered

Honorable Sally Jewell
Secretary of the Interior
1849 C Street, N.W.
Washington. D.C. 20240

Mr. Dan Ashe, Director
U.S. Fish and Wildlife Service
1849 C Street, N.W.
Washington. D.C. 20240

PETITIONERS

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The Humane Society of the United States
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International Fund for Animal Welfare
290 Summer Street
Yarmouth Port, MA 02675

The Fund for Animals
200 West 57th Street
New York, NY 10019

Date: February 11, 2015

NOTICE OF PETITION

Pursuant to Section 4(b) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1533(b), Section 553(e) of the Administrative Procedure Act, 5 U.S.C. § 553(e), and 50 C.F.R. § 424.14(a), Petitioners, The International Fund for Animal Welfare, Humane Society International, The Humane Society of the United States, and The Fund for Animals hereby Petition the Secretary of the Interior and the U.S. Fish and Wildlife Service ("USFWS" or "the Service") to reclassify the African elephant (*Loxodonta africana*) from Threatened to Endangered. 16 U.S.C. § 1532(6) ("The term 'endangered species' means any species which is in danger of extinction throughout all or a significant portion of its range…").

This Petition presents substantial scientific and commercial information indicating that the African elephant is in danger of extinction throughout all or a significant portion of its range. *See* 50 C.F.R. § 424.14(b)(1) ("substantial information" is "that amount of information that would lead a reasonable person to believe that the measure proposed in the Petition may be

warranted"). Therefore, the Secretary of the Interior must make an initial finding "that the petitioned action *may be* warranted." 16 U.S.C. §1533(b)(3)(A)(emphasis added) (The Secretary must make this initial finding "[t]o the maximum extent practicable, within 90 days after receiving the Petition"); *HSUS v. Pritzker*, 2014 WL 6946022 (D.D.C. 2014) (holding that conclusive evidence is not required to make a positive 90-day finding). Petitioners are confident that a status review of the species, as required by 16 U.S.C. § 1533(b)(3)(B), will support a finding that reclassifying the African elephant as Endangered is in fact warranted.

The African elephant has suffered a major reduction in population size across its range primarily due to habitat loss, commercial overutilization, and severe poaching, and such decline continues unabated. The USFWS has a duty to protect the iconic African elephant by listing the species as Endangered under the federal Endangered Species Act, which would meaningfully contribute to African elephant conservation by strictly regulating the import, export, and interstate commerce in African elephant parts and products. *See* 16 U.S.C. § 1531(b),(c) (providing that federal agencies "shall utilize their authorities in furtherance of" the conservation purpose of the ESA). In order to promote African elephant conservation, as mandated by the ESA, the Service must (via an Endangered listing) require that trade in African elephant parts only occurs if it would in fact enhance the propagation or survival of the species or is for scientific purposes that benefit the species. Therefore, Petitioners strongly urge the Service to grant this Petition and conduct a status review of the species.

Respectfully submitted,

_____

Jeff Flocken
International Fund for Animal Welfare
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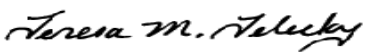

_____

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Acknowledgements: The authors respectfully acknowledge the many scientists and conservationists whose work has given us a deeper understanding of the African elephant, and our gratitude goes especially to those researchers whose published work is cited in this Petition. This project would not have been possible without the support and assistance of many of our colleagues at IFAW, HSUS, and HSI; thank you for your efforts.

Authors: Masha Kalinina, Humane Society International; Peter LaFontaine, International Fund for Animal Welfare; Mary Trainor, International Fund for Animal Welfare; Teresa Telecky, Humane Society International; Jeffrey Flocken, International Fund for Animal Welfare; Mark Hofberg, International Fund for Animal Welfare; Adam Peyman, Humane Society International; Anna Frostic, The Humane Society of the United States; and Marina Ratchford, independent wildlife consultant.

EXECUTIVE SUMMARY

This Petition demonstrates that the African elephant (*Loxodonta africana*) meets the statutory criteria for an Endangered listing under the Endangered Species Act (ESA).

The petitioners – The Humane Society of the United States, Humane Society International, The International Fund for Animal Welfare, and The Fund for Animals – submit this Petition to the Secretary of the Interior and the U.S. Fish and Wildlife Service requesting reclassification of the African elephant from Threatened to Endangered under the ESA. The ESA requires listing a species as "Endangered" when it "is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). As demonstrated herein, both of the two known subspecies of African elephant, the savanna elephant (*Loxodonta africana africana*) and the forest elephant (*Loxodonta africana cyclotis*), are facing catastrophic population declines, and elephants meet the definition of Endangered across their African range.

The Act requires the Secretary to determine within 90 days of receiving a petition whether the petition "presents substantial scientific or commercial information indicating that the petitioned action may be warranted." 16 U.S.C. § 1533(b)(3)(A). Such determination must be made solely on the basis of the "best scientific and commercial data available." 16 U.S.C. § 1533(b)(1)(A). Following a positive 90-day finding, the Secretary must, within one year of receipt of the Petition, complete a review of the status of the species, publish a finding of whether the action is warranted and, if so, promptly propose a rule to change the listing status. 16 U.S.C. § 1533(b)(3)(B). Should a rule be proposed, the Secretary has an additional year to finalize regulations protecting the species. 16 U.S.C. §1533(b)(6)(A).

Once a foreign species is listed as Endangered, protection under the ESA occurs by, *inter alia*, prohibiting import, export, and interstate commerce in live animals and parts derived from wild populations, unless such activity enhances the propagation or survival of the species or is for conservation science purposes. 16 U.S.C. § 1533(b)(1)(A). Furthermore, Section 8 of the ESA provides for "International Cooperation" in the conservation of foreign species, and listing a foreign species heightens global awareness about the importance of conserving the species.

This Petition describes the natural history and biology of the African elephant and the current status and distribution of the subspecies. The Petition evaluates the threats to the continued existence of the African elephant and shows that the species' population size is in alarming and precipitous decline due to rampant poaching, severe habitat loss, and commercial overutilization. The Petition also demonstrates how Americans engaging in unsustainable international trade of African elephants and their parts are negatively impacting the conservation status of the species. Existing laws and regulations are inadequate to address the numerous and interacting threats to the African elephant and listing the African elephant as Endangered is necessary to promote the conservation of the species, as required by law.

Status and Distribution

For over 30 years, the U.S. Fish & Wildlife Service (USFWS) has recognized that the African elephant (*Loxodonta africana*) is threatened with extinction.[1] The International Union for the Conservation of Nature (IUCN) also lists the species as Vulnerable[2] on its Red List of Threatened Species because it is considered to have a high risk of extinction in the wild (2008).[3]

In 1978, the USFWS found "at least 1.3 million" African elephants were "still in existence".[4] Using the best estimate of elephant numbers from systematic surveys[5] there were likely 523,872 elephants in Africa in 2012.[6] Thus, the best available science shows that the African elephant has suffered a population-wide decline of roughly 60% since the Service listed the African elephant as Threatened in 1978. This sharp decline is a result of habitat loss, poaching, commercial exploitation, trophy hunting, human-elephant conflict, regional conflict and instability, and climate change, which all presently combine to put the species in danger of extinction.[7] Indeed, the Secretariat for the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES) states that "poaching numbers in Africa remain at levels that are unsustainable, with mortality exceeding the natural birth rate, resulting in an ongoing decline in African elephant numbers."[8]

Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range

In addition to the African elephant's precipitous population decline, the species' range has contracted significantly as well. In 1979, the African elephant's range spanned 7.3 million km^2 (Figure 1).[9] As of 2007, African elephants inhabited only 3.3 million km^2 (Figure 2).[10] This is a

[1] 50 C.F.R. § 17.11; 43 Fed. Reg. 20499 (May 12, 1978).
[2] J. J. Blanc, 2008. *Loxodonta africana*. [hereinafter "Blanc, *Loxodonta africana*"]; *The IUCN Red List of Threatened Species. Version 2014.2.* (2008), www.iucnredlist.org [hereinafter "IUCN Red List 2014"].
[3] IUCN, *1994 Categories and Criteria (version 2.3). IUCN Red List of Threatened Species.* (1994), http://www.iucnredlist.org/technical-documents/categories-and-criteria/1994-categories-criteria [hereinafter "IUCN Red List 2.3"].
[4] 43 Fed. Reg. at 20500.
[5] J. J. Blanc, et al., African Elephant Status Report 2002: An Update from the African Elephant Database (IUCN/SSC African Elephant Specialist Grp. 2003), http://www.iucn.org/about/work/programmes/species/who_we_are/ssc_specialist_groups_and_red_list_authorities_directory/mammals/african_elephant/data/reports/?uPubsID=2749 [hereinafter "African Elephant Status Report 2002"].
[6] IUCN, *Elephant Database, 2012 Continental Totals* (2012), http://www.elephantdatabase.org/preview_report/2013_africa/Loxodonta_africana/2012/Africa [hereinafter "IUCN, *Elephant Database*"].
[7] UNEP et al., *A Rapid Response Assessment: Elephants in the Dust, the African Elephant Crisis.* United Nations Environment Program. (2013), http://www.cites.org/common/resources/pub/Elephants_in_the_dust.pdf [hereinafter "UNEP et al., *A Rapid Response*"].
[8] CITES, *Elephant Conservation, Illegal Killing, and Ivory Trade.* (2014). 10. Available at http://www.cites.org/sites/default/files/eng/com/sc/65/E-SC65-42-01_2.pdf [hereinafter "CITES, *Elephant Conservation*"].
[9] I. Douglas-Hamilton. 1979. African elephant ivory trade- Final report to the U.S. Fish and Wildlife Service. Typescript. As cited in CITES Doc. 7.43, Annex 2, the United Republic of Tanzania Proposal to Amendments to Appendices I and II, 1989 [hereinafter "Douglas-Hamilton, *Final Report*"]; *See also* Peter Jackson, *The Future of Elephants and Rhinos in Africa*. 11 Ambio 202-205 (2003).
[10] J. J. Blanc, et al., No. 33, African Elephant Status Report 2007: An Update from the African Elephant Database. Occasional Paper Series of the IUCN Species Survival Commission (IUCN/SSC African Elephant Specialist Grp. 2007),

54.8% range reduction over 28 years, and is attributable to factors such as increased human population density and industrial and agricultural development.[11]

As the human population continues to expand throughout the range of the African elephants, habitat loss and degradation are expected to continue to be a major threat to the survival of elephants. Expansive habitat is a prerequisite for healthy elephant populations, given their nature as a migratory animal and the heavy impacts they will cause on a landscape if a population is concentrated in one place for too long.

As African countries continue to modernize, "habitat encroachment, increased human population densities, urban expansion, agricultural development, deforestation and infrastructure development"[12] will likely continue to escalate and impact the long-term prognosis for the species. Already, this process of development has impacted nearly a third of existing elephant range, a figure that could double by 2050.[13] The issue of habitat loss is not merely one of temporary displacement of elephants by humans: land use patterns, such as the transformation of woodland or savanna to agricultural land, can have a major long-term impact on resident elephants.[14] Other threats to habitat and range for African elephants include human-elephant conflict, the effects of war and civil conflict, and climate change and desertification.

Overutilization for Commercial, Recreational, or Scientific Purposes

Analysis of trade in African elephants and their parts clearly shows that the species is overutilized. While international trade that is currently legal can be monitored via the CITES trade database, illegal trade is more difficult to precisely quantify. But there is a clear link between legal trade and illegal trade, and increased oversight of the international and domestic trade in ivory and other elephant parts and products is needed to bring the African elephant back from the brink of extinction.

Original analysis[15] presented in this Petition shows that between 2003 and 2012, net imports from all sources and for all legal purposes represented approximately 49,501 African elephants in international trade.[16] Net U.S. imports from all sources and for all legal purposes represented approximately 8,119 African elephants in international trade. The CITES decisions to approve sales of stockpiled ivory from Botswana, Namibia, Zimbabwe, and South Africa to Asian markets[17]

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http://www.iucn.org/about/work/programmes/species/who_we_are/ssc_specialist_groups_and_red_list_authorities_directory/mammals/african_elephant/data/reports/?uPubsID=3407 [hereinafter "African Elephant Status Report 2007"].

[11] UNEP et al., *A Rapid Response*.

[12] African Elephant Status Report 2007; *see also* African Elephant Status Report 2002.

[13] UNEP et al., *A Rapid Response* at 7.

[14] R. E. Hoare & J. T. Du Toit, *Coexistence Between People and Elephants in African Savannas,* 13Conservation Biology 633-639 (1999), http://www.researchgate.net/publication/227623128_Coexistence_between_People_and_Elephants_in_African_Savannas [hereinafter "Hoare & Du Toit, *Coexistence Between People and Elephants*"].

[15] The analysis consists of data compiled from the CITES Trade Database in October 2014, *available at* http://trade.cites.org/. CITES, *CITES Trade Database*, 2013 (2013), http://trade.cites.org/. (last visited Feb. 9, 2015).

[16] Note that there is a one-to-one ratio between trophy imports, body imports, and live imports and the number of elephants.

[17] CITES, *Illegal ivory trade driven by unregulated domestic markets*, 4 Oct. 2002, *available at* http://www.cites.org/eng/news/pr/2002/021004_ivory.shtml (last visited Feb 9, 2015) [hereinafter "CITES, *Illegal ivory trade*"].

stimulated international demand for elephant parts and creates confusion amongst consumers about the legal status of the elephant products in trade.[18] For example, after the 2008 sale, there was immediately an unprecedented spike in imports of ivory, and net imports of African elephant specimens have grown substantially since then.

Remarkably, the U.S. is one of the leading importers of African elephant specimens—predominantly for commercial, personal and hunting trophy purposes. Further, federal law enforcement officials routinely seize shipments of ivory directly from Africa, proving that the U.S. is an end market for illegal ivory products.[19] The U.S. plays a significant role in the overutilization of the species – large amounts of ivory are offered for sale on the domestic market that appear to have been carved after the 1989 CITES Appendix I listing, implying that they were illegally imported.[20]

The African elephant is in danger of extinction due to this overutilization for commercial and recreational purposes, and elephant poaching to supply this demand has reached a level that is not biologically sustainable.[21]

Inadequacy of Existing Regulatory Mechanisms

The African elephant is the subject of a large and varied body of law—including local, national, and international laws—much of which is designed to protect the species through mechanisms such as trade controls and direct prohibitions on take. Collectively, these laws and regulations have failed to prevent the drastic population loss and range declines the species is currently facing. For example, CITES suffers from inconsistent implementation and enforcement, with politics influencing Appendix listing decisions, and compliance failures. Additionally, CITES is not designed to control domestic markets, nor does it address non-trade related threats such as habitat loss. The Parties to CITES have also, on two separate occasions, undermined elephant conservation by sanctioning ivory stockpile sales. Other conventions such as the Convention on Migratory Species, regional efforts like the African Union and the Lusaka Agreement, as well as national laws in range, transit and consumer states, have all failed to protect the elephant from its current decline.

The U.S.—a significant ivory consumer country—only lists the species as Threatened under the ESA, with a "special rule" that allows significant trade in the species to continue without sufficient oversight of interstate and foreign commerce in ivory, hunting trophies, and other products. 50 C.F.R. § 17.40(e). The African Elephant Conservation Act (AfECA) created U.S.-sponsored conservation programs and additional international trade restrictions on ivory, and the Lacey Act criminalizes commercial activity in wildlife products illegally obtained, but neither of these two laws has the ability to meaningfully address the U.S. role in the current poaching crisis, as would

[18] CITES, *Ivory Auctions Raise 15 Million U.S.D. for Elephant Conservation* , http://www.cites.org/eng/news/pr/2008/081107_ivory.shtml (last visited Feb. 9, 2015) [hereinafter "CITES, *Ivory Auctions Raise 15 Million U.S.D.*"].
[19] Beth Allgood, et al., *U.S. Ivory Trade: Can a Crackdown on Trafficking Save the Last Titan?*, 20 Animal L. 27, 36 (2013) [hereinafter "Allgood et al., *U.S. Ivory Trade*"].
[20] D. Stiles & E. Martin, The U.S.A's Ivory Markets—How Much a Threat to Elephants?, 45 Pachyderm 67 (July 2008–June 2009), available at www.pachydermjournal.org/index.php/pachy/article/view/13/52 [hereinafter "Stiles & Martin, U.S.A.'s Ivory Markets"].
[21] CITES, Elephant Conservation, Illegal Killing, and Ivory Trade. (2014). 10. Available at http://www.cites.org/sites/default/files/eng/com/sc/65/E-SC65-42-01_2.pdf .

an Endangered uplisting for the species.

The Service recognized over a year ago that additional ESA regulation is needed to promote African elephant conservation and to meet the goals of the National Strategy for Combating Wildlife Trafficking (and issued Director's Order 210 to clarify implementation of existing law). But to date no such amendment for the African elephant ESA regulations has been formally proposed, and neither a change to the existing African elephant special rule (nor the recent changes to the U.S. CITES regulations) would be as beneficial to the species as a change in the listing status, from Threatened to Endangered.

Conclusion

This Petition demonstrates that the African elephant meets the criteria for listing as Endangered under the ESA and therefore the species must be uplisted. The best scientific and commercial data available demonstrate that the population and range of the African elephant have significantly decreased, and continue to decrease, and that the African elephant is in danger of extinction throughout "all or a significant portion of its range" based on the statutory listing factors. 16 U.S.C. §§ 1532(6), 1533(a).

The African elephant faces serious threats due to rampant poaching, loss of habitat, exploitation, retaliatory killings linked to human-elephant conflict, the effects of war and civil conflict, and climate change. Legal trade in African elephant products has stimulated demand for ivory that cannot be completely met by legal trade, subsequently driving the catastrophic increase in poaching. The species is not adequately protected by existing regulatory measures at national, regional or international levels. Listing the African elephant as Endangered under the ESA would be a meaningful step toward reversing the decline of the species by ensuring that the U.S. does not allow the importation of or interstate commerce in African elephants or their parts unless doing promotes the conservation of the species, and by raising global awareness about the alarming and increasingly precarious status of this iconic species.

I. INTRODUCTION

The African elephant (*Loxodonta africana*) is a globally recognized wildlife icon, one of the most intelligent and emotive animals in the world. It is also a species in crisis from both short and long term threats that endanger its future existence on the planet. Habitat loss, commercial exploitation, unsustainable trophy hunting, human-elephant conflict, and rampant poaching are all threats menacingly circling the species and putting it on the brink of extinction.

The United States has a vital role to play in saving the African elephant, and, as demonstrated in this petition, the Fish and Wildlife Service is legally required to uplist the species from Threatened to Endangered. The benefits that would accompany an Endangered listing under the Endangered Species Act—including limits on imports and exports linked to unnecessary killings for sport or commercial trade, an open and transparent review of elephant exploitation by Americans, and global attention on the poaching crisis —will all help this species recover.

II. STATUS AND DISTRIBUTION OF THE AFRICAN ELEPHANT

A. Status

The U.S. Fish and Wildlife Service listed the African elephant as Threatened under the Endangered Species Act (ESA) in 1978 (following a petition from The Fund for Animals). 43 Fed. Reg. 20499 (May 12, 1978).[22] As the Service recognized then, "the African elephant is among the world's most commercially valuable animals", "ivory hunting, mainly illegal, is the greatest immediate threat to the species", and that elephant populations "could be entirely wiped out, if large scale poaching continues."[23] In 1989, the Service considered a request to reclassify African elephants from Threatened to Endangered, following a petition from The Humane Society of the United States and other organizations – the Service acknowledged then that "the status of the African elephant has deteriorated substantially since the species was originally classified as threatened in 1978" due to "intensive poaching to obtain elephant ivory and subsequent international trade of this product."[24] Unfortunately, African elephant populations continue to decline due to intensive poaching and trafficking and are on the brink of being "wiped out".

Estimating current elephant population numbers can be difficult due to variances in data reliability and availability.[25] The IUCN Species Survival Commission's African Elephant Specialist Group periodically produces status updates on the African elephant. The most recent update, which includes data up to 2012,[26] relies on data from the African Elephant Database, which is considered the most reliable and authoritative source for data concerning African elephant populations.[27] In the Database, experts utilize a series of algorithms to account for data quality and survey reliability when categorizing data as DEFINITE, PROBABLE, POSSIBLE, and SPECULATIVE numbers of elephants.[28] These estimates are not cumulative, so for example a PROBABLE estimate does not include the DEFINITE estimate. Instead, the totals are minimum estimates that can be considered additively. Therefore, "in order to produce national, regional and continental totals, the variances of sample counts are added together in order to produce a 95% confidence interval … before allocation of the pooled estimates to the four groups."[29]

In 1979, the Service found that there are "at least 1.3 million of these animals still in existence."[30] Experts estimate that there were between 433,999 and 683,888 elephants in 2012.[31] Of this, 433,999 are categorized as DEFINITE, 89,873 are PROBABLE, 54,636 are POSSIBLE, and

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[22] The IUCN lists the species as Vulnerable on its Red List of Threatened Species because it is considered to have a high risk of extinction in the wild. Loxodonta africana; IUCN Red List 2014.2; IUCN Red List 2.3.
[23] 43 Fed. Reg at 20503.
[24] 54 Fed. Reg. 26812 (June 26, 1989). *See also* 56 Fed. Reg. 11392 (March 18, 1991) (proposing to list African elephants as endangered, except in Botswana, Zimbabwe, and South Africa); 57 Fed. Reg. 35473, 35474 (Aug. 10, 1992) (declining to grant additional protection to African elephants, based on the rational that "overexploitation seems to be controlled because of: (1) Enhanced anti-poaching activities, (2) the CITES appendix I listing, and (3) various ivory import moratoria. There is substantial evidence that the illegal offtake of elephants on a continent-wide basis is significantly reduced and is probably somewhat less than recruitment.").
[25] African Elephant Status Report 2007.
[26] IUCN, *Elephant Database.*
[27] IUCN, *Elephant Database*.
[28] African Elephant Status Report 2007 at 11.
[29] *Id*.
[30] 43 Fed. Reg. 20499.
[31] IUCN, *Elephant Database.*

105,380 are SPECULATIVE.[32] According to the 2007 *African Elephant Status Report* by Blanc et al., "the sum of these two categories [DEFINITE and PROBABLE] provides the 'best estimate'" of elephant numbers from systematic surveys."[33] Therefore, there were likely at least 523,872 elephants in Africa as of 2012.[34] Thus, the best available science shows that the species has suffered a population-wide decline of roughly 60% since the Service recognized (over 30 years ago) that the species is likely to become endangered.

Recent scientific studies indicate a downward trend in multiple African elephant populations across the continent.[35] As discussed in detail below, threats like habitat loss,[36] poaching,[37] human-elephant conflict,[38] institutional corruption,[39] and climate change,[40] presently combine to jeopardize the species' survival. Illegal trade is a primary concern at present, and the CITES Secretariat states that "poaching numbers in Africa remain at levels that are unsustainable, with mortality exceeding the natural birth rate, resulting in an ongoing decline in African elephant numbers."[41]

Although North Africa was once part of the African elephant's range, the species is now extinct in this region.[42] About 52% of Africa's DEFINITE and PROBABLE numbers of elephants are found in Southern Africa,[43] with most living in Botswana.[44] Eastern Africa holds slightly over 28% of the DEFINITE and PROBABLE population, and the majority of elephants in this region are located in Kenya and Tanzania.[45] West Africa contains 1.6% of Africa's DEFINITE and PROBABLE elephants, and while data are sparse for Central Africa populations, experts estimate that 17% of DEFINITE and PROBABLE elephants are located in this area.[46] Most of the DEFINITE and PROBABLE numbers of elephants in Central Africa are located in Congo, the

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[32] *Id.*
[33] African Elephant Status Report 2007 at 14.
[34] IUCN, *Elephant Database.*
[35] *See, e.g.*, Philippe Bouché et al., *Will Elephants Soon Disappear from West African Savannahs?* 6 PloS ONE (2011), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0020619 [hereinafter "Bouché et al., *Will Elephants Soon Disappear*"]; CITES Secretariat, IUCN/SSC African Elephant Specialist Grp. & TRAFFIC Int'l, *Status of African Elephant Populations and Levels of Illegal Killing and the Illegal Trade in Ivory: A Report to the African Elephant Summit.* (2013), https://cmsdata.iucn.org/downloads/african_elephant_summit_background_document_2013_en.pdf [hereinafter "CITES, *Status of African Elephant Populations*"]; Fiona Maisels et al., *Devastating Decline of Forest Elephants in Central Africa*, 8 PLoS ONE (2013), http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone (last visited Nov. 4, 2014) [hereinafter "Maisels et al., *Devastating Decline*"]; UNEP et al. *A Rapid Response;* George Wittemyer et al., *Illegal Killing for Ivory Drives Global Decline in African Elephants*., 111 PNAS (2014), http://www.pnas.org/content/111/36/13117.abstract [hereinafter "Wittemyer et al., *Illegal Killing*"].
[36] UNEP et al., *A Rapid Response* at 15.
[37] UNEP et al., *A Rapid Response* at 32.
[38] UNEP et al., *A Rapid Response* at 41.
[39] UNEP et al., *A Rapid Response* at 41, 43.
[40] UNEP et al., *A Rapid Response* at 21.
[41] CITES, *Elephant Conservation* at 10.
[42] UNEP et al., *A Rapid Response* at 15.
[43] IUCN, *Elephant Database*.
[44] CITES, *Status of African Elephant Populations* at 2.
[45] IUCN, *Elephant Database*.
[46] IUCN, *Elephant Database.*

Democratic republic of Congo, and Gabon.[47] Population estimates are uncertain for Senegal, Somalia, and Sudan.[48]

Table 1: Population and Range Estimates for the African Elephant (2012)[49]

		Population Data				Range Data		
Region[50]	**Country**	**Definite**	**Probable**	**Possible**	**Speculative**	**Range Area (km²)**	**% of Regional Range**	**IQI[51]**
Central Africa	Cameroon	775	1,079	2,150	10,045	120,510	12	0.05
	Central African Republic	1,019	113	113	1,040	81,041	8	0.48
	Chad	454	0	2,000	550	149,443	15	0.04
	Congo	7,198	30,979	11,071	0	141,302	14	0.31
	Democratic Republic of Congo	1,708	3,036	5,099	3,831	276,209	27	0.16
	Equatorial Guinea	0	0	700	630	15,023	1	0
	Gabon	4,996	30,511	12,103	29,642	221,706	22	0.43
	Totals	**16,486**	**65,104**	**26,310**	**45,738**	**1,005,234**	**100**	**0.29**
Eastern Africa	Eritrea	96	0	8	0	5,275	1	0.92
	Ethiopia	628	0	220	912	38,417	4	0.24
	Kenya	26,365	771	3,825	5,299	111,423	13	0.68
	Rwanda	11	17	54	0	1,014	0	0.23
	Somalia	0	0	0	70	4,525	1	0
	South Sudan	1,172	5,882	5,882	0	309,897	35	0.19
	Tanzania	95,351	10,278	10,927	900	387,538	44	0.56
	Uganda	2,223	1,031	903	385	15,228	2	0.51
	Totals	**130,859**	**12,966**	**16,700**	**7,566**	**873,318**	**100**	**0.49**
Southern Africa	Angola	818	801	851	60	406,003	31	0.03
	Botswana	133,088	21,183	21,183	0	100,253	8	0.58

[47] CITES, *Status of African Elephant Populations* at 2.
[48] CITES, *Status of African Elephant Populations* at 2.
[49] Data from IUCN, *Elephant Database*. According to the African Elephant Database, "totals for the Definite, Probable, and Possible categories are derived by pooling the variances of individual estimates, as described at http://www.elephantdatabase.org/reliability. As a result, totals do not necessarily match the simple sum of the entries within a given category." Additionally, the percent of range assessed per country and the Priority for Future Surveys scores are available at IUCN, *Elephant Database.*
[50] Note that the African elephant was historically present in North Africa, but is now extinct in this region.
[51] IQI is the Information Quality Index. According to the African Elephant Database, "This index quantifies overall data quality at the regional level based on the precision of estimates and the proportion of assessed elephant range (i.e. range for which estimates are available). The IQI ranges from zero (no reliable information) to one (perfect information)." For more information, see http://www.elephantdatabase.org and African Elephant Status Report 2007 introduction.

	Malawi	865	218	218	1,043	7,539	1	0.41
	Mozambique	17,753	3,340	3,383	2,297	342,727	26	0.45
	Namibia	16,054	4,472	4,492	0	146,904	11	0.48
	South Africa	22,889	0	0	0	30,651	2	0.89
	Swaziland	35	0	0	0	50	0	1
	Zambia	14,961	2,975	3,111	542	201,246	15	0.6
	Zimbabwe	47,366	3,775	3,775	45,375	76,930	6	0.5
	Totals	**267,966**	**22,442**	**22,691**	**49,317**	**1,312,302**	**100**	**0.38**
Western Africa	Benin	916	48	188	0	13,672	8	0.44
	Burkina Faso	4,477	320	320	200	19,874	11	0.64
	Côte d'Ivoire	211	254	155	517	33,986	19	0.26
	Ghana	857	344	131	58	23,715	14	0.36
	Guinea	0	64	37	57	1,524	1	0.31
	Guinea Bissau	0	0	7	13	1,346	1	0
	Liberia	25	99	99	1,363	15,977	9	0.05
	Mali	344	0	0	0	31,881	18	1
	Niger	85	0	17	0	2,683	2	0.83
	Nigeria	0	0	108	667	22,968	13	0
	Senegal	1	0	0	9	1,090	1	0.1
	Sierra Leone	0	0	80	135	1,804	1	0
	Togo	4	0	61	0	5,032	3	0.05
	Totals	**7,107**	**942**	**931**	**3,019**	**175,552**	**100**	**0.44**

i. West Africa

When assessing regional elephant populations, researchers and managers have been concerned for decades about populations in West Africa. It is likely that populations in this region are not viable because they are genetically isolated, small, and have unnatural age structures and sex ratios as a result of hunting.[52] Furthermore, some West African elephant populations have shown signs of widespread decline.[53] For example, a 2011 study suggests that populations of savanna elephants in West Africa have decreased by at least 33% between 1980-83 and 2003-07.[54] The impacts of high poaching levels and intense human-elephant conflict in the area are particularly worrisome.[55]

[52] African Elephant Status Report 2007 at 166.
[53] UNEP et al., *A Rapid Response* at 22.
[54] Bouché et al., *Will Elephants Soon Disappear* at 5.
[55] IUCN, *Elephant Database.*

ii. Central Africa

When the Service listed the African elephant as Threatened in 1978, Central Africa's populations were considered "still substantial."[56] The population's health has since significantly diminished and a severe downward trend continues.

Recently, Wittemyer (2014) found that Central African elephant populations declined a staggering 62%-63.7% between 2002 and 2012.[57] More specifically, Bouché et al. (2011) concluded that populations of Central African savanna elephants have decreased 76% since the late 1980s,[58] and Maisels et al. (2013) showed that the region's forest elephant populations decreased 62% between 2002 and 2011 alone.[59] Additionally, despite supposed protection, elephant populations have decreased in multiple Central African parks including Bayang-Mbo Wildlife Sanctuary in Cameroon, Zakouma National Park in Chad, and Odzala Kokoua National Park in Congo.[60]

Levels of poaching (determined by Proportion of Illegally Killed Elephants, or PIKE, data) have been sufficiently high since 2007 to indicate a net decline for elephant populations in Central Africa.[61] In addition to poaching, habitat fragmentation threatens populations in this region.[62]

iii. Eastern and Southern Africa

Until recently, it was believed that populations in Eastern and Southern Africa were stable or increasing.[63] When the species' IUCN Red List status was last reevaluated (back in 2008), assessors concluded that anticipated population increases in these areas would offset population declines in the West or Central regions.[64] However, Wittemyer (2014) found that Eastern and Southern savanna populations declined between 2011 and 2012 due to illegal hunting for ivory.

Poaching is a threat in both elephant populations in Eastern and Southern Africa. According to PIKE data, poaching in Eastern Africa's three largest populations (Laikipia Samburu in Kenya, Tsavo in Kenya, and Selous Mikumi in Tanzania) was above a sustainable threshold in 2011.[65] Habitat fragmentation and alteration are also ongoing threats in the area.[66] While Southern Africa was previously considered safe from poaching, 2011 PIKE data indicate that poachers have infiltrated the region and are operating at an unsustainable level.[67] Human-elephant conflict also threatens elephant populations in the area.[68]

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[56] 43 Fed. Reg. at 20500.
[57] Wittemyer et al., *Illegal Killing* at 2.
[58] Bouché et al., *Will Elephants Soon Disappear* at 5.
[59] Maisels et al., *Devastating Decline* at 3.
[60] CITES, *Status of African Elephant Populations* at 2.
[61] IUCN, *Elephant Database.*
[62] IUCN, *Elephant Database.*
[63] Blanc, *Loxodonta africana*; UNEP et al., *A Rapid Response* at 6.
[64] Blanc, *Loxodonta africana.*
[65] IUCN, *Elephant Database.*
[66] IUCN, *Elephant Database.*
[67] IUCN, *Elephant Database.*
[68] IUCN, *Elephant Database.*

B. Distribution

African elephants can survive in most habitats across sub-Saharan Africa including savannas, forests, and deserts.[69] In 1979 the species' range spanned 7.3 million km^2 (Figure 2).[70] As of 2007, African elephants inhabited 3.3 million km^2 (Figure 3).[71] This is a 54.8% range reduction over 28 years, beginning in 1978 when the USFWS listed the African elephant as Threatened, and available range continues to decline.

The African Elephant Database lists 2,302,782 km^2 of KNOWN range and 1,062,544 km^2 of POSSIBLE range,[72] for a combined 3,365,326 km^2. KNOWN range is defined as "areas in suitable habitat which, if searched with reasonable intensity, are likely to yield signs of elephant presence."[73] POSSIBLE range is defined as "areas within historical range and in suitable habitat where there are no negative data to rule out the presence of elephants, including former areas of KNOWN range where the source information is more than 10 years old."[74] When taken together, KNOWN and POSSIBLE elephant range estimates cover 15% of the continent.[75] As of 2007, 31% of KNOWN and POSSIBLE range was in protected areas;[76] however, not all protected areas reliably offer security from human-caused mortalities.[77]

African elephant range has likely been in decline for more than three decades.[78] This decrease is attributable to factors like habitat loss and increased human population density.[79] Elephant distribution is becoming progressively more fragmented over time,[80] and habitat reduction is expected to continue, further reducing elephant range.[81] While improvements in data collection have furthered our understanding of elephant range today, there is no doubt that the species is suffering from severe habitat loss.[82]

[69] UNEP et al., *A Rapid Response* at 15.
[70] Douglas-Hamilton, *Final Report* at 12.
[71] African Elephant Status Report 2007 at 21.
[72] IUCN, *Elephant Database*.
[73] IUCN, *Elephant Database*.
[74] IUCN, *Elephant Database*.
[75] Assuming Africa is 22,617,267 km^2 as stated in African Elephant Status Report 2007 at 21.
[76] African Elephant Status Report 2007 at 21.
[77] African Elephant Status Report 2007 at 26, 166.
[78] Douglas-Hamilton, *Final Report* at U.S. 12 (1989); UNEP et al., *A Rapid Response.*
[79] UNEP et al., *A Rapid Response* at 15.
[80] Blanc, *Loxodonta africana.*
[81] UNEP et al., *A Rapid Response* at 17.
[82] African Elephant Status Report 2007.

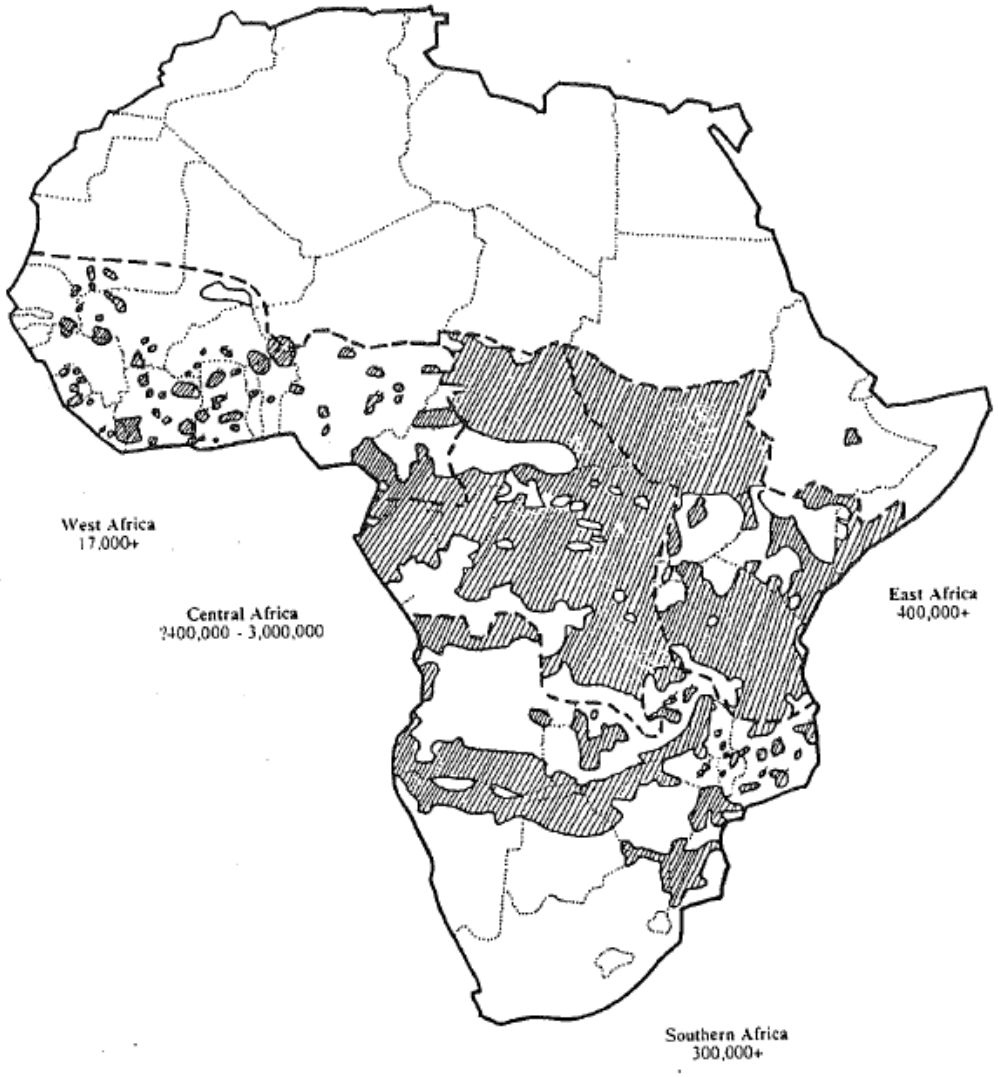

Figure 2. Range map of the African elephant in 1979.[83]

[83] From IUCN/UNEP/WWF (1982) as cited in CITES Doc. 7.43, Annex 2, the United Republic of Tanzania Proposal to Amendments to Appendices I and II, page 7 (1989).

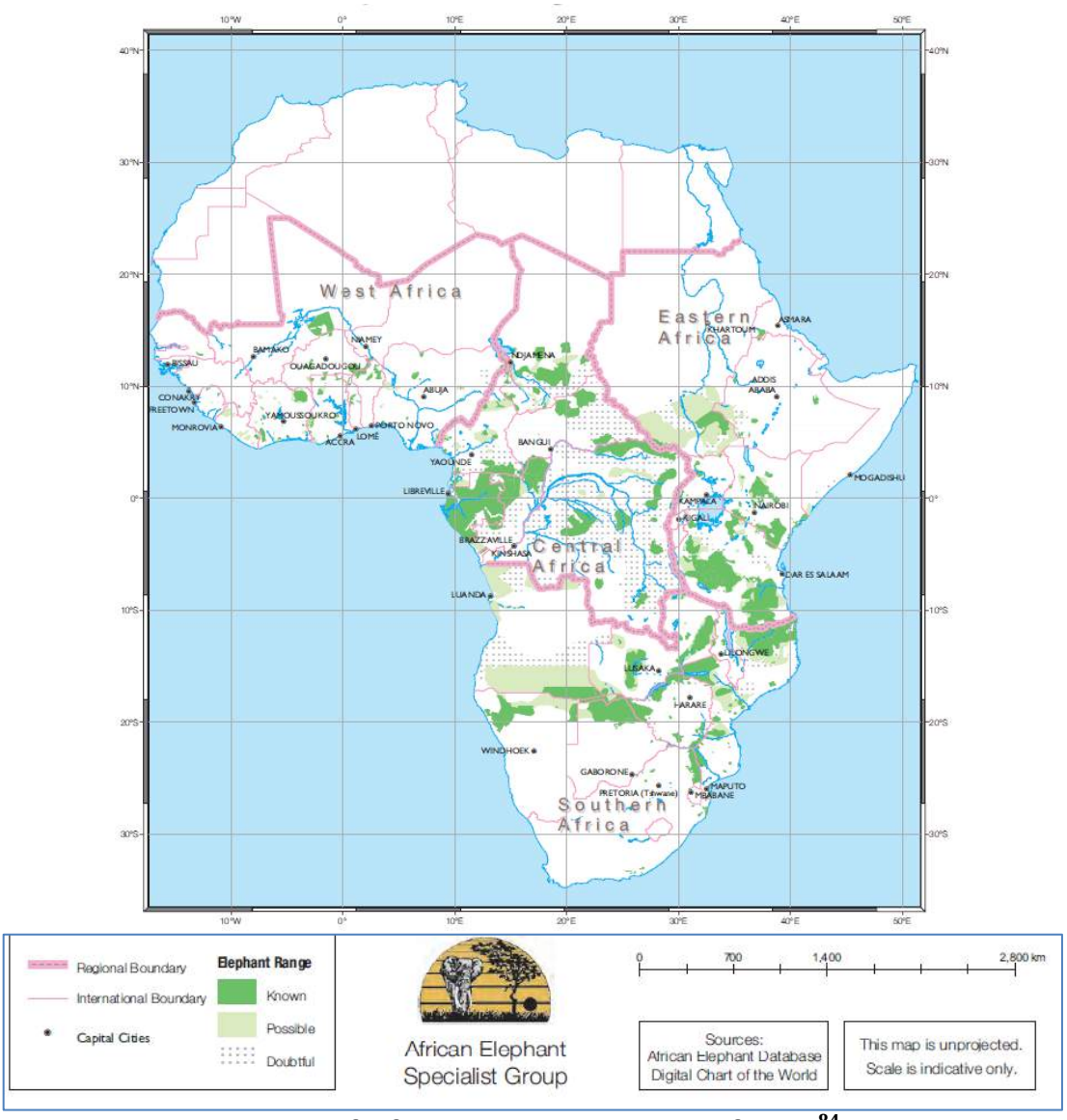

Figure 3: Map of African elephant range as of 2007.[84]

Note: The African Elephant Specialist Group notes that "only small adjustments were made to the range map" for the upcoming 2013 report (unpublished at the time this petition was submitted).[85]

i. North Africa

African elephants are now extinct in this region.[86]

[84] African Elephant Status Report 2007 at 25. Note that a high resolution version of the map is available by contacting the African Elephant Specialist Group. See http://www.elephantdatabase.org/ for more information.
[85] IUCN, *Elephant Database*.
[86] UNEP et al., *A Rapid Response* at 15.

ii. West Africa

Elephants are found in small, fragmented populations in the savanna, forest, and tropical forest habitats of West Africa.[87] Historically it was believed that savanna and forest elephants existed here, but recent genetic research suggests that the elephants in West Africa may be genetically distinct.[88]

According to the most recent assessment by the African Elephant Specialist Group (2012), West Africa has the smallest total elephant range, containing 175,552 km^2 or only 5% of the continental range.[89] Côte d'Ivoire and Mali have 19% and 18% of the region's elephant range, respectively.[90] The remaining 11 countries all have less than 15% of the regional range, and four account for 1% each (Sierra Leone, Senegal, Guinea and Guinea Bissau).[91] As of 2007, 56% of elephant range in West Africa was located inside designated protected areas.[92] Unfortunately, these "protected areas" often have more protection on paper than in practice.[93]

The largest population of West African elephants in West Africa is found in the Warly-Pendjari-Oti-Mandori-Kéran (WAPOK) ecosystem.[94] WAPOK is a protected ecosystem that crosses the Benin, Burkina Faso, Niger, and Togo borders.[95]

West Africa may share some populations with Central Africa, particularly across Nigeria, Cameroon, and Chad's borders.[96]

iii. Central Africa

According to the latest African Elephant Specialist Group assessment (2012), African elephant range covers 1,005,234 km^2 (30% of the continental range) in Central Africa.[97] Together the Democratic Republic of Congo and Gabon contain 49% of the region's African elephant range.[98] Equatorial Guinea may account for 1% of the range, and the African Central Republic contains 8%.[99] The remaining range (42%) is split almost equally between Cameroon, Congo, and Chad.[100] Elephants may move between the Democratic Republic of Congo, Sudan, and Uganda in Central and Eastern Africa as well as between Cameroon and Nigeria in Central and West Africa.[101] As of

[87] African Elephant Status Report 2007 at 162.
[88] Lori S. Eggert et al., *The evolution and phylogeography of the African elephant inferred from mitochondrial DNA sequence and nuclear microsatellite markers*, 289 Proceedings Royal Soc'y, London (B) (2006), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1691127 [hereinafter "Eggert et al., *The evolution and phylogeography of the African elephant*"], as cited in African Elephant Status Report 2007 at 162.
[89] All total range estimates include KNOWN and POSSIBLE range from IUCN, *Elephant Database.*
[90] IUCN, *Elephant Database.*
[91] IUCN, *Elephant Database.*
[92] African Elephant Status Report 2007 at 162.
[93] African Elephant Status Report 2007 at 166.
[94] African Elephant Status Report 2007 at 166.
[95] African Elephant Status Report 2007 at 166.
[96] African Elephant Status Report 2007 at 166.
[97] All total range estimates include KNOWN and POSSIBLE range from IUCN, *Elephant Database*.
[98] IUCN, *Elephant Database*.
[99] IUCN, *Elephant Database.*
[100] IUCN, *Elephant Database*.
[101] African Elephant Status Report 2007 at 30.

2007, 33% of KNOWN and POSSIBLE range in Central Africa existed within designated protected areas.[102] This does not offer as much security from poaching as expected because enforcement and management are absent in a number of parks and reserves in the area.[103]

The majority of African elephants in Central Africa are forest elephants, but savanna elephants can be found in northern Cameroon, northern Central African Republic, and Chad.[104] Northern and eastern Democratic Republic of Congo and Central African Republic are potential areas of hybridization between the two subspecies.[105]

While a specific number documenting Central African range-wide decline is currently unavailable, consider the following results of a 2013 study by Maisels et al.[106] analyzing Central African forest elephants: Maisels et al. estimate that Central African forest elephants have experienced a range reduction of approximately 30% between 2002 and 2011.[107] It appears that the Central African forest elephant population now inhabits less than 25% of its potential range,[108] and the population's range is expected to continue to shrink in the future due to habitat loss and poaching for ivory.[109]

iv. Southern Africa

The most up-to-date data (2012) from African Elephant Specialist Group indicates that Southern Africa accounts for the largest total range area (1,312,302 km^2 or 39% of the continental range).[110] Most notably, Angola accounts for 31% of the regional range, and Mozambique holds 26%.[111] As of 2007, 28% of this range was in protected areas.[112]

Most elephants found in Southern Africa are savanna elephants.[113] Small numbers of forest elephants are present in the Angolan exclave of Cabinda and possibly northwestern Angola.[114] The Southern Africa countries of Angola, Botswana, Zambia, Zimbabwe, and Namibia share elephant populations in the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA).[115] In regards to regional cross-border populations, some move between Mozambique and Tanzania (Eastern Africa) and others may migrate between Angola and the Democratic Republic of Congo (Central Africa).[116]

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[102] African Elephant Status Report 2007 at 26.
[103] African Elephant Status Report 2007 at 26.
[104] African Elephant Status Report 2007 at 26.
[105] African Elephant Status Report 2007 at 26.
[106] Maisels et al., *Devastating Decline.*
[107] Maisels et al., *Devastating Decline* at 3.
[108] Maisels et al., *Devastating Decline* at 1, 3.
[109] Maisels et al., *Devastating Decline* at 7.
[110] All total range estimates include KNOWN and POSSIBLE range from IUCN, *Elephant Database.*
[111] IUCN, *Elephant Database*.
[112] African Elephant Status Report 2007 at 111.
[113] African Elephant Status Report 2007 at 112.
[114] African Elephant Status Report 2007 *s* at 112.
[115] For more information, see http://www.britannica.com/EBchecked/topic/1883803/Southern-Africas-Kavango-Zambezi-Transfrontier-Conservation-Area-Year-In-Review-2012/.
[116] African Elephant Status Report 2007 at 116.

v. Eastern Africa

The African Elephant Specialist Group's most recent assessment (2007) states that the total elephant range in Eastern Africa is 873,318 km^2 (26% of the continental total).[117] Of that, Tanzania accounts for 44% of the population's regional range, and South Sudan has 35%.[118] Kenya has 14% of the regional elephant range, and Eritrea, Ethiopia, Rwanda, Somalia, and Uganda account for less than 5% each.[119] As of 2007, 30% of this range existed in protected areas.[120]

Savanna elephants are present in the grasslands, woodlands, coastal and mountain forest areas of Eastern Africa, while forest elephants may be found along the region's western edge.[121] Some populations exist on the borders between Eastern and Central Africa as well as Eastern and Southern Africa.[122] Unconfirmed anecdotal evidence indicates that elephants may move into Sudan from Ethiopia and Eritrea.[123]

[117] All total range estimates include KNOWN and POSSIBLE range from IUCN, *Elephant Database.*
[118] IUCN, *Elephant Database.*
[119] IUCN, *Elephant Database.*
[120] African Elephant Status Report 2007 at 67.
[121] African Elephant Status Report 2007 at 67.
[122] African Elephant Status Report 2007 at 68.
[123] IUCN, *Elephant Database.*

III. NATURAL HISTORY AND BIOLOGY OF THE AFRICAN ELEPHANT

A. Taxonomy

The African elephant (*Loxodonta africana*) is the only extant species in the *Loxodonta* genus of the family *Elephantidae*. The African elephant shares the *Elephantidae* family with the Asian elephant (*Elephas maximus*) along with several extinct species including the mastodon and the wooly mammoth.

The African elephant species consists of two extant subspecies: the African savanna elephant (*Loxodonta africana africana*) and the African forest elephant (*Loxodonta africana cyclotis*). A third, smaller subspecies, the North African elephant (*Loxodonta africana pharaoensis*), went extinct during the time of the Roman Empire.

There has been some scientific debate over whether there is a possible third subspecies of elephant in West Africa,[124] and whether there is more than one *species* of elephant in Africa,[125,126,127,128] but the international community has reached consensus that "premature allocation of Africa's elephants to two or more species may result in significant populations being left in taxonomic limbo" and that this should be avoided (especially since populations of great conservation value include individuals of mixed genetic lineage).[129]

B. Species description

The African savanna elephant is the largest land mammal on earth, with males reaching upwards of three meters and females reaching 2.5 meters at the shoulder.[130] The species is characterized by large ears, a highly mobile and dexterous trunk, and large tusks. African elephants are also highly sexually dimorphic with divergence of growth rates apparent by the age of weaning.[131] African forest elephants are slightly smaller at two meters (males) and 1.5 meters (females) high at the

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[124] IUCN SSC African Elephant Specialist Grp., *Statement on the Taxonomy of Extant Loxodonta.* (2003), http://www.iucnredlist.org/documents/AfESGGeneticStatement.pdf.
[125] K. E. Comstock et al., 2002. Patterns of molecular genetic variation among African elephant populations. Molecular Ecology 11: 2489-2498 [hereinafter "Comstock et al., *Patterns of molecular variation*"].
[126] A. L. Roca et al. 2001. Genetic evidence for two species of elephant in Africa. Science 293: 1473-1477, http://www.ncbi.nlm.nih.gov/pubmed/11520983 [hereinafter "Roca et al., *Genetic evidence for two species*"];
[127] Eggert et al., *The evolution and phylogeography of the African elephant.*
[128] R. DeBruyne. 2005. A case study of apparent conflict between molecular phylogenies: the interrelationships of African elephants. Cladistics 21: 31-50, http://www.researchgate.net/publication/227610163_A_case_study_of_apparent_conflict_between_molecular_phylogenies_the_interrelationships_of_African_elephants, [hereinafter "DeBruyne, *A case study*"].
[129] IUCN SSC African Elephant Specialist Grp., *Statement on the Taxonomy of Extant Loxodonta.* (2003), http://www.iucnredlist.org/documents/AfESGGeneticStatement.pdf.
[130] B. J. Morgan & P. C. Lee. 2003. Forest elephant (*Loxodonta africana cyclotis*) stature in the Réserve de Faune du Petit Loango, Gabon. Journal of Zoology of London 259: 337-344 , http://www.researchgate.net/publication/227730071_Forest_elephant_%28Loxodonta_africana_cyclotis%29_stature_in_the_Rserve_de_Faune_du_Petit_Loango_Gabon [hereinafter "Morgan & Lee, *Forest elephant stature*"].
[131] P.C. Lee, & C. J. Moss. 1986. Early maternal investment in male and female African elephant calves. Behavioral Ecology and Sociobiology 18: 353-361, http://www.researchgate.net/publication/225904541_Early_maternal_investment_in_male_and_female_African_elephant_calves.

shoulder.[132] Forest elephants also have longer, thinner, and straighter tusks, smaller and rounder ears, and a flatter forehead region than savanna elephants.[133,134,135,136]

African savanna elephants form matriarch-led herds.[137] Males will leave the herd for bachelor groups at the onset of sexual maturity.[138] African forest elephants are found in smaller groups. Males tend to be solitary while females form family groups with their calves and sometimes other females.[139]

C. Reproduction and mortality

African elephants are a very long-lived species, regularly living past 60 years.[140] They also have a very slow reproduction rate with a long gestation period (22 months) and calving intervals between three to five years depending on resource availability.[141,142] Calves of both sexes maintain close proximity to their mothers until they are 6-8 years of age.[143] Individuals do not reach sexual maturity until around age 14 for females and 15 for males, but individuals will continue to reproduce well past 40 with average fecundity dropping fast after 45.[144,145]

Adult African elephants are relatively immune to predation due to their size and close-knit family groups.[146,147] Elephant calves are vulnerable to predation, but only if they are separated from the

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[132] *Morgan & Lee, Forest elephant stature.*
[133] Comstock et al., *Patterns of molecular variation.*
[134] Roca et al., *Genetic evidence for two species.*
[135] *Eggert et al., The evolution and phylogeography of the African elephant.*
[136] DeBruyne, *A case study*.
[137] I. O. Buss. 1961. Some observations on food habits and behavior of the African elephant. Journal of Wildlife Management 25: 131-148 [hereinafter "Buss, *Some observations on food habits*"].
[138] J. Hanks. 1972. Reproduction of elephant, *Loxodonta africana*, in the Luangwa Valley, Zambia. Journal of Reproduction and Fertility 30: 13-26, http://www.ncbi.nlm.nih.gov/pubmed/5035330 [hereinafter "Hanks, *Reproduction of elephant*"].
[139] B. J. Morgan, B. & P. C. Lee. 2007. Forest elephant group composition, frugivory and coastal use in the Réserve de Faune du Petit Loango, Gabon [hereinafter "Moran & Lee, *Forest elephant group composition*"].
[140] C. J. Moss. 2001. The demography of an African elephant (*Loxodonta africana*) population in Amboseli, Kenya. Journal of Zoology of London 255: 145-156, http://www.researchgate.net/publication/231860029_The_demography_of_an_African_elephant_%28Loxodonta_africana%29_population_in_Amboseli_Kenya.
[141] Hanks, *Reproduction of elephant.*
[142] *Moss, The demography of an African elephant.*
[143] A. M. Shrader, et al. 2005. Growth and age determination of African savanna elephants. Journal of Zoology 270: 40-48, http://www.researchgate.net/publication/227635679_Growth_and_age_determination_of_African_savanna_elephants [hereinafter "Shrader, *Growth and age determination*"].
[144] Hanks, *Reproduction of elephant.*
[145] *Moss, The demography of an African elephant.*
[146] A.J. Loveridge, et al. 2006. Influence of drought on predation of elephant (*Loxodonta africana*) calves by lions (*Panthere leo*) in an African wooded savannah. Journal of Zoology 270: 523-530 [hereinafter "Loveridge et al., *Influence of drought on predation*"].
[147] R.J. Power & R. X. S. Compion. 2009. Lion predation on elephants in the Savuti, Chobe National Park, Botswana. African Zoology 44: 36-44, http://www.researchgate.net/publication/232693088_Lion_Predation_on_Elephants_in_the_Savuti_Chobe_National_Park_Botswana [hereinafter "Power & Compion, *Lion predation on elephants*"].

herd or if the herd is weakened by drought.[148,149] Natural mortality becomes significant during drought events.[150,151] Human induced mortality from poaching, hunting, and culling is the most common cause of death for elephants.[152,153]

D. Feeding

African savanna elephants subsist on grasses and woody vegetation.[154] The proportion of grass to woody vegetation depends on several factors including rainfall, proximity of the vegetation to surface water, and nutritional characteristics.[155,156] Diet can vary significantly with rainfall as relative abundance of woody and grassy vegetation changes. African forest elephants also subsist on woody vegetation and grasses, but fruit and bark make up a significant portion of their diet.[157,158]

E. Habitat requirements

African elephants can inhabit Africa's diverse grasslands, savanna, and forests. Elephants require ample vegetation and water to survive, especially in drier ecosystems.[159,160] In arid and semi-arid savannas, population numbers, home range sizes, and density will rise and fall with vegetation and surface water availability during the dry season.[161,162] Forest dwelling elephants also require mineral resources such as salt deposits for sodium.[163] Both forest and savanna subspecies need to utilize large swaths of landscape throughout the year and may travel hundreds of kilometers to satisfy nutrition and hydration needs.[164,165]

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[148] Loveridge et al., *Influence of drought on predation*.
[149] Power & Compion, *Lion predation on elephants*.
[150] J.P. Dudley et al. 2001. Drought mortality of bush elephants in Hwange National Park, Zimbabwe.
[151] C. Foley et al. 2008. Severe drought and calf survival in elephants. Biology Letters 4: 541-544, http://rsbl.royalsocietypublishing.org/content/4/5/541 [hereinafter "Foley et al., *Severe drought and calf survival in elephants*"].
[152] Blanc, *Loxodonta africana*; J. The IUCN red list of threatened species. Version 2014.3. <www.iucnredlist.org>. Accessed on 14 January 2015.
[153] I. Douglas-Hamilton, 1987. African elephants: population trends and their causes. Oryx 21: 11-24.
[154] Buss, *Some observations on food habits.*
[155] R. F. W. Barnes. 2008. Elephant feeding behavior in Ruaha National Park, Tanzania. African Journal of Ecology 20(2): 123-136. African Journal of Ecology 39: 187-194.
[156] J. J. Codron, J. et al. Elephant (*Loxodonta africana*) diets in Kruger National Park, South Africa: spatial and landscape differences. Journal of Mammalogy 87(1): 27-34, http://www.jstor.org/discover/10.2307/4094559?sid=21105301145761&uid=70&uid=2129&uid=4&uid=3739584&uid=2&uid=3739256.
[157] Morgan & Lee, *Forest elephant group composition*.
[158] L. J. T. White et al. 2008. Group composition and diet of forest elephants, *Loxodonta africana cyclotis* Matschie 1900, in the Lope Reserve, Gabon.
[159] Loveridge et al., *Influence of drought on predation.*
[160] *Blanc, Loxodonta africana*.
[161] S. Chamaillé-Jammes et al. 2007. Managing heterogeneity in elephant distribution: interactions between elephant population density and surface-water availability. Journal of Applied Ecology 44: 625-633.
[162] R. Van Aarde et al. 2008. Elephant population biology and ecology In: RJ Scholes and KG Mennell (eds) Elephant management: A scientific assessment of South Africa. Witwatersrand University Press, Johannesburg [hereinafter "Van Aarde, *Elephant population biology and ecology*"].
[163] Morgan & Lee, *Forest elephant group composition.*
[164] Van Aarde, *Elephant population biology and ecology.*
[165] Morgan & Lee, *Forest elephant group composition*.

IV. CRITERIA FOR LISTING THE AFRICAN ELEPHANT AS ENDANGERED

The Supreme Court has described the Endangered Species Act (ESA) as "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation". *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). In that landmark case, the Court stated that:

> [t]he plain intent of Congress in enacting this statute was to halt and reverse the trend towards species extinction, whatever the cost. This is reflected not only in the stated policies of the Act, but in literally every section of the statute.[166]

As demonstrated in this Petition, the African elephant is currently in danger of extinction throughout a significant portion of its range due to the statutory listing factors. Accordingly, the Secretary of the Interior must act to halt and reverse the current trends towards extinction for the African elephant by listing the species as Endangered under the ESA and strictly regulating the American demand for elephant parts and products.

Pursuant to the ESA, a species must be listed as Endangered if any of the following five factors put the species in danger of extinction throughout all or a significant portion of its range: (1) The present or threatened destruction, modification, or curtailment of its habitat or range; (2) Overutilization for commercial, recreational, scientific, or educational purposes; (3) Disease or predation; (4) Inadequacy of existing regulatory mechanisms; or, (5) Other natural or manmade factors affecting its existence.[167]

The ESA requires that all listing determinations be made "solely on the basis of the best scientific and commercial data available to [the Secretary] after conducting a review of the status of the species."[168] Further, the Service must take into account whether there are any efforts being made by foreign nations to protect the species.[169] As detailed in this Petition, the African elephant is currently in danger of extinction throughout a significant portion of its range and this iconic species could be extirpated if the U.S. does not take action to address its role in the ongoing poaching crisis by reclassifying the species as Endangered.[170]

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[166] 437 U.S. 184.

[167] 16 U.S.C. § 1533(a)(1)(A)-(E); 50 C.F.R. § 424.11(c)(1)-(5).

[168] 16 U.S.C. § 1533(b)(1)(A). *See also New Mexico Cattle Growers v. U.S. Fish & Wildlife Service*, 248 F.3d 1277, 1284-85 (10th Cir. 2001) (quoting H.R. Rep. No. 97-567, pt. 1 at 29 (1982), "'The addition of the word 'solely' is intended to remove from the process of listing or delisting of species any factor not related to the biological status of the species.'"); H.R. Conf. Rep. No. 835, 97th Cong. 2d Sess. 19-20 (1982) (the limitations on the factors the Service may consider in making listing decisions were intended to "ensure that decisions . . . pertaining to listing . . . are based solely upon biological criteria and to prevent nonbiological considerations from affecting such decisions.").

[169] 16 U.S.C. § 1533(b)(1)(A).

[170] *See also Carlton v. Babbitt*, 900 F.Supp. 526 (D.D.C. 1995) (when evaluating a petition to reclassify a species from threatened to endangered, the Service must consider all of the evidence in the record, especially evidence related to increases in human-caused mortalities); 5 U.S.C. § 706(2)(A-D) (mandating that ESA listing determinations must not be arbitrary, capricious, an abuse of discretion, not in accordance with law, or unsupported by an articulated rational connection between facts found and the decision made).

A. Present or threatened destruction, modification, or curtailment of habitat or range

As detailed above, the range of the African elephant has decreased from 7.3 million km^2 in 1979 to only 3.3 million km^2 in 2007, a 54.8% decrease over 28 years, and this unsustainable trend continues today.

As human population continues to expand throughout the range of the African elephants, habitat loss and degradation are expected to continue to be a major threat to the survival of elephants. Expansive habitat is a prerequisite for healthy elephant populations, given their nature as a migratory animal and the heavy impacts they will cause on a landscape if a population is concentrated in one place for too long.

Numerous factors contribute to elephant habitat loss – according to Blanc et al. (2007), these include "habitat encroachment, increased human population densities, urban expansion, agricultural development, deforestation and infrastructure development."[171] As African countries continue to modernize, these issues will likely continue to escalate and impact the long-term prognosis for the species.[172] Already, this process of development has impacted nearly a third of existing elephant range, a figure that could double by 2050.[173] Poaching exacerbates this trend, but even if poaching rates are minimized, human development – with associated threats like human-elephant conflict and habitat fragmentation[174] – "will continue to threaten the long term survival of elephant populations across Africa,"[175] according to the United Nations Environment Programme (UNEP).

The issue of habitat loss is not merely one of temporary displacement of elephants by humans: land use patterns, such as the transformation of woodland or savanna to agricultural land, can have a major long-term impact on resident elephants.[176] Coexistence, while a worthy goal, may simply be unrealistic in some cases. The IUCN/SSC African Elephant Specialist group warns that "the rapid growth of human populations and the extension of agriculture into rangelands and forests formerly considered unsuitable for farming mean that large areas are now permanently off-limits for elephants."[177]

As a result of habitat degradation and loss, some elephant populations may soon be found only in protected areas. However, island biogeography theory predicts that a species will be lost if it is relegated to habitat "islands."[178] For example, many Tanzanian parks are rapidly becoming habitat

[171] African Elephant Status Report 2007; African Elephant Status Report 2002.
[172] UNEP et al., *A Rapid Response* at 15.
[173] UNEP et al., *A Rapid Response* at 7.
[174] R. Beyers, Future Elephant Declines Inevitable Given Habitat Loss, Human Population Growth and Human-Elephant Conflict, (A Voice for Elephants 2014) (in "Opinion: Irrelevant, Illogical, and Illegal–24 Experts Respond to Arguments Supporting Legalization of the Ivory Trade"), http://newswatch.nationalgeographic.com/2014/10/02/opinion-irrelevant-illogical-and-illegal-24-experts-respond-to-arguments-supporting-legalization-of-the-ivory-trade/ [hereinafter "Beyers, *Future Elephant Declines Inevitable*"].
[175] UNEP et al., *A Rapid Response* at 7.
[176] Hoare & Du Toit, *Coexistence Between People and Elephants*.
[177] IUCN/SSC African Elephant Specialist Group, http://www.iucn.org/about/work/programmes/species/who_we_are/ssc_specialist_groups_and_red_list_authorities_directory/mammals/african_elephant/; Hoare & Du Toit, *Coexistence Between People and Elephants*.
[178] R. H. MacArthur & E. O.,, R.H. AND Wilson, E. O., The Theory of Island Biogeography (Princeton Univ. Press 1967),

islands as a result of human settlement, agricultural development, and the active elimination of wildlife on adjacent lands. A study of six Tanzanian parks points out that the rate of extinction of mammals over the last 35-83 years is significantly and inversely related to park area, suggesting that increasing insularization of the parks has been an important contributory factor in large mammal extinctions, particularly in the smaller parks.[179]

a. Leading causes of habitat or range loss and related threats

i. Human-elephant conflict

According to the IUCN, expanding human development in elephant range has led to a "reported increase in human-elephant conflict, which further aggravates the threat to elephant populations."[180] Elephants migrate seasonally, and if those patterns are disrupted by human settlements or other barriers, it may lead to direct conflicts or make it more difficult for elephants to access food and water."[181] The process of habitat fragmentation often forces elephant populations into a diminishing patchwork of suitable terrain, making human-elephant conflict more likely as the barriers constrict.

In many African nations today, citizens view the real and perceived costs of human-elephant conflict as greatly outweighing the potential benefits of coexistence and, subsequently, elephants are increasingly being excluded from many parts of their former range.[182] Elephants can be seen as a pest species, especially for agricultural producers. Crop raiding is the most common cause of conflict between humans and elephants in Africa.[183,184,185] However, elephants are responsible for a small component of overall pest damage when compared to smaller mammals and insects.[186,187] Furthermore, elephant crop raiding is relatively rare and localized near wildlife reserves and other

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http://books.google.com/books?id=a10cdkywhVgC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false.

[179] W. D. Newmark, *Insularization of Tanzanian Parks and the Local Extinction of Large Mammals*, 10 Conservation Biology No. 6, Special Issue: Festschrift for Michael E. Soule 1549-1556 and abstract (1996).

[180] IUCN Red List of Threatened Species, Loxodonta Africana, http://www.iucnredlist.org/details/full/12392/0. (Accessed January 16, 2015) [hereinafter "IUCN Red List, Loxodonta Africana"].

[181] UNEP et al., *A Rapid Response*.

[182] IUCN/SSC African Elephant Specialist Group.

[183] F. V. Osborn & G. E. Parker. 2003. Towards an integrated approach for reducing the conflict between elephants and people: a review of current research. Oryx 37: 80-84, http://www.researchgate.net/publication/231890223_Towards_an_integrated_approach_for_reducing_the_conflict_between_elephants_and_people_a_review_of_current_research [hereinafter "Osborn & Parker, *Towards an integrated approach*"].

[184] W. Twine & H. Magome . 2008. Interactions between elephants and people In: RJ Scholes and KG Mennell (eds) Elephant Management: A Scientific Assessment of South Africa. Witwatersrand University Press, Johannesburg.

[185] C. R. Thoulless. 1994. Conflict between humans and elephants on private land in northern Kenya. Oryx 28: 119-127 [hereinafter "Thoulless, *Confllict between humans and elephants*"].

[186] W. D. Newmark, et al.. 1994. The conflict between wildlife and local people living adjacent to protected areas in Tanzania: human density as a predictor. Conservation Biology 8: 249-255 [hereinafter "Newmark, *The conflict between wildlife and local people*"].

[187] L. Naughton et al.. 1999. The social dimensions of human-elephant conflict in Africa: a literature review and case studies from Uganda to Cameroon. Report to the African Elephant Specialist Group, Human-elephant Conflict Task Force. IUCN, Gland, Switzerland, http://www.academia.edu/6492725/The_social_dimensions_of_human-elephant_conflict_in_Africa_A_literature_review_and_case_studies_from_Uganda_and_Cameroon [hereinafter "Naughton et al., *The social dimensions*"].

protected areas.[188,189] But small subsistence farmers tend to bear the brunt of negative effects.[190] Even localized and rare events are catastrophic for small subsistence farmers who cannot bear the costs.[191,192] Furthermore, elephants are physically powerful and dangerous, occasionally injuring or killing farmers who defend their crops.[193,194,195] As stated in the UNEP report *Elephants in the Dust*, "crop raiding or attacks on humans by elephants in rural areas may lead to retaliation killings. While the number of elephants that die in such conflicts is much lower than the numbers poached for ivory, hundreds of elephants are killed every year as a result of human-elephant conflict."[196]

Farmers, non-profit groups, and governments employ many types of mitigation strategies including fencing and buffer zones around reserves.[197] Most elephant-caused crop damage occurs on the borders of protected areas, leading to strategies that include locating farms away from the border, switching to animal husbandry near the borders, and assuring that revenue from tourism on reserves is used to mitigate costs of damage caused by elephants and other wildlife.[198]

ii. The effects of wars and civil conflict on African elephant habitat

Many regions of Africa have a history of wars and civil conflict, and the present era is no exception, with violence flaring up across equatorial Africa and other areas in the last decade.[199] Conservation efforts decline as security becomes a concern and funds are funneled elsewhere.[200] African elephants are specifically affected by war and civil conflict through increased poaching.[201] As the rule of law is weakened, even elephants that are usually protected in parks or by anti-poaching laws become vulnerable to poaching.[202] Furthermore, elephant ivory, which is already extremely valuable, becomes an even more prized resource because it can be used to generate

[188] Naughton et al., *The social dimensions.*
[189] L. Naughton-Treves. 1998. Predicting patterns of crop damage by wildlife around Kibale National Park, Uganda. Conservation Biology 12: 156-168 [hereinafter "Naughton-Treves, *Predicting patterns of crop damage*"].
[190] Newmark, *The conflict between wildlife and local people.*
[191] Newmark, *The conflict between wildlife and local people.*
[192] Naughton-Treves, *Predicting patterns of crop damage.*
[193] Thoulless, *Confllict between humans and elephants.*
[194] K. M. Dunham et al. 2010. Human-wildlife conflict in Mazambique: a national perspective, with emphasis on wildlife attacks on humans. Oryx 44: 185-193, http://www.researchgate.net/publication/231827044_Humanwildlife_conflict_in_Mozambique_a_national_perspective_with_emphasis_on_wildlife_attacks_on_humans.
[195] R. Hoare. 2000. African elephants and humans in conflict: the outlook for co-existence. Oryx 34: 34-38.
[196] UNEP et al., *A Rapid Response* at 41.
[197] Osborn & Parker, *Towards an integrated approach.*
[198] Newmark, *The conflict between wildlife and local people.*
[199] UNEP et al., *A Rapid Response* at 56.
[200] T. Hanson, et al. 2009. Warfare in biodiversity hotspots. Conservation Biology 23: 578-587, http://www.academia.edu/1438784/Warfare_in_biodiversity_hotspots.
[201] R. L. Beyers, et al. 2011. Resource wars and conflict ivory: the impact of civil conflict on elephants in the Democratic Republic of Congo – the case of the Okapi Reserve. PLoS ONE 6: e27129, http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0027129 [hereinafter "Beyers et al., *Resource wars and conflict ivory*"].
[202] M. J. Chase & C. R. Griffin. 2011. Elephants of south-east Angola in war and peace: their decline, re-colonization and recent status. African Journal of Ecology 49: 353-361 [hereinafter "Chase & Griffin, *Elephants of south-east Angola*"].

revenue that can be directed toward weapons, ammunition, and supplies.[203] According to Dudley et al. (2002),), "There is now overwhelming evidence that wars and other forms of human conflict disturb ecosystems and cause the loss of biodiversity. This loss is particularly acute with large species."[204] Beyers et al. (2011) have found that "the African elephant is one of the most vulnerable to human conflict as it requires large areas of suitable habitat, and so suffers from habitat loss."[205] Furthermore, as habitat is reduced and elephants are forced to live in smaller areas, they become easier targets for ivory and meat hunters.

In parts of Africa, chronic regional conflicts have created long periods of dangerous climates for conservationists and unchecked poaching in protected areas. In particular, civil war in the Democratic Republic of Congo resulted in decimated populations of African elephants, where several parks have lost over half of their elephant populations during the war and in the post-war anarchy.[206] Beyers et al. (2011) found that in DRC, "all elephant populations suffered during the war of 1995-2006. Displaced peoples resulted in significant habitat loss, as occurred in the Virunga National Park, DRC, where an area of 300 km^2 was deforested during the refugee crisis following the genocide in Rwanda in 1994."[207] Another example is in southern Africa, where Angola's 27 years of intermittent conflict has been linked to reports of 100,000 elephants exterminated by rebel groups.[208] The weapons and supplies gained from smuggling ivory can go towards militia groups that further destabilize war-torn regions of Africa, contributing more to an environment that imperils elephants and other wildlife.[209] With more resources, the militia groups can develop sophisticated smuggling pathways, equip better weapons, and expand infrastructure.[210]

iii. Climate change and desertification

The Food and Agriculture Organization (FAO) defines desertification as "[the] sum of the geological, climatic, biological and human factors which lead to the degradation of the physical, chemical and biological potential of lands in arid and semi-arid zones, and endanger biodiversity and the survival of human communities."[211] As part of this process, scientists believe that climate

[203] Chase & Griffin, *Elephants of south-east Angola*.
[204] J. P. Dudley et al., *Effects of War and Civil Strife on Wildlife and Wildlife Habitats*, 16 Conservation Biology No. 2 319-329 (2002), http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CCsQFjAB&url=http%3A%2F%2Fwww.researchgate.net%2Fprofile%2FAndrew_Plumptre%2Fpublication%2F227655490_Effects_of_War_and_Civil_Strife_on_Wildlife_and_Wildlife_Habitats%2Flinks%2F00463513f2810817ac000000.pdf&ei=YBPZVMXnKKvIsQTG4YFY&usg=AFQjCNFr7_ctQcb8d3DI_h8DunKZWQTC2A&sig2=GgV7qItoeHHpC46HIdLzEw&bvm=bv.85464276,d.cWc.
[205] Beyers et al., *Resource wars and conflict ivory*.
[206] Beyers et al., *Resource wars and conflict ivory*.
[207] Beyers et al., *Resource wars and conflict ivory*.
[208] *Chase and Griffin 2011*.
[209] International Fund for Animal Welfare. 2013. Criminal nature: the global security implications of illegal wildlife trade 2013. Retrieved January 16, 2014 from < http://www.ifaw.org/united-states/resource-centre/criminal-nature-global-security-implications-illegal-wildlife-tra-0>
[210] IFAW, *Criminal nature*.
[211] See FAO Corporate Document Repository, *Definition and general approach to the problem*, available at http://www.fao.org/docrep/v0265e/v0265e01.htm.

change will increase the frequency of severe droughts in semi-arid and arid parts of Africa,[212] and that it will threaten certain elephant populations.[213]

Climate change and desertification are already resulting in higher levels of human-elephant conflict, poaching, and habitat fragmentation in parts of Africa.[214] As a result, climate change-induced desertification and drought are already considered to be some of the most pressing threats to elephants in Chad[215] and in the Sudano-Sahelian region.[216]

In addition to human-elephant conflict, poaching, and habitat loss, severe droughts brought on by climate change threaten elephant populations. Consider the following example wherein a 2008 study examined the effects of a severe drought in Tanzania in 1993.[217] Foley et al. (2008) found that the average annual calf mortality rate for the studied population was 2%.[218] However, 20% of monitored calves died during the year of the drought.[219] Foley et al. (2008) found that young males and the calves of inexperienced mothers were the most vulnerable.[220] These results are supported by a study by Lee et al. (2013) that assessed 2,652 African elephants over 40 years.[221] Lee et al. (2013) found that African elephants that endure droughts when young and are born to inexperienced mothers have a higher rate of mortality.[222]

b. Regional assessments of threats to habitat or range

i. West African region

West Africa has seen a dramatic reduction in elephant range and total population, with habitat fragmentation restricting elephants to "about 70 small isolated populations that cover only 5% of the region" according to research by Barnes (1999).[223] Barnes found that fragmentation in the region magnifies the vulnerability of elephant populations to ivory poaching and other human threats, while those animals that are nominally protected still reside in parks and reserves that suffer from poor management and porous boundaries, and that "two-thirds of the populations are thought to consist of fewer than 200 animals and therefore have a low probability of surviving the next century" especially as human populations grow and infringe on elephant territory.[224]

ii. Central African region

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[212] Foley et al., *Severe drought and calf survival in elephants.*
[213] UNEP et al., *A Rapid Response*
[214] African Elephant Status Report 2007.J.
[215] African Elephant Status Report 2007.
[216] P. Bouché et al., *Game over! Wildlife collapse in northern Central African Republic*. 184 Environmental Monitoring and Assessment (2011), available at http://www.ncbi.nlm.nih.gov/pubmed/22170159.
[217] Foley et al., *Severe drought and calf survival in elephants.*
[218] Foley et al., *Severe drought and calf survival in elephants.*
[219] Charles Foley et al., *Severe drought and calf survival in elephants*.
[220] Foley et al., *Severe drought and calf survival in elephants.*
[221] P.C. Lee et al. 2013. *Enduring consequences of early experiences: 40 year effects on survival and success among African elephants (Loxodonta africana).* Royal Society Publishing, http://www.ncbi.nlm.nih.gov/pubmed/23407501 [hereinafter "Lee et al. *Enduring consequences of early experiences*"].
[222] Lee et al. *Enduring consequences of early experiences*.
[223] R. F. W. Barnes, *Is There a Future for Elephants in West Africa?* 29 Mammal Rev.Issue 3 175-200 (1999) (adapted from) [hereinafter "Barnes, *Is There a Future for Elephants in West Africa?*"].
[224] Barnes, *Is There a Future for Elephants in West Africa?*

The situation is similarly dire for the elephants of Central Africa, particularly forest elephants. A seminal analysis by Maisels et al. (2013) "revealed that population size declined by nearly 62% between 2002–2011, and the taxon lost 30% of its geographical range. The population is now less than 10% of its potential size, occupying less than 25% of its potential range."[225] Reflecting the patterns found elsewhere on the continent, changing land use patterns, human elephant conflict, and other human-driven habitat reductions are primary threats (along with poaching). Civil strife overlapping with historic elephant range is particularly evident in CAR, South Sudan, and several other countries in the region.[226]

The Elephant Listening Project at Cornell University states that natural resource extraction industries are having particularly detrimental effects on Central Africa's elephants, as these activities destroy habitat and increase human presence.[227] Roads and other infrastructure associated with these projects increase access to previously-isolated regions of the forest, making it easier for poaching and opportunistic hunting to occur.[228]

iii. Southern African region

Southern Africa is sometimes considered the safest area for elephants on the continent, with less elephant poaching compared to other regions. However, a large-scale poaching incident recently resulted in poisoning deaths of approximately 300 elephants in Hwange National Park in Zimbabwe,[229] which demonstrates that elephants in the region are still endangered by poachers. Habitat fragmentation remains a problem and could have implications for future conservation efforts. Similarly, human population growth and the spread of extractive industries could alter the situation for the worse and bears close observation.

iv. East African region

The USFWS asserts that "in East Africa, elephant populations have decreased by 65% due to poaching and land conversion."[230] Somalia, Ethiopia, and Kenya have seen widespread civil conflict in the last decade, and Mozambique is still recovering from its civil war, which ended in 1992. Kenya and Tanzania have relatively large extant elephant populations, but encroachment by humans is a growing problem: for example, in their study of the Mount Kenya/Laikipia ecosystem, Nyaligu and Weeks (2013) assert that livestock grazing, charcoal burning, and other activities "threaten the integrity of the property and undermine the values of the ecosystem in the medium and long term."[231]

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[225] Maisels et al., *Devestating Decline*.
[226] UNEP et al., *A Rapid Response*.
[227] CORNELL LAB/THE ELEPHANT LISTENING PROJECT, THREATS TO FOREST ELEPHANTS, http://www.birds.cornell.edu/brp/elephant/conservation/threats.html [hereinafter "Cornell Lab, *Threats to Forest Elephants*"].
[228] Cornell Lab, *Threats to Forest Elephants.*
[229] Joe DeCapua , *Cyanide Kills Elephants, Ecosystem*, Voice of America, Nov 1, 2013, available at http://www.voanews.com/content/elephants-cyanide-1nov13/1781504.html.
[230] USFWS, *African Elephant Conservation Fund Fact Sheet*, available at http://www.fws.gov/international/pdf/factsheet-african-elephant.pdf.
[231] M. Nyaligu & S. Weeks , An Elephant Corridor in a Fragmented Conservation Landscape: Preventing the Isolation of Mount Kenya National Park and National Reserve. PARKS Vol. 19.1 (2013) (95), available at

In conclusion, the African continent is in the midst of an unprecedented boom in human population and development that is often in direct struggle with the goal of sustaining healthy populations of elephants and other wildlife. Civil conflict and war, coupled with increased access to formerly-remote elephant habitat, exposes African elephants to unpredictable violence on a massive scale. Human-driven impacts extend to climate change and desertification, which will exert further pressure on the natural environment. And while many African nations have established wildlife reserves with varying degrees of protection, habitat fragmentation is contributing to isolated elephant populations, human-elephant conflict, and the inevitable degradation (by elephants) of the very landscapes in which they are confined. All of these elements combine to create a pessimistic outlook for the survival of the species if aggressive conservation measures are not immediately put in place.

https://cmsdata.iucn.org/downloads/parks_19_1_nyaligu___weeks.pdf.

B. Overutilization for commercial, recreational, or scientific purposes

Analysis of trade in African elephants and their parts shows that the species is clearly overutilized. While international trade that is currently legal can be monitored via the CITES trade database, illegal trade is more difficult to precisely quantify. But there is a clear link between legal trade and illegal trade, and increased oversight of ivory and other elephant parts and products is needed to bring the African elephant back from the brink of extinction.

The African elephant has been listed on Appendix I of CITES since 1990, except for the populations of Botswana, Namibia and Zimbabwe (listed on Appendix II since 1997)[232] and South Africa (listed on Appendix II since 2000).[233] Pursuant to the Convention, species listed on Appendix I are threatened with extinction and are or may be affected by trade. International trade in specimens of species listed on Appendix I for primarily commercial purposes is prohibited under CITES.[234] Species listed on Appendix II are not necessarily threatened with extinction but may become so unless trade is closely controlled.[235] Specimens must be accompanied by an export permit or a re-export certificate. Permits and certificates should only be granted if the relevant authorities are satisfied that certain conditions are met, above all that trade will not be detrimental to the survival of the species in the wild.[236]

The 181 CITES Parties[237] are required to file Annual Reports with the CITES Secretariat on the import and export of listed species. These reports are compiled into an electronic, searchable trade database by the United Nations Environment Programme, in cooperation with the World Conservation Monitoring Centre (UNEP-WCMC), which is available to the public on the CITES website (www.trade.cites.org). This database can be used to determine the level of legal international trade as well as the types and sources of African elephants and their parts that are involved, and the purpose of the trade. In the context of CITES, international trade is not limited to commercial trade,[238] but also includes international trade associated with various purposes including breeding, circus or travelling exhibition, education, enforcement, trophy hunting, medicinal, personal use, reintroduction, scientific research, and for zoological exhibition.

By examining purposes of trade, the CITES trade database can be used to evaluate the reasons behind the movement of African elephants and their parts across international borders by humans. The database also includes the source of African elephants and their parts in international trade, whether captive-bred,[239] captive-born,[240] confiscated or seized, pre-Convention,[241] ranch-raised,

[232] CITES, *African Elephant*, http://www.cites.org/eng/gallery/species/mammal/african_elephant.html (last visited Jan. 12, 2015) [hereinafter "CITES, *African Elephant*"]
[233] CITES, *African Elephant*.
[234] Convention on International Trade in Endangered Species of Wild Fauna and Flora art. 3, Mar. 3, 1973, http://www.cites.org/eng/disc/text.php#III, [hereinafter "CITES art. 3"].
[235] CITES art. 3.
[236] CITES, *CITES 'Non-detriment findings'*, http://www.cites.org/eng/prog/ndf/index.php (last visited Jan. 12, 2015).
[237] CITES, *List of CITES Contracting Parties*, http://www.cites.org/eng/disc/parties/alphabet.php (last visited Nov. 4, 2014).
[238] In the context of CITES, "commercial" means that the purpose of trade, in the country of import, is to obtain economic benefit (whether in cash or otherwise), and is directed toward resale, exchange, provision of a service or any other form of economic use or benefit.
[239] "Offspring of second generation, F2, or subsequent generation, (F3, F4, etc.) are specimens produced in a controlled environment from parents that were also produced in a controlled environment" (CITES Resolution Conf. 10.16 (Rev.) (CITES 1994), http://www.cites.org/eng/res/10/10-16C15.php (last visited Nov. 4, 2014) [hereinafter

wild, or from an unknown source. While the CITES trade database is the principal source of information on international trade in African elephants and their parts, it does not contain information on domestic use of African elephants or their parts for commercial, recreational, or scientific purposes; nor does it account for the significant volume of poaching and illegal trade, except where illicit international trade has resulted in a seizure and this has been reported by the relevant country in their CITES Annual Report.

a. International legal trade in African elephants and their parts is extensive

i. Methodology and preliminary comments

a. CITES database

This section of the petition presents original analysis of data on the legal trade in African elephant parts. Raw net import data was obtained from the CITES Trade Database on September 29th 2014. Raw gross import data was obtained on November 7th 2014. Finally, additional information on gross imports of skins was obtained on January 19th, 2015.

It must be noted that the CITES Trade Database has several limitations. First, the database includes data reported by CITES member states (Parties) which, for various reasons, may not always be accurate. For example, it is often the case that importing and exporting countries international trade figures do not match even though they refer to the same specimens in trade. Second, the data cannot be used to determine the extent of the illegal trade because illegal trade is, by its very nature, not recorded; the exception is specimens that are seized, which may be recorded by Parties in their CITES Annual Reports.

Third, while the analysis presented below primarily focuses on the ten year time span between 2003 and 2012, the African elephant products traded during that time, as reflected in the CITES database, may not have been sourced from elephants that died naturally or were killed in that same time period. Specimens in trade may have been sourced from stockpiles of these products that were taken from elephants killed or that died during different time periods. The CITES database does not provide information on the age of the traded specimen.

Fourth, when collecting CITES database information, one must select between gross exports, gross imports, net exports or net imports. According to CITES, net trade "first calculates a country's gross (re-)exports and gross imports, and then gives the positive difference between the two values" and "aims to give an estimate of the actual number of items being traded."[242] However, when researching trade data into or from a specific country, only gross trade can be calculated. According to CITES in gross trade "quantities reported by the exporter and importer are compared

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"CITES Resolution Cond. 10.16"].

[240] "First generation offspring, f1, are specimens produced in a controlled environment from parents at least one of which was conceived in or a taken from the wild" CITES Resolution Cond. 10.16.

[241] In the context of CITES, "pre-Convention" means before the provision of CITES applied to that specimen. CITES Resolution Conf. 13.6, http://www.cites.org/eng/res/13/13-06.shtml). Resolution Conf. 13.6 (Rev. CoP16) (CITES 1985), http://www.cites.org/eng/res/13/13-06R16.php (last visited Nov. 4, 2014).

[242] CITES, A guide to using the CITES Trade Database, Version 8 (Oct. 2013), *available at* http://trade.cites.org/cites_trade_guidelines/en-CITES_Trade_Database_Guide.pdf (last visited Jan. 28, 2015) [hereinafter "CITES Trade Database Guide"].

and the larger quantity is presented in the output. This type of output aims to give an estimate of the total number of items recorded in international trade."[243] In this petition analysis, net imports are calculated for all cases except with respect to data on international trade by specific source country, in which case gross imports are calculated. As CITES explains "if your data selection only involves imports to, or exports from, specified countries, you cannot calculate net imports or exports, as not all the data necessary for the calculation will be available."[244]

Finally, the database presents trade data with and without units of measurement (i.e., kilograms, grams, feet squared, meters squared, milliliters, centimeters, etc.), complicating the calculation to estimate the number of elephants whose parts are in international trade. Some data are presented in terms of numbers, sets, and pairs, among other terms, which give no indication as to weight or size of the specimens. An example is that the U.S. may report that 5 ivory carvings were imported during a certain year but does not indicate the weight of the carvings. Therefore in order to determine the number of elephants involved in international trade, a calculation was developed and is described below.

b. Extrapolating the Number of Elephants from Trade Data

In order to calculate the number of elephants reflected by the ivory specimens traded, this analysis focuses on the weight of ivory carvings, ivory pieces, ivory scraps, and tusks. Since each elephant has two tusks, and the average weight of two tusks is 6.66 kg according to Wasser et al. (2009),[245] this means that every 6.66 kg of ivory in trade is the equivalent of one elephant. Therefore, the total weight in kilograms of ivory traded analyzed in various parts of this section is divided by 6.66 to calculate the number of elephants. Ivory without a measurable unit, apart from tusks (see next paragraph), is not included in the calculations below because there is no way to determine its weight from available information.

Tusks[246] that do not have a weight value are taken into account in this analysis in the following manner. Total tusk specimens reported without weight and analyzed in various parts of this section are divided by two to calculate the number of African elephants and this figure is added to the number of elephants reflected by the total weight of ivory in trade.

Finally, three additional figures are added to the total number of estimated elephants: trophies, bodies, and live animals (no unit). Where one specimen of each of these terms is reported in the CITES database, this petition's analysis equates this to one African elephant. Although this may be obvious in the case of the body or a live elephant, trophies are also equivalent to one elephant. Trophies are identified as TRO in CITES trade terms, described as follows:

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[243] CITES Trade Database Guide.
[244] CITES Trade Database Guide.
[245] Wasser S., et al., Combating Trans-National Organized Crime Using DNA Assignment of Poaching Hotspots (2009), *available a*t http://isfg2013.org/wp-content/uploads/2012/06/Thu-P3-1505-S-Wasser-M1.pdf (A study sponsored by U.S. Fish & Wildlife Service, University of Washington Center for Conservation Biology, International Fund for Animal Welfare, and the U.S. National Institute for Justice.) [hereinafter "Wasser et al., *Combating Trans-National Organized Crime*"].
[246] According to the CITES guidelines for the preparation and submission of CITES annual reports (February 2011), a tusk is defined as "substantially whole tusks, whether or not worked." CITES Guidelines for the Preparation and Submission of CITES Annual Reports, Feb. 2011, *available at* http://www.cites.org/eng/notif/2002/022A.pdf [hereinafter "CITES Guidelines"].

> Trophy – all the trophy parts of one animal if they are exported together: e.g. horns (2), skull, cape, back skin, tail and feet (i.e. ten specimens) constitute one trophy. But if, for example, the skull and horns are the only specimens of an animal that are exported, then these specimens together should be recorded as one trophy. Otherwise the specimens should be recorded separately. A whole stuffed body is recorded under 'BOD'. A skin alone is recorded under 'SKI'.[247]

Because one trophy generally consists of the parts of one dead elephant, this analysis equates one trophy to one African elephant.

It must also be highlighted that there are many African elephant items traded beyond ivory, trophies, bodies, and live animals. For example, this includes leather, skins, and items made from skin, such as shoes, all of which currently are sold on the open market in the U.S. However, it is much more difficult to estimate the number of elephants reflected by the trade in these items either because they lack a measurable unit, because the measurable units vary (length vs. weight of the skins), and because it is challenging to estimate the average size of an elephant's skin. Also, any elephant whose skin is in international trade may already be accounted for in this analysis by the other tradable parts of the elephant, such as ivory. Therefore this analysis focuses on ivory weight, tusks, trophies, bodies, and live animals in its calculations, but does not include skins, leather, and other skin items when calculating total African elephants impacted by international trade.

c. Organization of the section on international legal trade in African elephant and their parts

The subsequent section on international legal trade in African elephants and their parts is organized into three main sections: (1) net imports from all sources and for all purposes, (2) net imports from wild sources and for all purposes, and (3) top three purposes of international trade in African elephants. Each of these three sections is divided into a subsection on estimated elephants in trade (broken down by the estimates according to (a) global imports, and (b) U.S. imports) and calculated specimens in trade (also broken down by (a) global imports, and (b) U.S. imports). Lastly the same format is applied to the top three purposes of international trade, which are: commercial, hunting trophy, and personal.

Following this analysis, this section next reviews international (legal) trade in African elephants and their parts by source country, with subsections included on Zimbabwe, Botswana, South Africa, Namibia, Tanzania, Zambia, Cameroon, Ghana, Gabon, Mozambique, and Kenya.

Illegal trade in African elephants and their parts is discussed separately.

ii. Net Imports[248] from All Sources and for All Purposes

[247] CITES Guidelines.

[248] In the CITES Trade Database, the user is prompted to select one of the following report types: gross exports, gross imports, net exports or net imports. A *net* trade output first calculates a country's gross (re-)exports and gross imports, and then gives the positive difference between the two values. This type of output aims to give an estimate of the actual number of items being traded. CITES Trade Database Guide.

1. Estimated elephants in trade (all sources and all purposes)

Global imports: The original analysis[249] presented in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported international trade (global net imports from all sources and for all purposes) is 49,501. The calculations are detailed below.

In terms of measurable units, net elephant product imports during the 2003-2012 year span included 206,760 kilograms (kg) (206.7 metric tons) of ivory (calculation: 8,040.5kg ivory carvings + 43,917.8kg ivory pieces + 1,018.32kg ivory scraps + 153,783.3kg tusks = 206,760kg).[250] Using an average tusk weight of 6.66 kg per tusk, this represents 31,045 African elephants (calculation: 206,760 kg ÷ 6.66 kg = 31,045 estimated elephants).

When this number of elephants is combined with imports without a measurable unit, including the number of net trophy imports (8,593), body imports (119), and live imports (509) between the years 2003-2012, the total number of African elephants in international trade in that time span is 40,266.[251] (Calculation: 31,045 + 8,593 +119 + 509 = 40,266 estimated elephants).

Moreover, net imports of 18,471 tusks were reported between 2003 and 2012 without any unit indicated. However, one can still estimate the number of elephants potentially impacted by the imports. Elephants have two tusks and therefore two tusks are equal to one elephant. If one divides 18,471 tusks by two tusks per elephant that amounts to an estimated 9,235.5 elephants. Combing this total with 40,266 elephants calculated above, brings the total of African elephants reflected by the reported international trade between 2003 and 2012 to 49,501 (calculation: 31,045 + 9,235 + 8,593 + 119 + 509 = 49,501 estimated elephants). See Table 2.

Note that all elephant number estimates represent the minimum because another large category of items traded are skins and it is not possible to estimate how many elephants are represented by the skin trade based on the CITES Trade Database.

Table 2: Global Net Imports and Estimated Numbers of Elephants, All Sources and All Purposes (2003-2012)

All Specimens	Ivory kg	Tusk specimens	Trophies	Bodies	Live	Total Elephants
281,428 (no unit)	206,760 kg ÷ 6.66 kg (avg. weight per tusk) = 31,045 elephants	18,471 (no unit) ÷ 2 (number of tusks per elephant) = 9,235 elephants	8,593 trophies = 8,593 elephants	119 bodies = 119 elephants	509 live = 509 elephants	49,501

[249] The analysis represented consists of data compiled from the CITES Trade Database on September 29, 2014. CITES Trade Database Guide.

[250] This figure was derived by adding up the weight figures (in kg) for three types of specimens including ivory carvings, ivory pieces, ivory scraps, and tusks, as reported in the UNEP-WCMC CITES Trade Database when searching for "net imports" all sources, and all purposes. Other measurable units such as pairs, sets, or centimeters cannot be added to estimate numbers of elephants.

[251] Note that there is a one-to-one ratio between trophy imports, body imports, and live imports and the number of elephants.

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, all purposes.

Global net imports of ivory (kg) from all sources and for all purposes were low (ranging between 52 and 7,105 kilograms between 2003 and 2007). However, due to the CITES one-off sale of ivory from Botswana, Namibia, South Africa and Zimbabwe to China and Japan, net imports of ivory included 59,474kg in 2008 and 107,824kg in 2009. *See* Figure 1.

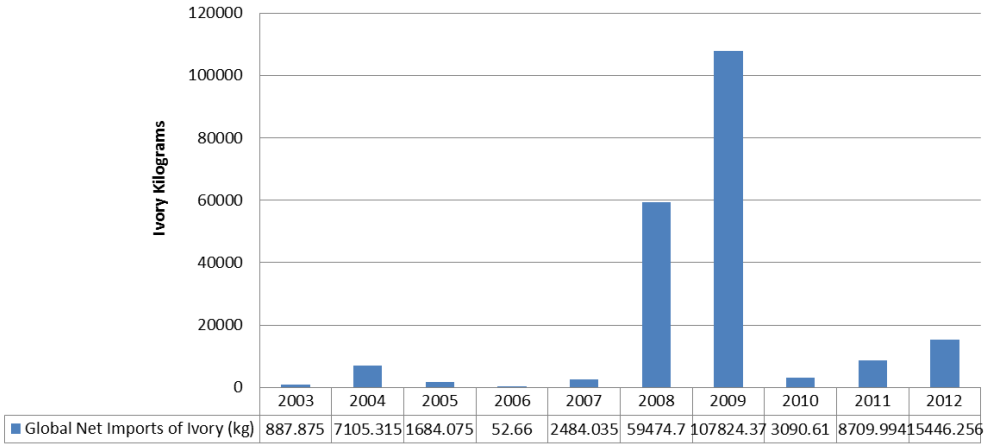


Figure 1: Global Net Imports of African Elephant Ivory (kg), All Sources and for All Purposes (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, all purposes. Search filtered for ivory carvings, pieces, and scraps, as well as tusks (kg).

U.S. imports: The analysis in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported U.S. net imports from all sources and for all purposes is 8,119. The calculations are detailed below.

In terms of measurable units, net elephant product imports during the 2003-2012 year span included 11,538kilograms (kg) (11.5 metric tons) of ivory (calculation: 127.6 kg ivory carvings + 476.8 kg ivory pieces + 3 kg ivory scraps + 10,930.8kg tusks =11,538kg).[252] Using an average tusk weight of 6.66 kg per tusk, this represents 1,732 African elephants (calculation: 11,538 kg ÷ 6.66 kg = 1,732 estimated elephants).

When this number of elephants is combined with imports without a measurable unit, including the number of net trophy imports (4,091), body imports (2), and live imports (74) between the years 2003-2012, the total number of African elephants in international trade in that time span is 40,266.[253] (Calculation: 1,732 + 4,091 +2 + 74 = 5,899 estimated elephants). Moreover, U.S. net imports of 4,440 tusks were reported between 2003 and 2012 without any unit indicated. However,

[252] This figure was derived by adding up the weight figures (in kg) for three types of specimens including ivory carvings, ivory pieces, ivory scraps, and tusks, as reported in the UNEP-WCMC CITES Trade Database when searching for "net imports" all sources, and all purposes. Other measurable units such as pairs, sets, or centimeters cannot be added to estimate numbers of elephants.

[253] Note that there is a one-to-one ratio between trophy imports, body imports, and live imports and the number of elephants.

one can still estimate the number of elephants potentially impacted by the imports. Elephants have two tusks and therefore two tusks are equal to one elephant. If one divides 18,471 tusks by two tusks per elephant that amounts to an estimated 2,220 elephants. Combing the total 5,899 elephants calculated above, brings the total of African elephants reflected by the reported international trade between 2003 and 2012 to 8,119 (calculation: 1,732 + 4,091 +2 + 74 + 2,220 = 8,119 estimated elephants). *See* Table 3.

Table 3: U.S. Net Imports Estimated Numbers of Elephants, All Sources and All Purposes (2003-2012)

All Specimens	Ivory kg	Tusk specimens	Trophies	Bodies	Live	Total Elephants
121,296 (no unit)	11,538 kg ÷ 6.66 kg (avg. weight per tusk) = 1,732 elephants	4,440 (no unit) ÷ 2 (number of tusks per elephant) = 2,220 elephants	4,091 trophies = 4,091 elephants	2 bodies = 2 elephants	74 live = 74 elephants	8,119

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, all purposes. Search filtered for US.

U.S. net imports of ivory (kg) from all sources and for all purposes were extremely low (ranging between 2 and 83 kilograms between 2003 and 2007). However, the imports increased following 2008, with the highest number of net imports of ivory from all sources and for all purposes rising to 6,028 kilograms in 2012. *See* Figure 2.

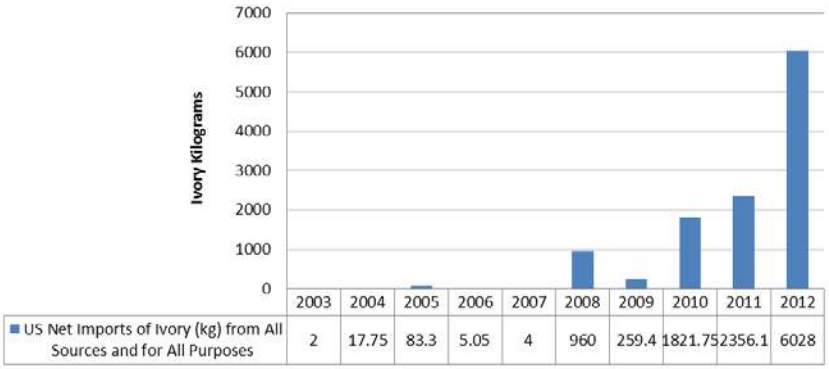


Figure 2: U.S. Net Imports of Ivory (kg) from All Sources and for All Purposes (2003-2012)

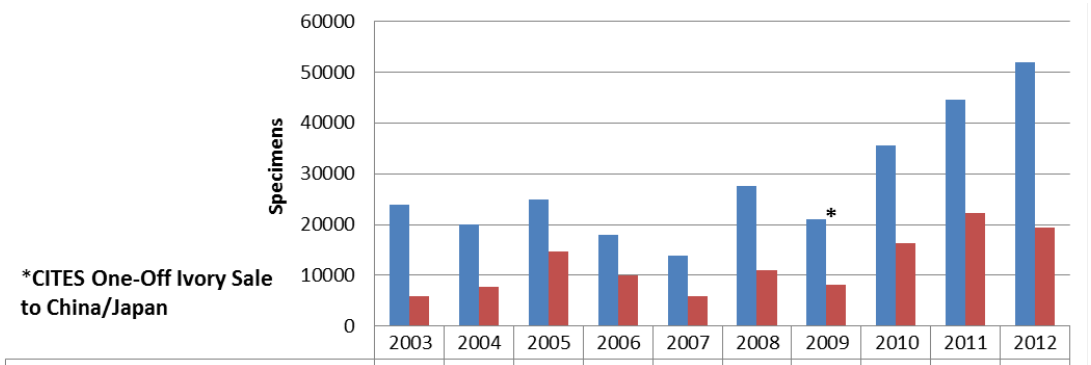
Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, all purposes. Search filtered for ivory carvings, pieces, and scraps, as well as tusks (kg).

2. African elephant specimens in trade (all sources and all purposes)

Global imports. In addition to looking at the weight of ivory in trade, and the number of tusks, to determine the impact of international trade on the African elephant, we can also examine the number of specimens in trade (without a measurable unit). Net imports from all sources and for all purposes between 2003 and 2012 consisted of 281,428 African elephant specimens (e.g., bodies, bones, carvings, ears, feet, genitalia, hair, ivory carvings, ivory pieces, ivory scraps, leather

products, shoes, skins, derivatives, tusks, among others).

Over the decade studied, based on numbers of specimens in trade, reported international ivory trade decreased from 2003, reaching a low in 2007, after which it increased (see Figure 3 below). In 2008 CITES approved a second[254] "one-off" sale of ivory from Botswana, Namibia, Zimbabwe and South Africa to China and Japan.[255] The first sale occurred in 1999 from Botswana, Namibia, and Zimbabwe to Japan.[256] Since 2009, net imports of African elephant specimens have grown substantially. *See* Figure 3.



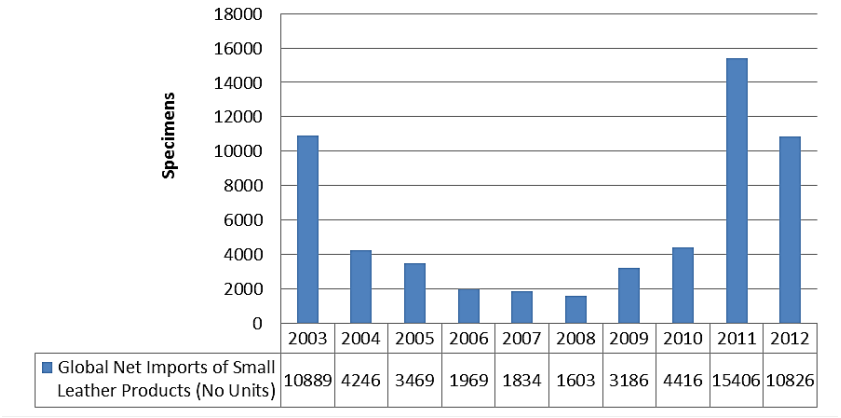
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Imports of African Elephant Items from 2003-2012 (All Sources/All Purposes) (No Units)	23915	19964	24932	17939	13939	27575	21067	35615.5	44583	51901.5
US Net Imports of African Elephant Items from 2003-2012 (All Sources/All Purposes) (No Units)	5894	7836	14740	10003	5800	11062	8047	16398	22161	19354.5

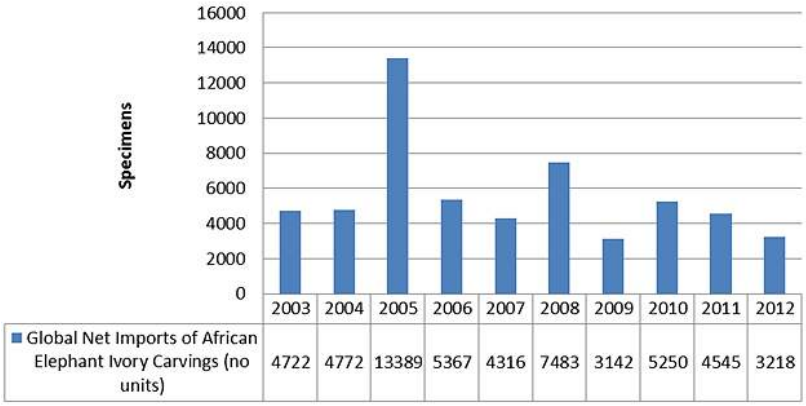
Figure 3: Global and U.S. Net Imports of African Elephant Specimens from All Sources and for All Purposes (2003-2012) (No Units)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and all purposes. Filtered for "blank" terms and totals were calculated globally and for the US.

The top three items in terms of numbers of global net imports of specimens from all sources between 2003 and 2012 are as follows: small leather products (57,844 specimens), ivory carvings (56,204 specimens), and skins (33,184 specimens). Trade in African elephant skins is discussed in greater detail in a later section of this analysis. With respect to trends, global imports of small leather product specimens from all sources reached the lowest points in the decade studied in 2008 and have been on the increase since that point, with a sharp jump in 2011. Global ivory carving specimen imports have been on a general decline since 2005. Finally, global skin imports are generally increasing with the highest number of imports in 2009. *See* Figure 4.

[254] The first "one-off" sale occurred in 1999 from Botswana, Namibia, and Zimbabwe to Japan.
[255] CITES, *Ivory Auctions Raise 15 Million U.S.D.*
[256] CITES, *Illegal ivory trade.*





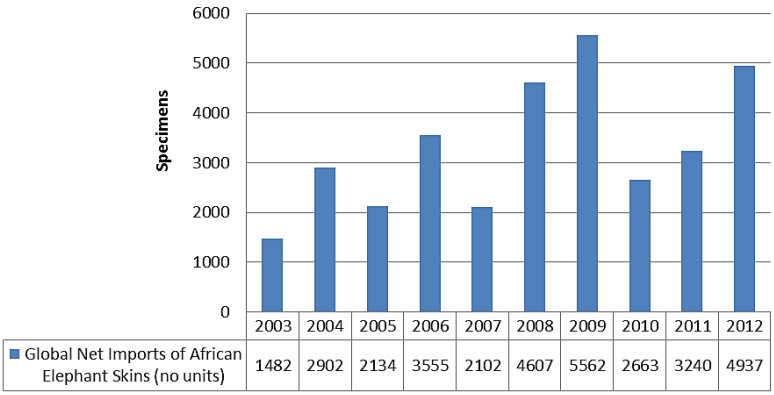


Figure 4: Global Net Imports of Small Leather Products, Ivory Carvings, and Skins, All Sources and All Purposes (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, all purposes. Search filtered for top three specimens imported, which included small leather products, ivory carvings, and skins.

U.S. imports: As Figure 4 above illustrates, there is a clear upward trend in global net imports of African elephant specimens, as measured by number of specimens, and the U.S. is a large share of these imports over the period studied. The percentage of net imports globally comprised of U.S. imports varied from 24.6% to 55.8% over the period studied. However, it must be noted that data on specimens (without units) gives no indication as to the actual size, weight, or other dimensions

of the elephant products. The visible growth is in the net imports of number of specimens only. *See* Table 4.

Table 4: Global and U.S. Net Imports of African Elephant Specimens, All Sources and All Purposes (No Units) (2003-2012)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Imports (number of specimens)	23,915	19,964	24,932	17,939	13,939	27,575	21,067	35,614	44,582	51,902
U.S. Net Imports (number of specimens)	5,894	7,836	14,740	10,003	5,800	11,062	8,047	16,398	22,161	19,355
U.S. Share of Total	**24.60%**	**39.20%**	**59.10%**	**55.80%**	**41.60%**	**40.10%**	**38.10%**	**46%**	**49.70%**	**37.30%**

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and all purposes. Filtered for "blank" terms and totals were calculated globally and for the US.

U.S. imports of non-measurable specimens of African elephants and their products over the period studied far exceed those of other countries (approximate 44% of global total). Other major importers of African elephant specimens over the 2003 to 2012 year span (according to non-measurable units or "specimens") are China (approximately 8% of all net imports of specimens), Japan, (approximately 9%), Italy (approximately 4%), and Monaco (approximately 4%), among others. U.S. net imports between 2003 and 2012 correlated to 8,119 elephants.[257]

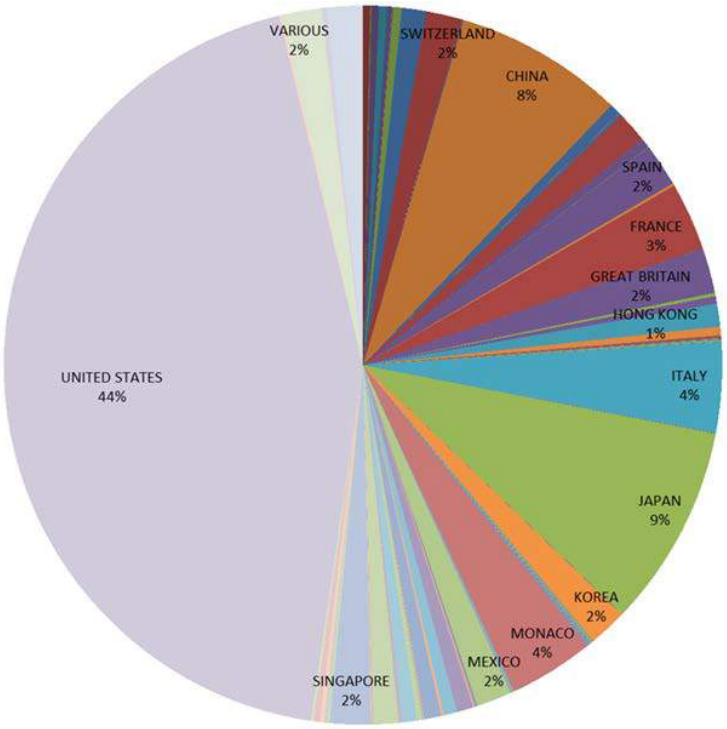
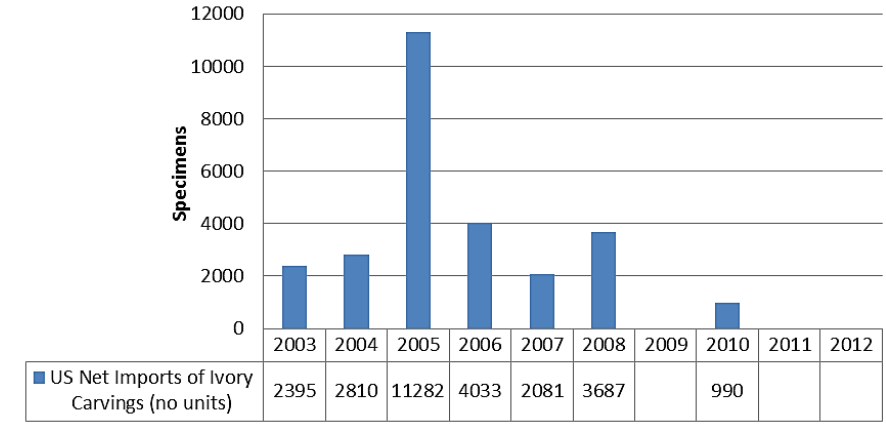
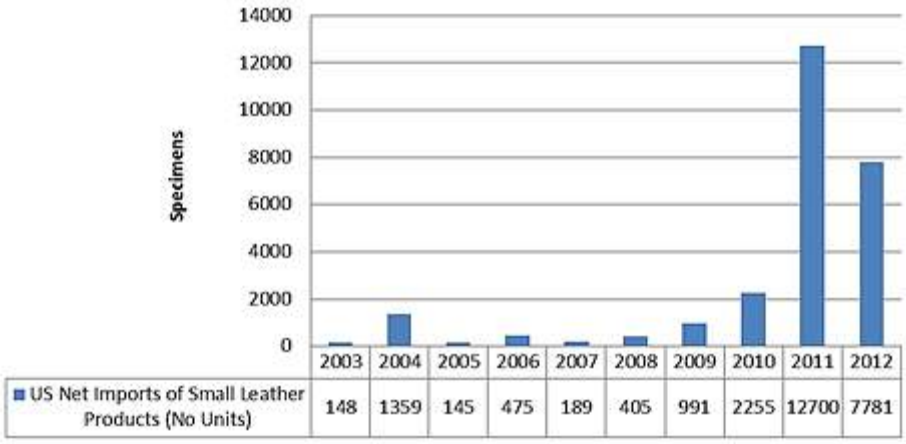


Figure 5: Global Net Imports by Top Countries, All Sources and All Purposes (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and all purposes. Totals were calculated globally. Only the top importing countries are listed.

The top three items in terms of numbers of U.S. net imports of specimens between 2003 and 2012 (all sources and all purposes) are as follows: ivory carvings (27,776 specimens), small leather products (26,448 specimens), and skins (15,131 specimens). Between 2009 and 2012, there were only 1,238 ivory carving specimen net imports into the United States. U.S. imports of small leather products increased substantially between 2010 and 2012, with a major spike in 2011. Finally, skin imports into the U.S. have had a general upward trend since 2003, with the biggest spike in 2008. *See* Figure 6 below.





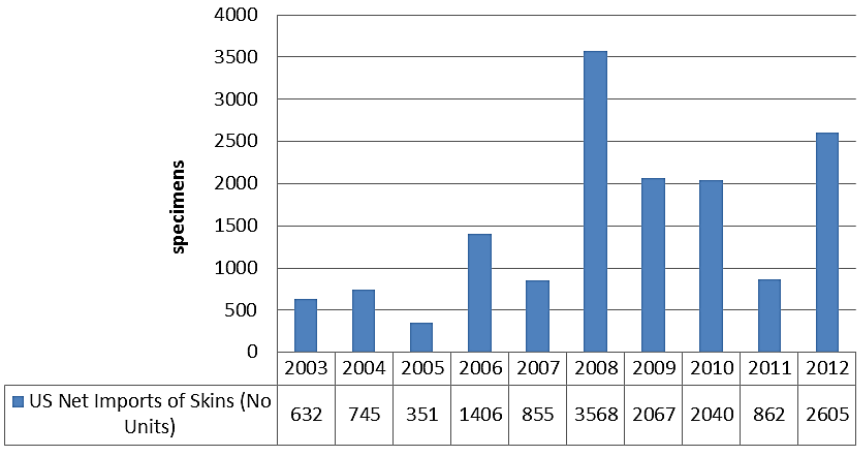


Figure 6: U.S. Net Imports of Ivory Carvings, Small Leather Products, and Skins, All Sources and All Purposes (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and all purposes. Filtered for "blank" terms and trends graphed for the top three specimen categories: ivory carvings, small leather products, and skins.

iii. Net Imports from Wild Sources and for All Purposes

1. Estimated elephants in trade (wild-sourced and for all purposes)

Global imports: The original analysis presented in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported international trade (global net imports from wild sources and for all purposes) is 46,283. The calculations are detailed below.

In terms of specimens that did have measurable units, net wild-sourced elephant product imports during that year span included approximately 193,520 kg[258] (193.5 metric tons) of ivory (calculation: 7,557.7kg ivory carvings + 40,366kg ivory pieces + 3kg ivory scraps + 145,593.6kg tusks = 193,520kg, equivalent to at least 29,057 African elephants.[259] When this number of elephants is combined with the number of net trophy imports (8,446), body imports (39), and live imports (321) sourced from the wild between the years 2003-2012, the total number of wild-sourced African elephants in international trade in that time span is 37,863.

If combined with the number of elephants represented by wild-sourced tusks imported from 2003-2012 without an indicated measurable unit such as kilograms, the total of wild-sourced African elephants in international trade between 2003 and 2012 is 46,283 (calculation: 29,057 + 8,420 + 8,446 + 8,446 + 39 + 321 = 46,283). *See* Table 5.

Table 5: Global Net Imports, Wild-Sourced and All Purposes (2003-2012)

All Specimens	Ivory kg	Tusk specimens	Trophies	Bodies	Live	Total Elephants
236,428	193,520kg ÷ 6.66kg (avg. weight per tusk) = 29,057 elephants	16,840 (no unit) ÷ 2 (number of tusks per elephant) = 8,420 elephants	8,446 trophies = 8,446 elephants	39 bodies = 39 elephants	321 live = 321 elephants	46,283

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and all purposes.

Global net imports of ivory (in kilograms) from wild sources and for all purposes include a substantial increase in 2008 and 2009 due to the CITES approved one-off sale of ivory from Botswana, Namibia, Zimbabwe and South Africa to China and Japan. *See* Figure 7.

[258] Calculated by adding the net import weights (in kilograms) of ivory carvings, ivory pieces, ivory scraps, and tusks between 2003 and 2012.

[259] The total weight of ivory specimens (carvings, pieces, scraps, and tusks) reported as being from a wild source and traded internationally for all purposes between 2003 and 2012 is 197,562 kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, the number of African elephants' represented by that total weight is 29,664.

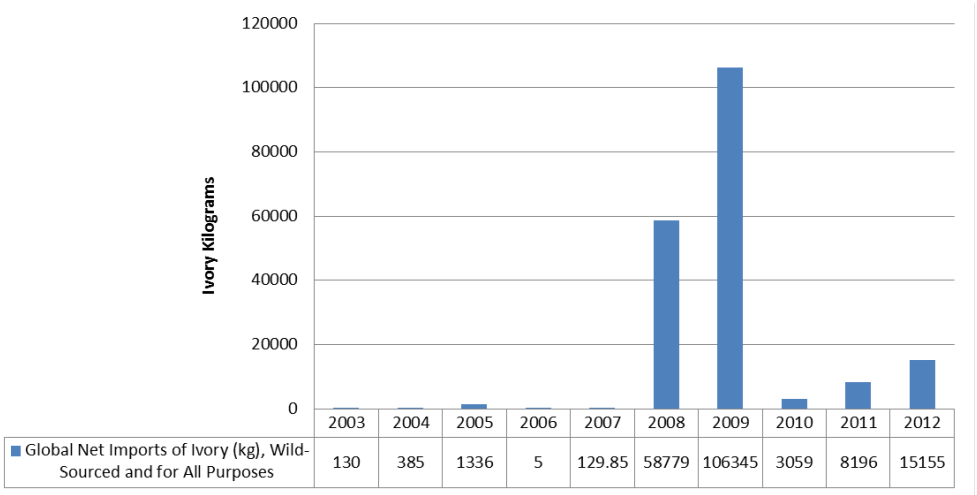


Figure 7: Global Net Imports of African Elephant Ivory (kg), Wild-Sourced and for All Purposes (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and all purposes. Filtered for ivory carvings, pieces and scraps, as well as tusks (in kilograms).

U.S. imports: The analysis in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by reported U.S. net imports from wild sources and for all purposes is 7,831. The calculations are detailed below.

The U.S. imported 10,933 kg[260] wild-sourced ivory between 2003 and 2012, equivalent to 1,641[261] African elephants (calculation: 10,933 kg ÷ 6.66kg avg. weight of two tusks = 1,641 elephants). When this number of elephants is combined with the number of net trophy imports (4,045, which equals 4,045 elephants), body imports (n/a), and live imports (70 elephants) sourced from the wild between the years 2003-2012, the total number of wild-sourced African elephants affected by imports into the U.S. is 5,756.

If combined with the number of elephants represented by wild-sourced tusks imported by the U.S. from 2003-2012 without an indicated measurable unit such as kilograms, the total number of U.S. imported wild-sourced elephants is 7,831 (calculation: 1,641 + 2,075 + 4,045 +70 = 7,831). *See* Table 6.

Table 6: U.S. Net Imports, Wild Sourced and for All Purposes (2003-2012)

All Specimens	Ivory kg	Tusk Specimens	Trophies	Bodies	Live	Total Elephants
110,213	10,933kg ÷ 6.66kg (avg. weight per	4,150 (no unit) ÷ 2 (number of tusks per elephant)	4,045 trophies = 4,045	n/a	70 live = 70 elephants	7,831

[260] Calculated by adding up the net import weight (in kilograms) of ivory carvings, ivory pieces, ivory scraps, and tusks sourced from the wild between 2003 and 2012.

[261] The total weight of ivory specimens (carvings, pieces, scraps, and tusks) reported as being from a wild sources and imported by the United States between 2003 and 2012 is equal to 10,933 kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, 1,641 is the number of African elephants' represented by that weight.

	tusk) = 1,641 elephants	= 2,075 elephants	elephants			

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and all purposes. Filtered for U.S. imports.

U.S. net imports of ivory (in kilograms) from wild sources and for all purposes were extremely low (ranging between 2 and 13 kilograms between 2003 and 2007). However, following 2008 there was a substantial increase in U.S. net imports of ivory (kg), jumping to 6,018kg in 2012. *See* Figure 8.

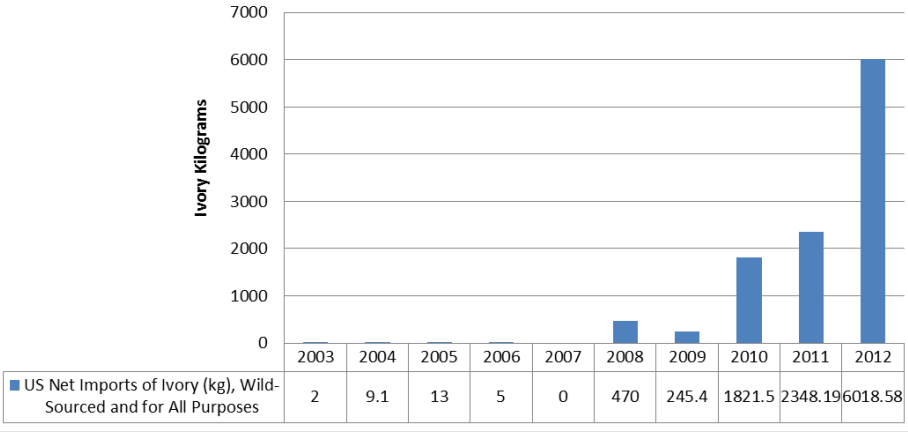
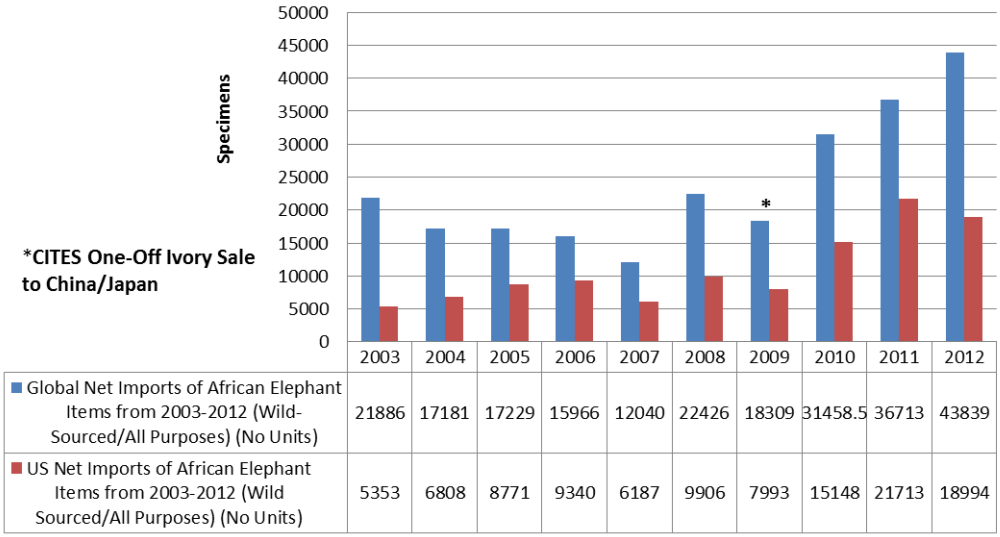


Figure 8: U.S. Net Imports of African Elephant Ivory (kg), Wild-Sourced and for All Purposes (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and all purposes. Filtered for U.S. imports and measurable units: ivory carvings, pieces and scraps, as well as tusks (kilograms).

2. African elephant specimens in trade (wild-sourced and for all purposes)

Global imports: Of total global net imports traded between 2003 and 2012 for all purposes (with no measurable units recorded), 236,428 African elephant specimens were sourced from the wild (equivalent to 84% of the net imports from all sources and for all purposes, without a measurable unit). Looking at the number of specimens in trade, it can be seen that following the 2009 second "one-off" sale of ivory from Botswana, Namibia, South Africa and Zimbabwe to China and Japan, net imports of wild-sourced African elephant specimens grew substantially, both in terms of measurable and non-measurable units. Of these global wild-sourced net imports (without a measurable unit) between 2003 and 2012, the U.S. has imported the largest share. *See* Figure 9.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Imports of African Elephant Items from 2003-2012 (Wild-Sourced/All Purposes) (No Units)	21886	17181	17229	15966	12040	22426	18309	31458.5	36713	43839
US Net Imports of African Elephant Items from 2003-2012 (Wild Sourced/All Purposes) (No Units)	5353	6808	8771	9340	6187	9906	7993	15148	21713	18994

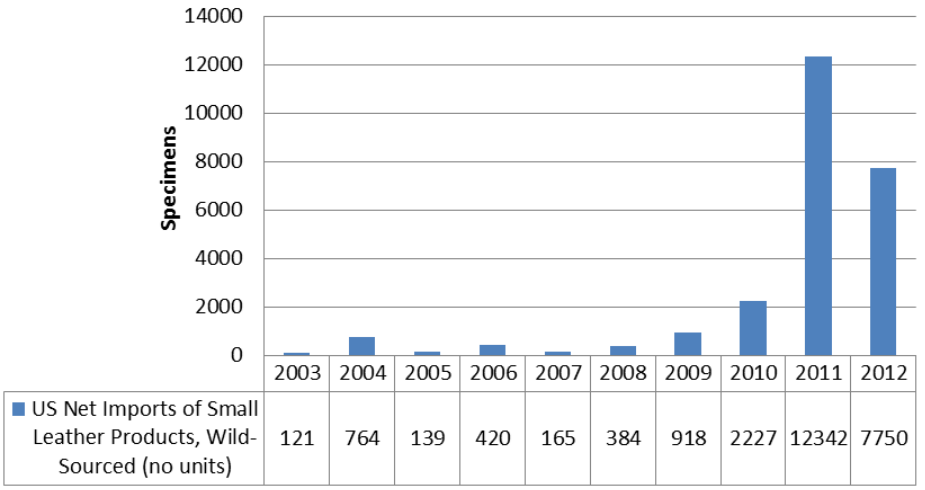
Figure 9: Global and U.S. Net Imports of African Elephant Specimens, Wild-Sourced and for All Purposes (No Units) (2003-2012)

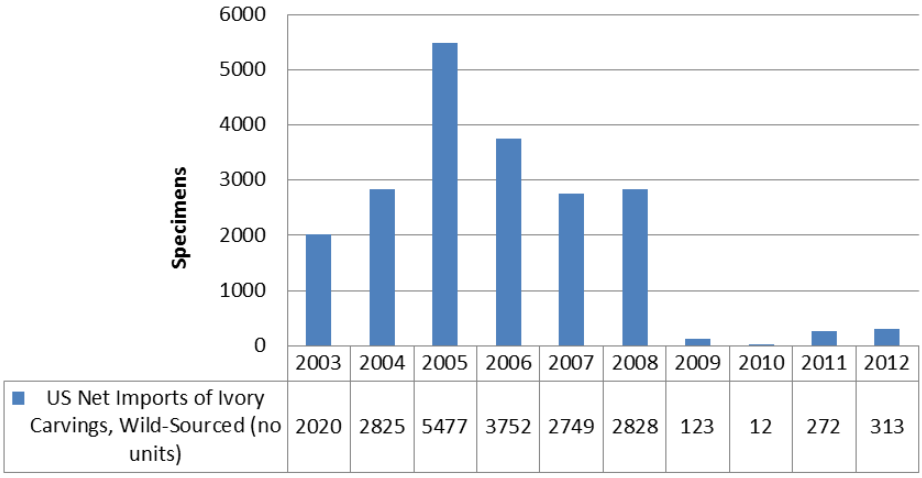
Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and all purposes. Totals were calculated globally and for the US.

The top three items in terms of numbers of global net imports of specimens between 2003 and 2012 are as follows: small leather products (56,766 specimens), ivory carvings (31,503 specimens), and skins (32,812 specimens). The trend pattern for global imports of these wild-sourced specimens follows closely that of specimens from all sources. Please see Figure 3 above.

U.S. imports: As Figure 9 above illustrates there is also a clear upward trend of global net imports of African elephant specimens from wild sources (as in the case of the imports from all sources) for the years 2003 to 2012. Of this trade, the U.S. imported 110,213 African elephant specimens between 2003 and 2012 (without a measurable unit recorded).

The top three items in terms of numbers of U.S. net imports of wild-sourced specimens between 2003 and 2012 are as follows: small leather products (25,230 specimens), ivory carvings (20,371 specimens), and skins (14,877 specimens). U.S. net imports of wild-sourced small leather specimens ranged between 121 and 918 specimens between 2003 and 2009, however they dramatically increased to 12,342 specimens in 2011 and 7,750 in 2012. U.S. net imports of wild-sourced ivory carving specimens have been declined from a high of 5,477 in 2005 to 313 in 2012. Finally, U.S. net imports of wild-sourced skin specimens reached a high of 3,568 in 2008, declined to 861 in 2011 and up to 2,593 in 2012. *See* Figure 10 below.





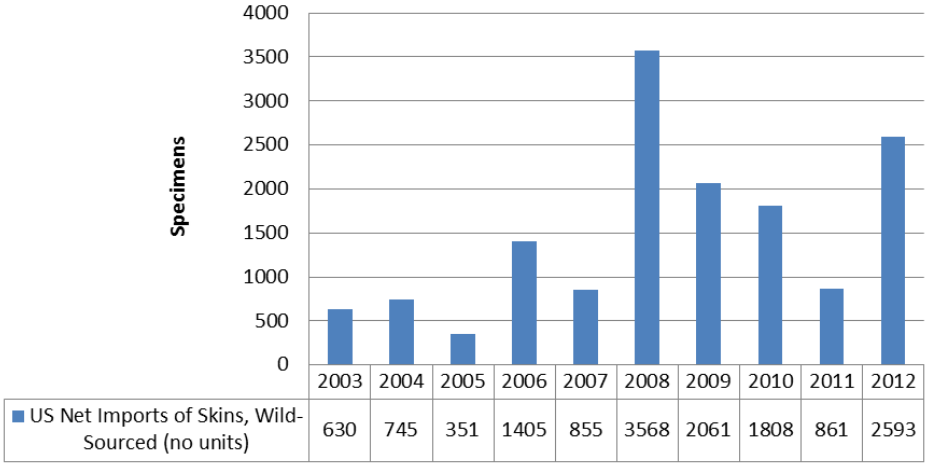


Figure 10: U.S. Net Imports of Small Leather Products, Ivory Carvings, and Skins, Wild Sourced and for All Purposes (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and all purposes. Filtered for U.S. imports and the top three import terms: small leather products, ivory carvings, and skins.

iv. Top Three Purposes of International Trade in African Elephants

Based on the number of African elephants reflected by 2003-2012 net imports of ivory from all sources, tusks, trophies, bodies, and live animals in trade, the top three purposes of net imports of African elephants and their parts are: commercial, hunting trophy, and personal. Commercial net imports are represented by 29,674 elephants over ten years or approximately 60% of total estimated elephants impacted by trade from all sources and for all purposes between 2003 and 2012. Hunting trophy net imports are represented by 15,518 elephants over ten years or 31% of estimated elephants. Finally, personal net imports are represented by 3,105 elephants over ten years or 6% of estimated elephants.[262]

In terms of non-measurable units in global trade of African elephants and their parts, the most common purposes of all net imports are: commercial, personal, and hunting trophy. Commercial net imports from all sources totaled 185,798 specimens (approximately 66% of the total specimens without a measurable unit). Personal net imports from all sources totaled 49,390 specimens (approximately 17.5% of the total specimens). Finally, hunting trophy net imports from all sources totaled 35,000 (approximately 12.4% of the total specimens).

The U.S. is one of the main importing countries of African elephant specimens for these three purposes. Based on the number of specimens traded, between 2003-2012, the U.S. imported 80,183 specimens for commercial purpose (43% of the total net imports for commercial purpose, no measurable unit), 16,408 specimens for hunting trophy purpose (46% of the total net imports for hunting trophy purpose, no measurable unit), and 22,164 specimens for personal purpose (45% of the total net imports for personal purpose, no measurable unit).

1. Commercial Purpose

a. Estimated elephants in trade (commercial purpose)

Global imports: The original analysis presented in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by net commercial imports from all sources is 29,674 and reflected by net commercial imports from wild sources is 28,253. The calculations are detailed below.

In terms of measurable units, net commercial imports of ivory during that year span included approximately 168,944 kg (168.9 metric tons), equivalent to at least 25,367 African elephants. (Calculation: 168,944 kg ÷ 6.66kg avg. weight of two tusks = 25,367 elephants)[263] When this number of elephants is combined with the number of net commercial trophy imports (182), body imports (1), and live imports (175) between the years 2003-2012; the total number of African elephants imported for commercial purposes in that time span is 25,725. (Calculation: 25,367 + 182 + 1 + 175 = 25,725) (Table 7)

If combined with the number of elephants represented by all tusks imported for commercial

[262] The calculations used to obtain these numbers are discussed in detail in the sections that follow.
[263] The total weight of net commercial imports of ivory specimens (carvings, pieces, scraps, and tusks) for all purposes between 2003 and 2012 is 168,944kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, the number of African elephants' represented by that total weight is 25,367.

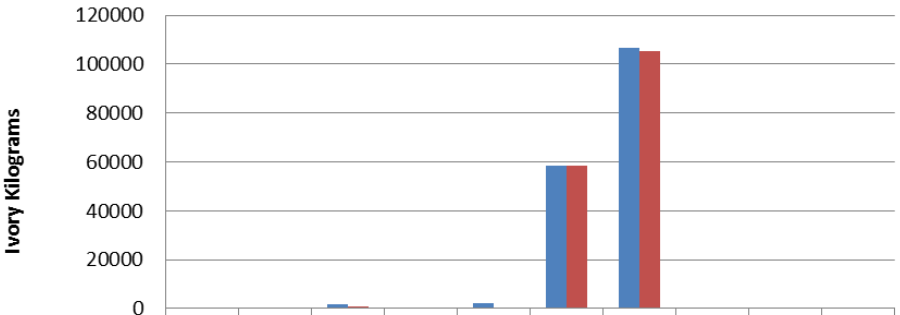
purpose from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported for commercial purpose is 29,674 (calculation: 25,725 + 3,949 + 182 + 1 + 175 = 29,674) (Table 7). Almost all of the net imports of African elephant specimens for commercial purposes were from wild-sourced elephants (28,253 elephants of 29,674, or 95.5%). *See* Table 7.

Table 7: Global Net Commercial Imports, Wild-Sourced (2003 to 2012)

Global Net Commercial Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
185,829	168,944 kg ÷ 6.66kg (avg. weight per tusk) = 25,367 elephants	7,898 (no unit) ÷ 2 (number of tusks per elephant) = 3,949 elephants	182 trophies = 182 elephants	1 body = 1 elephant	175 live = 175 elephants	29,674
Global Net Commercial Imports from 2003 to 2012 (*wild* sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
161,819	164,441 kg ÷ 6.66kg (avg. weight per tusk) = 24,691 elephants	6,660 (no unit) ÷ 2 (number of tusks per elephant) = 3,330 elephants	174 trophies = 174 elephants	n/a	58 live = 58 elephants	28,253

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, commercial purpose.

Global net commercial imports of ivory (in kilograms) were only traded in significant numbers as part of the CITES approved on-off sale from Botswana, Namibia, Zimbabwe and South Africa to China and Japan, as can be seen in Figure 12 for the years 2008 and 2009.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Commercial Imports of Ivory (kg), All Sources	57	106	1588	0.06	2024	58292	106566	29	470	208
Global Net Commercial Imports of Ivory (kg), Wild-Sourced	57	1	873	0	0	58272	105238	0	0	0

Figure 11: Global Net Commercial Imports of Ivory (kg), All Sources and Wild-Sourced (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and commercial purpose. Filtered for measurable units of ivory and tusks in kilograms.

U.S. imports: The analysis in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported U.S. net commercial imports from all sources is 206 and reflected by U.S. net commercial imports from wild sources is 173. The calculations are detailed below. However, please note that skins were also imported for commercial purpose into the U.S., and if looking at "skin" imports alone over the studied decade the U.S. imported 14,599 skins which are equivalent to 14,599 elephants (CITES defines skins as "substantially whole"). See discussion on skins below.

The U.S. imported 124 kg[264] of all-source ivory equivalent to 19[265] African elephants (calculation: 124kg ÷ 6.66kg = 19 elephants). When this number of elephants is combined with the number of U.S. net commercial trophy imports (29), body imports (1), and live imports (50) from all sources between the years 2003-2012; the total number of African elephants imported into U.S. for commercial purposes is 99 elephants (calculation: 19 + 29 + 1 + 50 = 99).

If combined with the number of elephants represented by all tusks the U.S. imported for commercial purpose from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported for commercial purpose is 206 (calculation: 19 + 107 + 29 + 1 +50 = 206 elephants). Of these imports, net U.S. imports for commercial purposes from wild-sourced elephants added up to 173 elephants (calculation: 2 + 95 + 26 + 50 = 173 elephants) of 206 or 89%. *See* Table 8.

Table 8: U.S. Net Commercial Imports, All Sources and Wild-Sourced (2003-2012)

U.S. Net Commercial Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
80,168	124 kg ÷ 6.66kg (avg. weight per tusk) =19 elephants	214 (no unit) ÷ 2 (number of tusks per elephant) = 107 elephants	29 trophies = 29 elephants	1 body = 1 elephant	50 live = 50 elephants	206
U.S. Net Commercial Imports from 2003 to 2012 (wild-sourced)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
78,002	16 kg ÷ 6.66kg (avg. weight per tusk) = 2 elephants	189 (no unit) ÷ 2 (number of tusks per elephant) = 95 elephants	26 trophies = 26 elephants	n/a	50 live = 50 elephants	173

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild sources, commercial purpose.

[264] Calculated by adding the U.S. net weight (in kilograms) of ivory carvings, ivory pieces, ivory scraps, and tusks imported for commercial purposes from all sources between 2003 and 2012.

[265] The total weight of ivory specimens (carvings, pieces, scraps, and tusks) imported by U.S. for commercial purposes between 2003 and 2012 is equal to 10,933 kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, 1,641 is the number of African elephants' represented by that weight.

U.S. net commercial imports of ivory (in kilograms) from all sources have ranged between 0.2kg in 2009 to the highest points of 83.3kg in 2005. U.S. net commercial imports of ivory (in kilograms) from wild sources have ranged between 1kg in 2004 and the highest point of 13kg in 2005. *See* Figure 12.

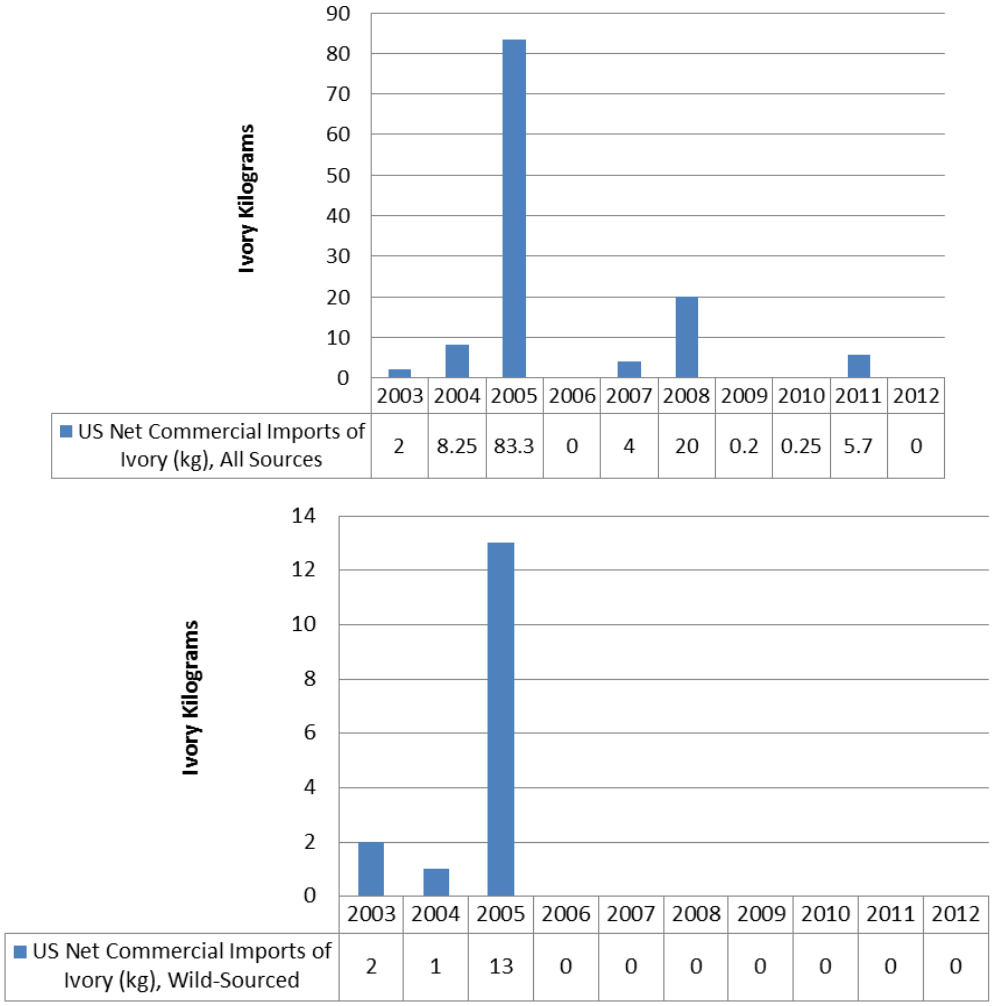


Figure 12: U.S. Net Commercial Imports of Ivory (kg) from All Sources and Wild-Sourced (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Totals were calculated for ivory items with a designated weight (ivory carvings, ivory pieces, ivory scraps, and tusks) globally and for US.

As Figure 12 shows U.S. imports of wild-sourced ivory for commercial purposes were extremely small over the period studied, and in fact were zero for the last seven of the ten years. Data on legal imports clearly does not reflect availability of ivory for sale in the United States. In fact, according to Stiles and Martin (2008), the U.S. is the second largest market for ivory.[266] The study

[266] D. Stiles & E. Martin, *The U.S.A's Ivory Markets—How Much a Threat to Elephants?*, 45 Pachyderm 67, 71 (July 2008–June 2009) [hereinafter "Stiles & Martin, *U.S.A.'s Ivory Markets*"].

recorded 24,004 ivory products in 657 outlets in sixteen U.S. cities.[267] The three cities with the largest number of products were New York City, San Francisco and Los Angeles with one-third of the items most likely post-1989 worked ivory,[268] meaning that it was most likely illegally imported or fraudulent in some way.

Commercial imports from range states: The top global gross[269] commercial wild-sourced imports between 2003 and 2012 were from the following African elephant range countries: South Africa (15,255 estimated elephants impacted by global gross commercial imports from South Africa), Botswana (9,553 estimated elephants impacted by global gross commercial imports from Botswana), Namibia (2,257 estimated elephants impacted by global gross commercial imports from Namibia), Zimbabwe (969 estimated elephants impacted by global gross commercial imports from Zimbabwe), among others. *See* Figure 13 and Table 10 below.

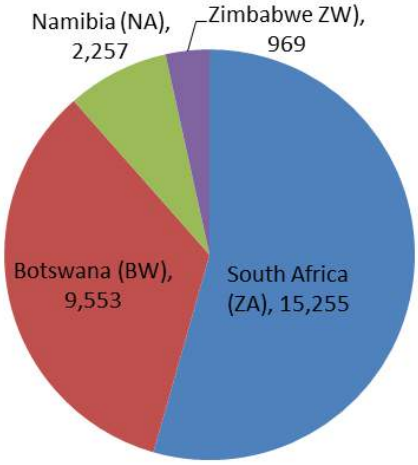


Figure 13: Total Estimated African Elephants Impacted by the Global Gross Wild-Sourced Commercial Imports of Elephants and their Parts from Range States, Top Countries (2003-2012)

Source: CITES Trade Database, "gross imports" search completed on 7 November, 2014, using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Search was conducted separately for all African elephant range states as exporters.

Table 10 offers a breakdown of the range countries imports from which represented the highest numbers of estimated African elephants impacted by wild-sourced commercial trade.

[267] Stiles & Martin, *U.S.A.'s Ivory Markets*..
[268] Stiles & Martin, *U.S.A.'s Ivory Markets*.
[269] In the CITES Trade Database, the user is prompted to select one of the following report types: gross exports, gross imports, net exports or net imports. In a gross trade output, the quantities reported by the exporter and importer are compared and the larger quantity is presented in the output. This type of output aims to give an estimate of the total number of items recorded in international trade (including exports and re-exports). When calculating imports and exports of specific countries, net data cannot be calculated because not all the necessary data is available. Only gross data is possible for specific countries. CITES Trade Database Guide.

Table 10: Global Gross Commercial Imports from South Africa, Namibia, Botswana, and Zimbabwe, Wild-Sourced (2003-2012)

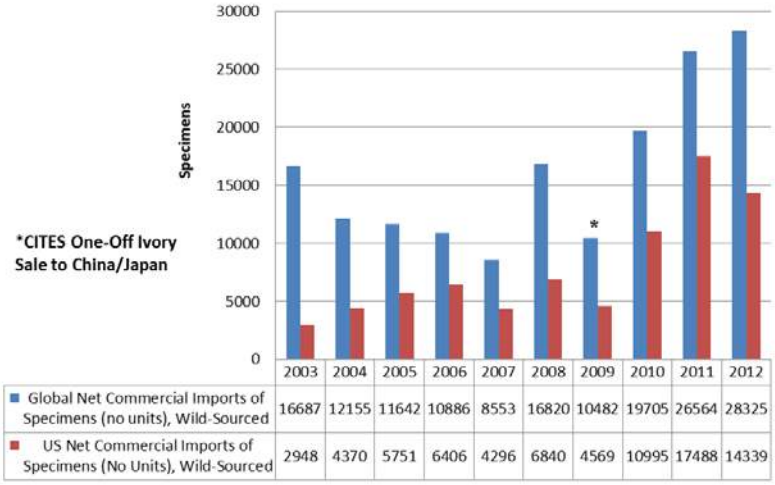
	Global Gross Imports of Wild-Sourced Elephant Parts for Commercial Purpose				
		South Africa	**Namibia**	**Botswana**	**Zimbabwe**
Global Gross Number of Imports	Ivory	101,536kg ÷ 6.66kg = 15,246 el.	15,005kg ÷ 6.66kg = 2,253 el.	43,170kg ÷ 6.66kg = 6,482 el.	3,823 ÷ 6.66kg = 574 el.
	Tusks	16 ÷ 2 = 8 el.	6 ÷ 2 = 3 el.	6,134÷ 2 = 3,067 el.	457 ÷ 2 = 229 el.
	Trophies	1,609 el.	1 el.	4 el.	159 el.
	Bodies	0	N/A	N/A	N/A
	Live	0	N/A	N/A	7
	Total Elephants	**16,863 el.**	**2,257 el.**	**9,553 el.**	**969 el.**

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and commercial purpose. Exporting countries selected included: South Africa, Namibia, Botswana, and Zimbabwe.

b. African elephant specimens in trade (commercial purpose)

Global imports: Of total global net imports of African elephant specimens between 2003-2012 for all purposes and from all sources (with no measurable units recorded), 185,829 African elephant specimens were imported for commercial purpose (66% of the total net imports with no measurable unit).

Based on the number of specimens in international trade, as Figure 14 illustrates, both global and U.S. net wild-sourced commercial specimen imports (no units) have grown substantially between 2003 and 2012, with a spike in growth following the 2009 CITES one-off sale of ivory. Although the 173 elephants estimated impacted by U.S. wild-sourced commercial imports account for only 0.6% (173 of the 28,253 elephants estimated impacted by *global* wild-sourced commercial trade), the U.S. is also responsible for a large number of skin imports. However, it is not possible to estimate how many elephants are represented by the skin trade based on the CITES Trade Database.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Commercial Imports of Specimens (no units), Wild-Sourced	16687	12155	11642	10886	8553	16820	10482	19705	26564	28325
US Net Commercial Imports of Specimens (No Units), Wild-Sourced	2948	4370	5751	6406	4296	6840	4569	10995	17488	14339

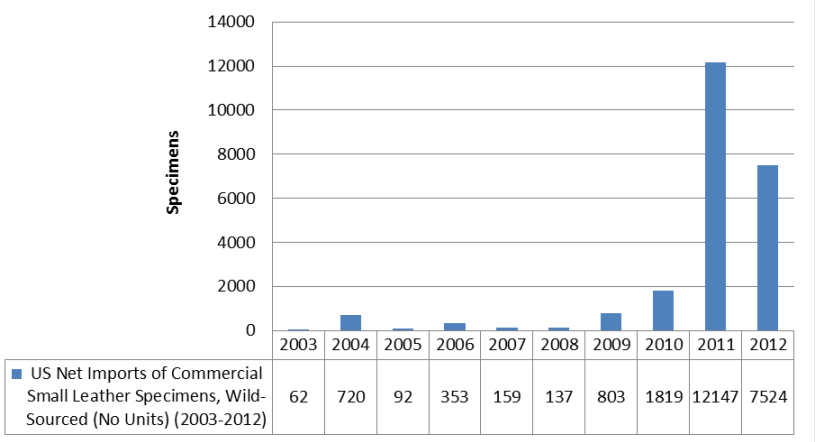
Figure 14: Global and U.S. Net Commercial Imports of African Elephant Specimens from Wild-Sources (No Units) (2003-2012)

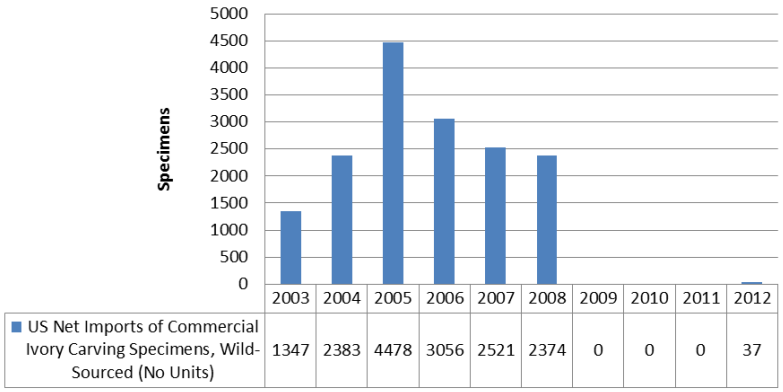
Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Totals were calculated globally and for US.

The top three items in terms of the number of global wild-sourced net commercial imports of specimens between 2003 and 2012 are as follows: small leather products (52,092 specimens), skins (30,860 specimens), and hair (21,981 specimens). Wild-sourced commercial small leather specimen imports reached the lowest points in 2008 at 1,342 specimens, and continued to rise to the highest points of 14,251 specimens in 2011, followed by 9,115 in 2012. Wild-sourced commercial skin specimen imports steadily increased between 2003 and 2009, then fell to 2,215 and grew again through 2012. Wild-sourced commercial hair specimen imports ranged between zero and nine until 2010 when 6,977 specimens were imported, the number then slightly fell in 2011 and rose to the highest point of 10,035 specimens in 2012.

U.S. imports: The U.S. imported 80,168 African elephant commercial specimens from all sources between 2003 and 2012, which is 43% of the total global net imported commercial specimens from all sources (185,798). Of these imports, U.S. imported 78,002 African elephant commercial specimens from wild sources, which is 48% of the total global net imported commercial specimens from wild sources (161,819).

The top three items in terms of numbers of U.S. net imports of commercial wild-sourced specimens between 2003 and 2012 are as follows: small leather products (23,816 specimens), ivory carvings (16,196 specimens), and skins (14,371 specimens). Net U.S. imports of wild-sourced small leather specimens made a substantial jump from 1,819 in 2010 to 12,147 in 2011, and then 7,524 specimens in 2012. In terms of ivory carvings, following 2008 there have been zero wild-sourced ivory carving imports into the U.S. for commercial purpose. Net imports of wild-sourced commercial skins into the U.S. have ranged between a low of 352 specimens in 2005 and a high of 3,556 specimens in 2008. *See* Figure 15.





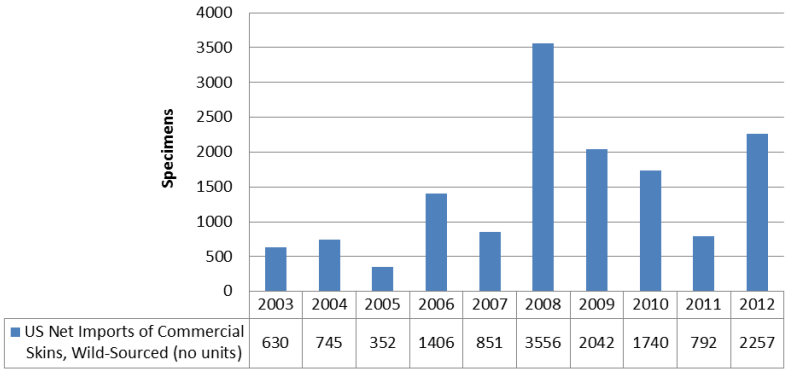


Figure 15: U.S. Net Imports of Commercial Leather Specimens, Ivory Carving Specimens, and Skins, Wild-Sourced (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Filtered for U.S. and for "blank" terms and graphs created for the top imported specimens: small leather products, ivory carvings, and skins.

c. Global and U.S. imports of African elephant skins

In addition to ivory, another major category of global imports are African elephant skins, skin pieces, unidentified products made of skin leather (small and large), and other leather products such as shoes. According to the CITES Trade Database, global net imports included 31,226 skins between 2003 and 2012. CITES defines each "skin" as a "substantially whole skin" and this equates to 31,226 elephants supplying this number of skins. This impact on elephants of the skin trade does not include the additional elephants killed to supply the other skin-type of imports over

the decade: 17,949 skin pieces; 53,057 small leather products; 4,822 large leather products; and 77 shoes. Of this trade, the U.S. net imports included 14,599 skins, so nearly half of the 31,226 global imports. If each skin imported is a whole skin, this equates to 14,599 elephants supplying this number of skins. Again, this impact on elephants of the skin trade does not include the additional elephants killed to supply the other skin-type of imports to the U.S. over the decade: 12,595 skin pieces; 24, 894 small leather products; 593 large leather products; and 61 shoes. *See* Table 9.

The number of African elephant skins imported to the U.S. is increasing. The number of skins imported in the first five years of the decade studied totaled 3,985, an average of 797 per year; whereas, the number imported in the last five years totaled 10,614, an average of 2,123 per year. Therefore, there was a more than two-fold increase in African elephant skin imports to the U.S. between 2008 and 2012 as compared to the previous five-year period. *See* Table 9.

Table 9: Global and U.S. Net Commercial Imports, All Sources: Leather Products, Shoes, Skin Pieces, and Skins (2003-2012)

Global Net Commercial Imports (All Sources)											
Term	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**TOTAL ALL YEARS**
leather products (large)	332	2648	167	530	500	199	17	28	114	287	**4822**
leather products (small)	10819	4088	3374	1853	1740	1343	2492	3627	14604	9117	**53057**
shoes	16	48	1	2	0	26	0	0	0	0	**77**
skin pieces	1618	546	1322	1654	1421	1775	1390	2018	2484	3721	**17949**
skins	1441	2879	2130	3501	2096	4431	5416	2432	3138	3762	**31226**
U.S. Net Commercial Imports (All Sources)											
Term	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**TOTAL ALL YEARS**
leather products (large)	56	15	4	36	71	44	8	19	107	233	**593**
leather products (small)	73	1298	95	393	165	153	850	1839	12481	7547	**24894**
shoes	16	42	1	2							**61**
skin pieces	527	419	827	1500	512	434	622	1750	2455	3549	**12595**
skins	631	745	352	1406	851	3556	2042	1957	792	2267	**14599**

Source: CITES Trade Database, net imports search completed in September 29, 2014, using the following terms: Loxodonta africana, year range 2003-2012, all sources, and commercial purpose. Terms selected included all leather products (leather products, skins, skin pieces, skin scraps, sides, and shoes). Filtered for "blank" units.

Similarly, between 2003 and 2007, the average annual square meters of skin products imported is 452 square meters (calculation: (240+139+612+897+372)/5 = 452m^2). However, between 2008 and 2012 the average annual square meters of skin product imported is 723 square meters

(calculation: (742 + 1725 + 555 + 592 + 0)/5 = 723m^2). This represents an increase of approximately 60%. Therefore net U.S. skin imports in terms of measurable units have also increased substantially since 2008. *See* Table 10.

Table 10:Global and U.S. Gross Commercial Imports, All Sources: Leather Products, Shoes, Skin Pieces, and Skins (meters squared) (2003-2012)

Global Net Commercial Imports (All Sources)												
Term	**Unit**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**TOTAL ALL YEARS**
leather products (large)	m2	0	0	0	0	0	625	03350	0644	0398	0	5017
leather products (small)	m2	0	0	0	0	0	0	0	02280	04576	0	6856
skin pieces	m2	147	0	392	49	0	1435	1231	380	303	15	3953
skins	m2	6200	2075	9012	3270	5158	4666	4062	1001	848	0	36293
TOTAL M^2	**m2**	**6347**	**2075**	**9404**	**3319**	**5158**	**6726**	**8643**	**4305**	**6125**	**15**	**52119**
U.S. Net Commercial Imports (All Sources)												
Term	**Unit**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**TOTAL ALL YEARS**
leather products (large)	m2	0	0	0	0	0	0425	0868	0	0	0	1293
leather products (small)	m2	0	0	0	0	0	0	0	0380	0310	0	690
skin pieces	m2	86	0	157	0	0	047	704	175	282	0	1451
skins	m2	154	139	455	897	372	270	153	0	0	0	2440
TOTAL M^2	**m2**	**240**	**139**	**612**	**897**	**372**	**742**	**1725**	**555**	**592**	**0**	**5874**

Source: CITES Trade Database, net imports search completed in September 29, 2014, using the following terms: Loxodonta africana, year range 2003-2012, all sources, and commercial purpose. Terms selected included all leather products (leather products, skins, skin pieces, skin scraps, sides, and shoes). Filtered for measurable units.

Zimbabwe and South Africa are the primary countries of origin of skins and skin products imported to the U.S. for commercial purposes (*see* Tables 11 and 12).

Table 11: U.S. Gross[270] Commercial Imports from 2003 to 2012 of Wild-Sourced Skin Products (no units)

Country of Export	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global	1219	1963	1194	3311	1581	4203	3631	5341	15365	20809
Zimbabwe	1087	963	727	2506	1251	3598	2864	3459	3058	5457
South Africa	98	937	461	660	319	574	81	397	165	302

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Terms selected included all leather products (skins, skin pieces, skin scraps, sides, and shoes). The United States was selected as the importing country. Search conducted separately for "All Countries", "Zimbabwe", and "South Africa." Filtered for "blank" units.

Note that for 2011 and 2012, it appears as though Zimbabwe and South Africa were not the primary suppliers of skin products to the United States. However, according to the CITES database although other countries served as exporters, Zimbabwe and South Africa were the countries of origin for all of the skins.

Table 12: U.S. Gross Commercial Imports, Wild-Sourced Skin Products (meters squared) (2003-2012)

Term	Units	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global	m2	240.3	139.0	612.2	896.8	371.8	740.0	1724.9	554.9	591.6	0
Zimbabwe	m2	61.0	0.0	0.0	130.0	0.0	0.0	0.0	0.0	0.0	0
South Africa	m2	179.3	139.0	612.2	766.8	371.8	740.0	1724.9	554.9	591.6	0

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and commercial purpose. Terms selected included all leather products (skins, skin pieces, skin scraps, sides, and shoes). The United States was selected as the importing country. Search conducted separately for "All Countries", "Zimbabwe", and "South Africa." Filtered for measurable units, pairs of shoes excluded.

According to data obtained from the U.S. Law Enforcement Management Information System (LEMIS), the following are some of the major U.S. importers of African elephant skins over the last five years:

- Kelly Larson Sales: http://www.kellylarsonsales.com/
- Mundo Exotico, Inc.: http://www.mundoexotico.com/
- African Game Industries: https://www.africangame.com/
- Rod Patrick: http://www.rodpatrickboots.com/
- American Western Trading Co.: [website not found]
- Tshabezi Safaris: http://www.tshabezi.com/
- Farhi International LLC: http://thefarhicollection.com/home.htm

The CITES Trade Database does not provide information on the exact source of the elephant product (i.e. natural death, culling, hunts, etc.) nor the year in which the elephant died. Elephant

[270] As explained in the methodology section of this analysis, when using the CITES database to determine imports into specified countries, only gross imports may be calculated (not net imports) because not all of the data necessary for the calculation is available.

skins possibly come from elephants that were culled and may be from recent culls or culls that occurred years ago and the skins were stockpiled. The USFWS has stated that culling is the "corner stone of Zimbabwe elephant management practices."[271] South Africa stopped culling elephants in 1995.[272] However, before then, the government of South Africa culled hundreds of elephants annually in Kruger National Park, and possesses large stockpiles of skins. Any U.S. imports of African elephant skin products sourced from South Africa are likely to come from these stockpiles.

It is clear that the U.S. is a substantial market for elephant skin and skin products.

2. Hunting Trophy Purpose

a. Estimated elephants in trade (hunting trophy purpose)

Global imports: The original analysis presented in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported global hunting trophy net imports from all sources is 15,518. The calculations are detailed below.

In terms of measurable units, net hunting trophy imports of ivory during that ten-year span included approximately 20,800 kg (20.8 metric tons), equivalent to at least 3,123 African elephants (calculation: 20,800kg ÷ 6.66kg = 3,123 elephants).[273] When this number of elephants is combined with the number of net trophy imports (7,687) and body imports (14) between the years 2003-2012, the total number of African elephants imported as hunting trophies in that ten-year time span is 10,824 (calculation: 3,123 + 7,687 + 14 = 10,824).

If combined with the number of elephants represented by all tusks imported for hunting purposes from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported for hunting trophy purposes is 15,518 (calculation: 3,123 + 4,694 + 7,687 +14 = 15,518). Almost all of net imports of African elephant specimens as hunting trophies are from wild-sourced elephants (15,439 elephants of 15,518 or 99.5%). *See* Table 13.

[271] USFWS, *Enhancement Finding for African Elephants Taken as Sport-hunted Trophies in Zimbabwe during 2014* (Jul. 22, 2014), available at http://www.fws.gov/international/pdf/enhancement-finding-July-2014-elephant-Zimbabwe.PDF.

[272] K. Lange, Desperate Measure: In Overcrowded Parks, Managers May Have to Resort to Shooting Elephants to Save Ecosystems, Nat'l Geographic, http://ngm.nationalgeographic.com/2008/09/elephant-management/lange-text (last visited Jan. 17, 2015).

[273] The total weight of net hunting trophy imports of ivory specimens (carvings, pieces, scraps, and tusks) for all purposes between 2003 and 2012 is 20,800kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, the number of African elephants' represented by that total weight is 3,123.

Table 13: Global Net Hunting Trophy Imports, All Sources and Wild-Sourced (2003-2012)

Global Net Hunting Trophy Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
35,000	20,800 kg ÷ 6.66kg (avg. weight per tusk) = 3,123 elephants	9,388 (no unit) ÷ 2 (number of tusks per elephant) = 4,694 elephants	7,687 trophies = 7,687 elephants	14 bodies = 14 elephant	n/a	15,518
Global Net Hunting Trophy Imports from 2003 to 2012 (*wild* sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
34,806	20,783 kg ÷ 6.66kg (avg. weight per tusk) = 3,121 elephants	9,350 (no unit) ÷ 2 (number of tusks per elephant) = 4,675 elephants	7,629 trophies = 7,629 elephants	14 bodies = 14 elephant	n/a	15,439

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and hunting trophy purpose.

As Figure 16 below illustrates following 2008 and the announcement of the CITES one-off sale that took place in 2009, there was a steady incline through 2012. The number of global net imports of ivory (in kilograms) dramatically increased from 21.5kg in 2008 to 11,868kg in 2012. Prior to 2008, there are almost no recorded hunting trophy ivory imports.

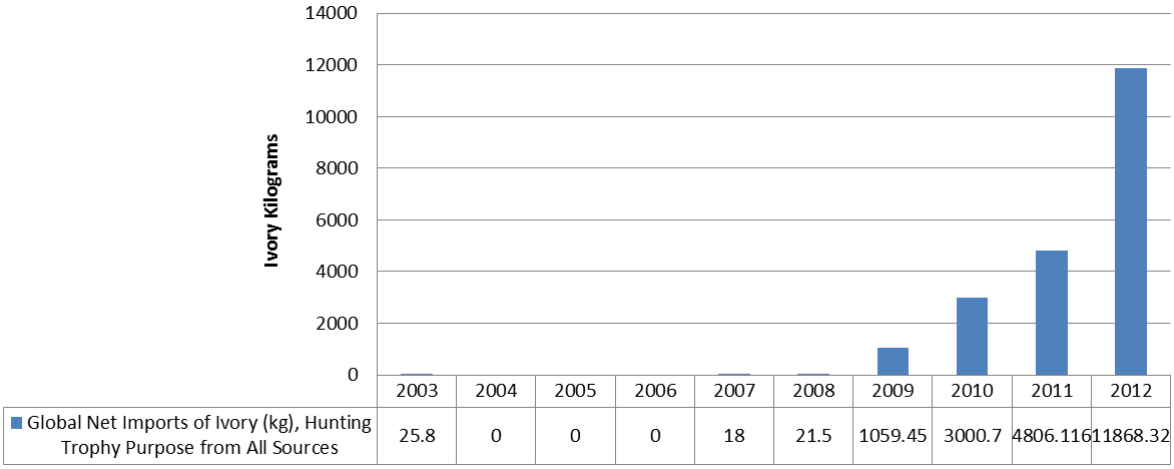


Figure 16: Global Net Imports of Ivory (kg), Hunting Trophy Purpose, All Sources (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and hunting trophy purpose. Filtered for measurable units, specifically ivory carvings, pieces, and scraps, as well as tusks (in kilograms).

U.S. imports: The analysis in this Petition estimates that between 2003 and 2012 the total of African elephants reflected by the reported U.S. hunting trophy net imports from all sources is

7,500. The calculations are detailed below.

The U.S. imported (from all sources) 10,443 kg[274] of ivory equivalent to 1,568[275] African elephants (calculation: 10,443kg ÷ 6.66 kg = 1,568 elephants). When this number of elephants is combined with the number of U.S. net trophy imports (3,997) from all sources between the years 2003-2012, the total number of African elephants imported by U.S. as hunting trophies is 5,568 (calculation: 1,568 + 3,997 = 5,565).

If combined with the number of elephants represented by all tusks imported by the U.S. for hunting purposes from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported by the U.S. for hunting trophy purposes is 7,500 (calculation: 1,568 + 1,935 + 3,997 = 7,500 elephants). Of these imports, almost all of the net U.S. imports for hunting trophy purposes were from wild-sourced elephants (7,461 elephants of 7,500 or 99.5%). *See* Table 14.

Table 14: U.S. Net Hunting Trophy Imports, All Sources and Wild-Sourced (2003-2012)

U.S. Net Hunting Trophy Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
16,408	10,443 kg ÷ 6.66kg (avg. weight per tusk) = 1,568 elephants	3,869 (no unit) ÷ 2 (number of tusks per elephant) = 1,935 elephants	3,997 trophies = 3,997 elephants	n/a	n/a	7,500
U.S. Net Hunting Trophy Imports from 2003 to 2012 (*wild* sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
16,243	10,429 kg ÷ 6.66kg (avg. weight per tusk) = 1,580 elephants	3,850 (no unit) ÷ 2 (number of tusks per elephant) = 1,925 elephants	3,956 trophies = 3,956 elephants	n/a	n/a	7,461

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and hunting trophy purpose. Filtered for US.

As Figure 17 illustrates, U.S. net imports of hunting trophy ivory (in kilograms) from all sources were zero prior between 2003 and 2008. However, starting in 2009 when CITES permitted a one-off sale of ivory to China and Japan, there has been a steady incline of hunting trophy ivory imports. The U.S. net imports of hunting trophy ivory (in kilograms) from all sources went from zero kg in 2008 to 6,015kg in 2012. These U.S. imports in 2012 represent almost half of the global net imports of hunting trophy ivory in 2012 (11,868kg).

[274] Calculated by adding up the U.S. net import weight (in kilograms) of ivory carvings, ivory pieces, ivory scraps, and tusks imported for hunting trophy purposes from all sources between 2003 and 2012.
[275] The total weight of ivory specimens (carvings, pieces, scraps, and tusks) imported by the U.S. as hunting trophies between 2003 and 2012 is equal to 10,443 kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg, the number of African elephants' represented by that total weight is 1,582.

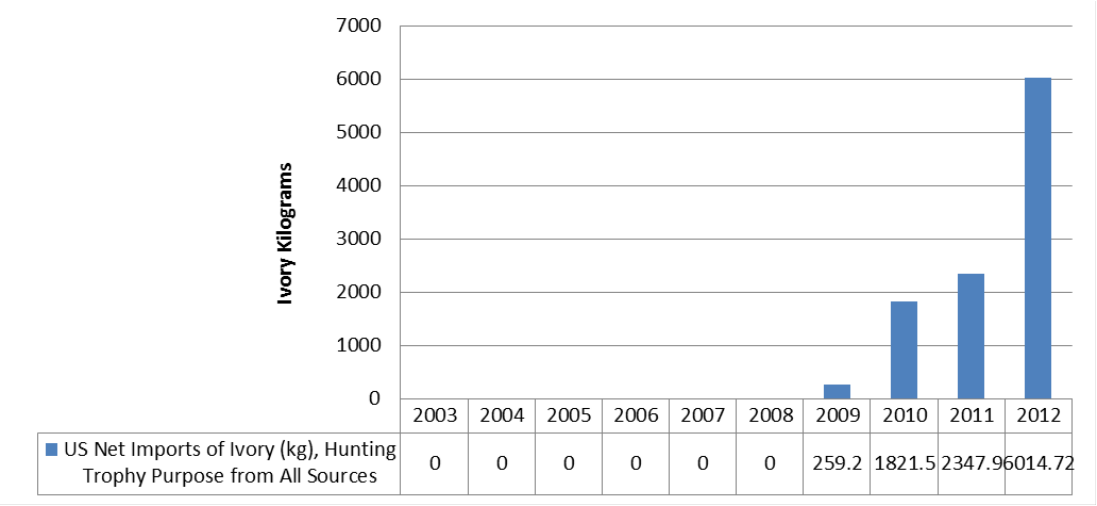


Figure 17: U.S. Net Imports of Ivory (kg), Hunting Trophy Purpose, All Sources (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and hunting trophy purpose. Filtered for U.S. and measurable units, specifically ivory carvings, pieces, and scraps, as well as tusks (in kilograms).

Hunting trophy imports from range states: The top global gross hunting trophy imports between 2003 and 2012 were from the following African elephant range countries: Zimbabwe (7,238 estimated elephants), Botswana (3,284 estimated elephants), South Africa (1,892 estimated elephants), Namibia (876 estimated elephants), Mozambique (712 estimated elephants), Cameroon (612 estimated elephants), Tanzania (889 estimated elephants), and Zambia (129 estimated elephants). *See* Table 15 and Figure 18.

Table 15: Global Gross Imports of Wild-Sourced Elephant Parts for Hunting Trophy Purpose (2003-2012)

Global Gross Imports of Wild-Sourced Elephant Parts for Hunting Trophy Purpose (2003-2012)									
		Zimbabwe	**Botswana**	**South Africa**	**Tanzania**	**Namibia**	**Mozambique**	**Cameroon**	**Zambia**
Global Gross Number of Imports	Ivory	20,246kg ÷ 6.66 = 3,040 el.	200kg ÷ 6.66 = 30 el.	93kg ÷ 6.66 = 14 el.	N/A	N/A	206kg ÷ 6.66 = 31 el.	33kg ÷ 6.66 =5 el.	N/A
	Tusks	3,168 ÷ 2 = 1,584 el.	2,489 ÷ 2 = 1,245 el.	1816 ÷ 2 = 908 el.	973÷ 2 = 487	778 ÷ 2 = 389 el.	662 ÷ 2 = 331 el.	340 ÷ 2 = 170 el.	182 ÷ 2 = 91 el.
	Trophies	2,614 el.	2002 el.	966 el.	888 el.	487 el.	350 el.	435 el.	38 el.
	Bodies	N/A	7	4 el.	1	N/A	N/A	2 el.	N/A
	Live	N/A	N/A	0	N/A	N/A	N/A	N/A	N/A
	Total Elephants	**7,238 el.**	**3,284 el.**	**1,892 el.**	**1,376 el.**	**876 el.**	**712 el.**	**612 el.**	**129 el.**

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Exporting countries selected included: Zimbabwe, Botswana, South Africa, Tanzania, Namibia, Mozambique, Cameroon, and Zambia.

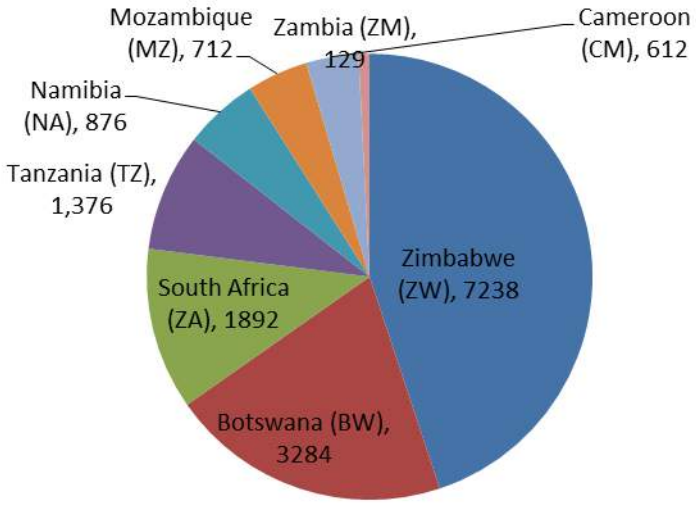


Figure 18: Total Estimate African Elephants Impacted by the Gross Wild-Sourced Hunting Trophy Imports of Elephants and their Parts from Range States, Top Countries (2003-2012)

Source: CITES Trade Database, "gross imports" search completed on 7 November, 2014, using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Search was conducted separately for all African elephant range states as exporters.

In terms of the role the U.S. has in gross hunting trophy imports from African elephant range states, the highest number of elephants imported between 2003 and 2012 are as follows: Zimbabwe (3,711 estimated elephants), Botswana (1,487 estimated elephants), South Africa (1,286 estimated elephants), Tanzania (337 estimated elephants), Namibia (316 estimated elephants), among others. *See* Table 16 and Figure 19.

Table 16: U.S. Gross Imports of Elephant Parts for Hunting Trophy Purpose, Wild-Sourced (2003-2012)

U.S. Gross Imports of Wild-Sourced Elephant Parts for Hunting Trophy Purpose (2003-2012)						
		Zimbabwe	**Botswana**	**South Africa**	**Tanzania**	**Namibia**
U.S. Gross Number of Imports	Ivory	10,403kg ÷ 6.66 = 1,562 el.	N/A	N/A	N/A	N/A
	Tusks	1,211 ÷ 2 = 606 el.	1,003 ÷ 2 = 502 el.	853 ÷ 2 = 427 el.	N/A	266 ÷ 2 = 133 el.
	Trophies	1,543 el.	985 el.	859 el.	337 el.	183 el.
	Bodies	N/A	N/A	N/A	N/A	N/A
	Live	N/A	N/A	N/A	N/A	N/A
	Total Elephants	**3,711 el.**	**1,487 el.**	**1,286 el.**	**337 el.**	**316 el.**

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Exporting countries selected included: Zimbabwe, Botswana, South Africa, Tanzania, and Namibia. Filtered for U.S. as importer.

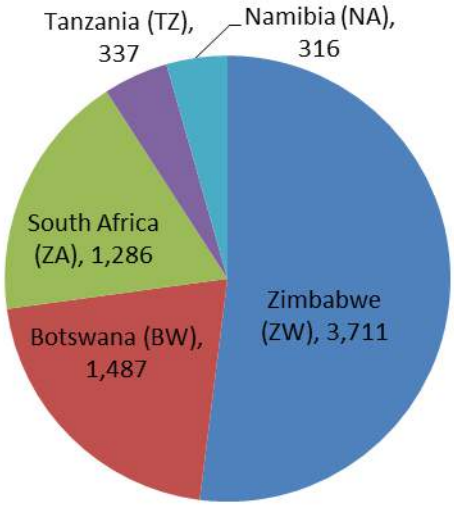


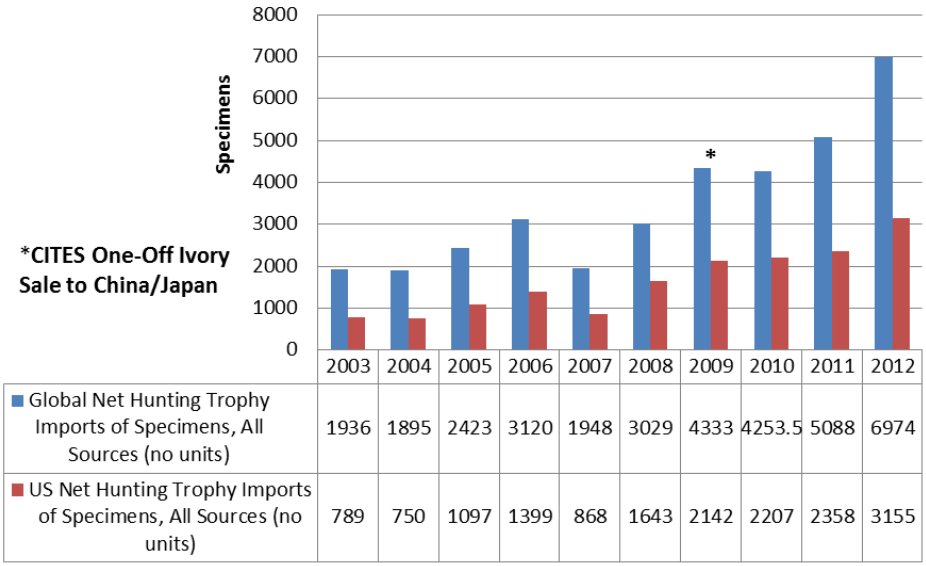
Figure 19: Total Estimated African Elephants Impacted by Gross U.S. Wild-Sourced Hunting Trophy Imports of Elephants and their Parts from Range States between 2003 and 2012, Top Countries

Source: CITES Trade Database, "gross imports" search completed on 7 November, 2014, using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Search was conducted separately for all African elephant range states as exporters. Results filtered for gross imports into U.S.

b. African elephant specimens in trade (hunting trophy purpose)

Global imports: Of total global net imports traded between 2003-2012 for all purposes (with no measurable units recorded), 35,000 African elephant specimens were imported for hunting trophy purposes (12% of 281,428 global net specimen imports with no measurable unit).

As Figure 20 illustrates, global net hunting trophy imports of specimens from all sources (no measurable unit recorded) have grown substantially between 2003 and 2012 and the U.S. net hunting trophy imports have steadily increased over the same time period. Global hunting trophy imports of specimens from all sources have steadily increased since 2009, reaching a high of 6,974 specimen imports in 2012 (compared to the lowest number of hunting trophy specimen imports in 2004 of 1,895).

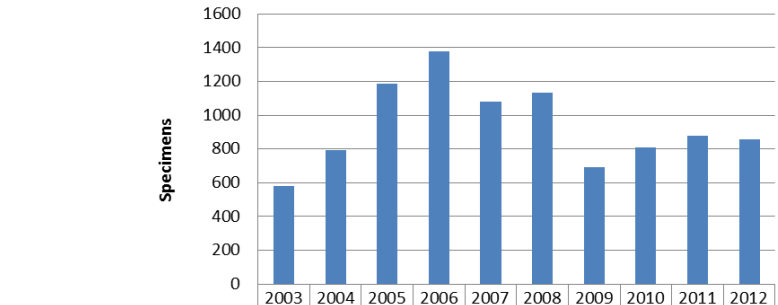


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Hunting Trophy Imports of Specimens, All Sources (no units)	1936	1895	2423	3120	1948	3029	4333	4253.5	5088	6974
US Net Hunting Trophy Imports of Specimens, All Sources (no units)	789	750	1097	1399	868	1643	2142	2207	2358	3155

Figure 20: Global and U.S. Net Hunting Trophy Imports of African Elephant Specimens, All Sources (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and hunting trophy purpose. Totals were calculated globally and just for US.

The top three items in terms of numbers of global hunting trophy imports of specimens from all sources between 2003 and 2012 are as follows: tusks (9,387 specimens), trophies (7,687 specimens), and skin pieces (3,831 specimens). Global hunting trophy imports of tusks from all sources have been in decline since the highest point of 1,376 imports in 2006 and have remained in the eight hundred import range between 2010 and 2012. Global imports of hunting trophies from all sources have ranged between the lowest number in 2003 (612) and the highest in 2009 (1,145); there has been a general decline since 2009 in the number of global imports. Finally, global imports of hunting trophy skin pieces reached their lowest point with 46 specimens imported from all sources in 2007, but have been steadily increasing with the highest imports of 982 recorded in 2012. *See* Figure 21.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Global Net Imports of Hunting Trophy Tusks, All Sources (no units)	583	794	1186	1376	1081	1135	690	808.5	878	856

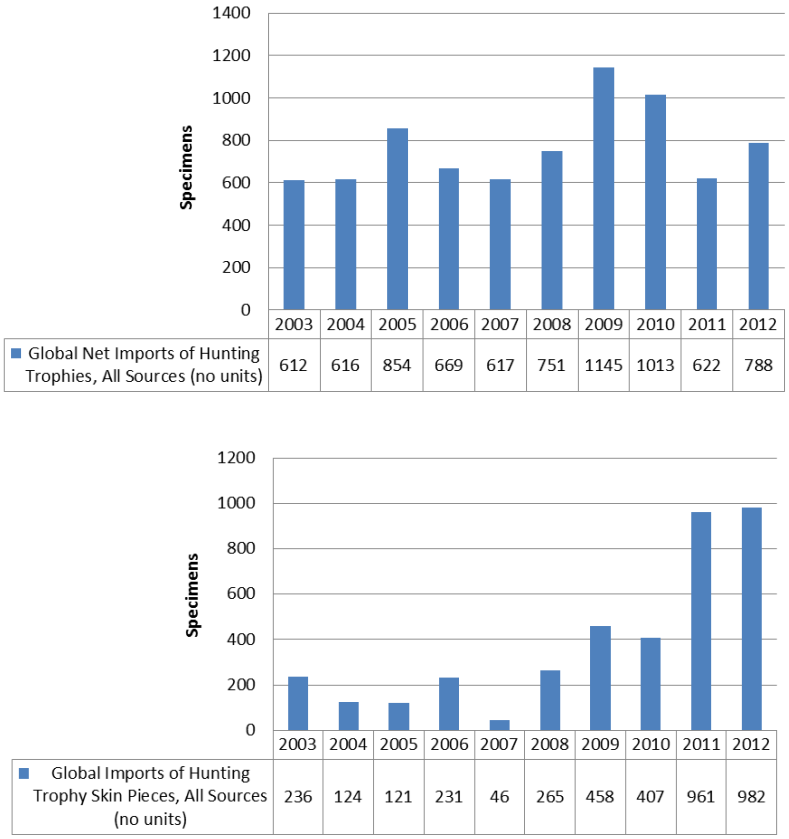


Figure 21: Global Net Imports of Hunting Trophy Tusks, Trophies, and Skin Pieces, All Sources (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and hunting trophy purpose. Filtered for "blank" terms and graphs created for the top imported global specimens: tusks, trophies, and skin pieces.

U.S. imports: Of the 35,000 specimens imported globally between 2003 and 2012 from all sources for hunting trophy purposes, the U.S. imported 16,408 specimens, which is 47% of the total. As Figure 13 illustrates, U.S. net imports of hunting trophy specimens from all sources have increased steadily over the decade analyzed for this Petition. U.S. net imports of hunting trophy specimens from wild sources closely follow this same trend because almost all of the imports were wild-sourced. *See* Figure 22.

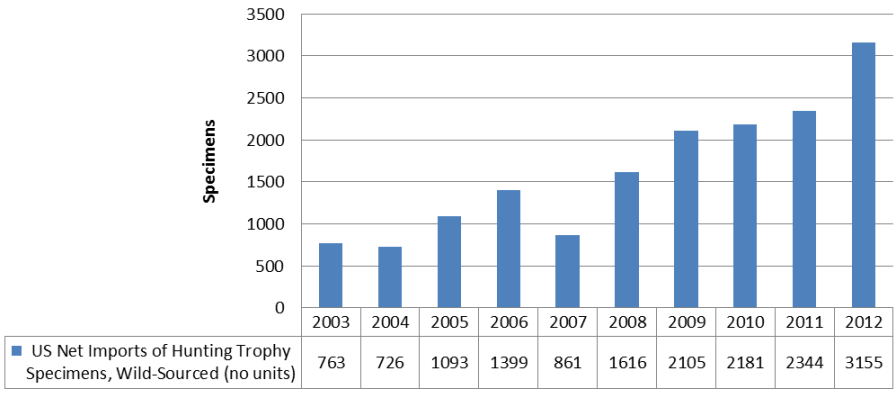
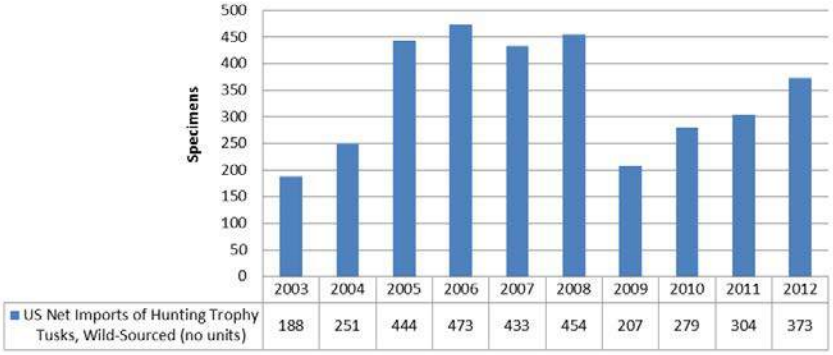


Figure 22: U.S. Net Hunting Trophy Imports of Specimens, Wild-Sourced (no units) (2003-

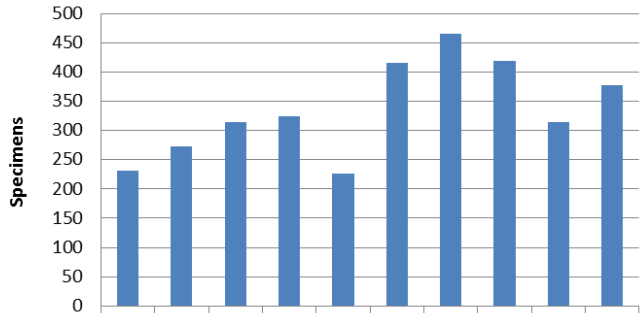
2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and hunting trophy purpose. Filtered for U.S. and "blank" terms

The top three items in terms of numbers of U.S. net imports of wild-sourced hunting trophy specimens between 2003 and 2012 are as follows: tusks (3,406 specimens, trophies (3,364 specimens, and skin pieces (1,706 specimens). U.S. imports of hunting trophy tusks between 2003 and 2012 reached a high in 2006 with 473 specimens imported. That number dropped to 207 specimens in 2009 but has been steadily increasing up to 373 specimens in 2012. U.S. net imports of wild-sourced hunting trophies reached the lowest point of the decade studied in 2007 with 226 imports and the highest point in 2009 with 416 imports. U.S. net imports of wild-sourced hunting trophy skin pieces have been generally on an upward trend between 2003 and 2010, ranging between 19 imports in 2007 and 386 imports in 2012. *See* Figure 23



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
US Net Imports of Hunting Trophy Tusks, Wild-Sourced (no units)	188	251	444	473	433	454	207	279	304	373



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
US Net Imports of Hunting Trophies, Wild-Sourced (no units)	232	273	314	325	226	416	466	419	315	378

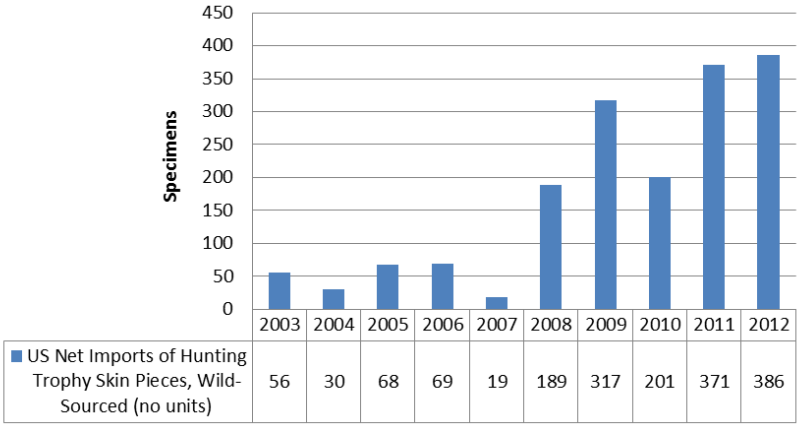


Figure 23: U.S. Net Imports of Hunting Trophy Tusks, Trophies, and Skin Pieces (Wild-Sourced) (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and hunting trophy purpose. Filtered for U.S. and "blank" terms and graphs created for the top imported specimens: tusks, trophies, and skin pieces.

3. Personal Purpose

c. Estimated elephants in trade (personal purpose)

Global imports: The original analysis presented in this Petition estimates that between 2003 and 2012 the total number of African elephants reflected by the reported global net personal imports from all sources is 3,105. The number of African elephants reflected by the reported global net personal imports from wild sources is 2,652.

In terms of measurable units, net personal purpose imports of ivory during that year span included approximately 9,257 kg (9.2 metric tons), equivalent to at least 1,390 African elephants (calculation: 9,257 ÷ 6.66 = 1,390 elephants).[276] When this number of elephants is combined with the number of net personal purpose trophy imports (846), body imports (11), and live imports (11) between the years 2003-2012; the total number of African elephants imported for personal purposes in that time span is 2,258 (calculation: 1,390 + 846 + 11 + 11 = 2,258 elephants).

If combined with the number of elephants represented by net imports of tusks for personal purposes from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported is 3,105 (calculation: 1,390 + 847 + 846 + 11 + 11 = 3,105 elephants). Almost all of the net imports of African elephant specimens for personal purposes were from wild sourced elephants (2,652 elephants of 3,105 or 85%). *See* Table 17.

[276] The total weight of net personal imports of ivory specimen (carvings, pieces, scraps, and tusks) for all purposes between 2003 and 2012 is 9,257kg. Using the standard of the average weight of two tusks of one elephants' as 6.66kg, the number of African elephants' represented by that total weight is 1,390.

Table 17: Global Net Personal Imports from 2003 to 2012 (all sources and wild sources)

Global Net Personal Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
49,390	9,257 kg ÷ 6.66kg (avg. weight per tusk) = 1,390 elephants	1,693 (no unit) ÷ 2 (number of tusks per elephant) = 847 elephants	846 trophies = 846 elephants	11 bodies = 11 elephants	11 live = 11 elephants	3,105
Global Net Personal Imports from 2003 to 2012 (*wild* sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
28,048	7,826 kg ÷ 6.66kg (avg. weight per tusk) = 1,175 elephants	1,254 (no unit) ÷ 2 (number of tusks per elephant) = 627 elephants	840 trophies = 840 elephants	9 bodies = 9 elephants	1 live = 1 elephant	2,652

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and personal purpose.

Global imports of ivory (in kilograms) for personal purposes from all sources have spiked to their highest points in 2011 (3,433kg) and 2012 (3,367kg). This is a significant increase compared to 31kg of ivory imported for personal purpose in 2006. However, when one reviews wild-sourced personal purpose ivory (kg) imports between 2003 and 2012, the ivory imported globally for personal purposes was only 160kg in 2011 and 249 in 2012. *See* Figure 24.

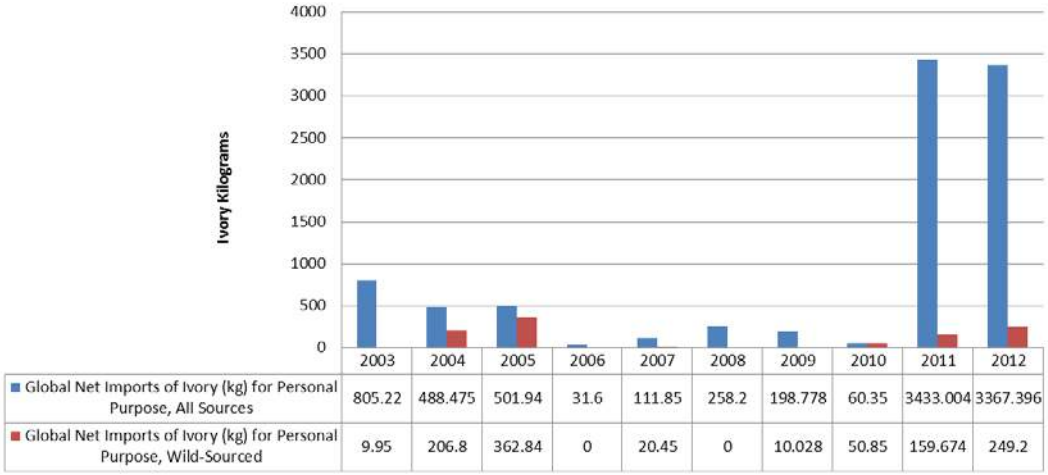


Figure 24: Global Net Imports of Ivory (kg) for Personal Purpose, All Sources and Wild Sources (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and personal purpose. Filtered for measurable units, specifically ivory carvings, pieces, and scraps, as well as tusks (in kilograms).

U.S. imports: The analysis presented in this Petition estimates that between 2003 and 2012 the

total of African elephants reflected by the reported U.S. net personal imports from all sources is 228. The number of African elephants reflected by the reported U.S. net personal imports from wild sources is 69.

The U.S. imported 18 kg[277] of all-source ivory equivalent to 3[278] African elephants (calculation: 18 ÷ 6.66 = 3 elephants). When this number of elephants is combined with the number of U.S. net personal purpose trophy imports (116), body imports (1), and live imports (n/a) from all sources between the years 2003-2012, the total number of African elephants imported by U.S. for personal purposes is 120 (calculation: 3 + 116 + 1 = 120).

If combined with the number of elephants represented by net U.S. imports of tusks for personal purposes from 2003-2012 without an indicated measurable unit such as kilograms, the total number of African elephants imported by the U.S. is 228 (calculation: 3 + 108 + 116 + 1 = 228 elephants). Of this total, 30% of the net U.S. imports were from wild-sourced elephants (69 of 228 elephants). *See* Table 18.

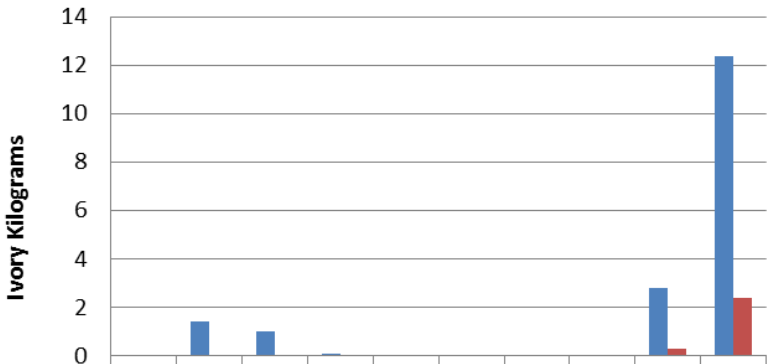
Table 18: U.S. Net Personal Imports, All Sources and Wild-Sourced (2003-2012)

U.S. Net Personal Imports from 2003 to 2012 (all sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
22,164	18 kg ÷ 6.66kg (avg. weight per tusk) = 3 elephants	215 ÷ 2 (number of tusks per elephant)= 108	116 trophies = 116 elephants	1 bodies = 1 elephant	n/a	228
U.S. Net Personal Imports from 2003 to 2012 (*wild* sources)						
All Specimens	**Ivory kg**	**Tusk Specimens**	**Trophies**	**Bodies**	**Live**	**Total Elephants**
11,659	3 kg ÷ 6.66kg (avg. weight per tusk) = n/a elephants	138 ÷ 2 (number of tusks per elephant) = 69	n/a	n/a	n/a	69

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and personal purpose.

U.S. net personal imports of ivory (in kilograms) from all sources was minimal between 2003 and 2010, ranging between 0.05kg and 1.4kg. However, the imports increased to their highest recorded point in 2012, at 12.36kg. Wild-sourced personal imports of ivory have remained lower, with the highest imports in 2012 at 2.36kg. *See* Figure 25.

[277] Calculated by adding the U.S. net import weight (in kilograms) of ivory carvings, ivory pieces, ivory scraps, and tusks imported for commercial purposes from all sources between 2003 and 2012.
[278] The total weight of ivory specimens (carvings, pieces, scraps, and tusks) imported by U.S. for personal purposes between 2003 and 2012 is equal to 18 kg. Using the standard of the average weight of an elephants' two tusks as 6.66kg the number of African elephants' represented by that total weight is 3.



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
US Net Personal Imports of Ivory (kg), All Sources	0	1.4	1	0.05	0	0	0	0	2.79	12.36
US Net Personal Imports of Ivory (kg), Wild-Sourced	0	0	0	0	0	0	0	0	0.29	2.36

Figure 25: U.S. Net Personal Purpose Imports of Ivory (kg), All Sources and Wild-Sourced (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources and wild-sourced, and personal purpose. Filtered for U.S. and measurable units, specifically ivory carvings, pieces, and scraps, as well as tusks (in kilograms).

Personal purpose imports from range states: The top global gross personal purpose imports between 2003 and 2012 were from the following African elephant range countries: Zimbabwe (5,810 estimated elephants), South Africa (518 estimated elephants), Tanzania (231 estimated elephants), Cameroon (127 estimated elephants), Botswana (93 estimated elephants), Mozambique (60 estimated elephants), Namibia (53 estimated elephants), and Gabon (50 estimated elephants), among others. *See* Tables 19 and 20; Figure 26.

Table 19: Global Gross Personal Imports of African Elephant Parts, Wild-Sourced (2003-2012)

Global Gross Imports of Wild-Sourced Elephant Parts for Personal Purpose (2003-2012)					
		Zimbabwe	**South Africa**	**Tanzania**	**Cameroon**
Global Gross Number of Imports	Ivory	6,720kg ÷ 6.66kg = 1,009 el.	N/A	N/A	N/A
	Tusks	9,273 ÷ 2 (tusks per elephant) = 4,637 el.	478 ÷ 2 (tusks per elephant) = 239 el.	18 ÷ 2 (tusks per elephant) = 9	16 ÷ 2 (tusks per elephant) = 8 el.
	Trophies	164 el.	80 el.	222 el.	119 el.
	Bodies	N/A	8 el.	N/A	N/A
	Live	N/A	0	N/A	N/A
	Total Elephants	**5,810 el.**	**327 el.**	**231 el.**	**127 el.**

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and personal purpose. Exporting countries selected included: Zimbabwe, South Africa, Tanzania, and Cameroon.

Table 20: Global Gross Personal Imports of African Elephant Parts, Wild-Sourced (2003-2012)

Global Gross Imports of Wild-Sourced Elephant Parts for Personal Purpose (2003-2012)					
		Botswana	**Mozambique**	**Namibia**	**Gabon**
Global Gross Number of Imports	Ivory	N/A	N/A	N/A	5kg ÷ 6.66kg =1 el.
	Tusks	52÷ 2 (tusks per elephant) = 26 el.	N/A	32 ÷ 2 (tusks per elephant) = 16 el.	95 ÷ 2 (tusks per elephant) = 48 el.
	Trophies	66 el.	60 el.	37 el.	1 el.
	Bodies	1 el.	N/A	N/A	N/A
	Live	N/A	N/A	N/A	N/A
	Total Elephants	**93 el.**	**60 el.**	**53 el.**	**50 el.**

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Exporting countries selected included: Botswana, Mozambique, Namibia, and Gabon. Filtered for U.S. as importer.

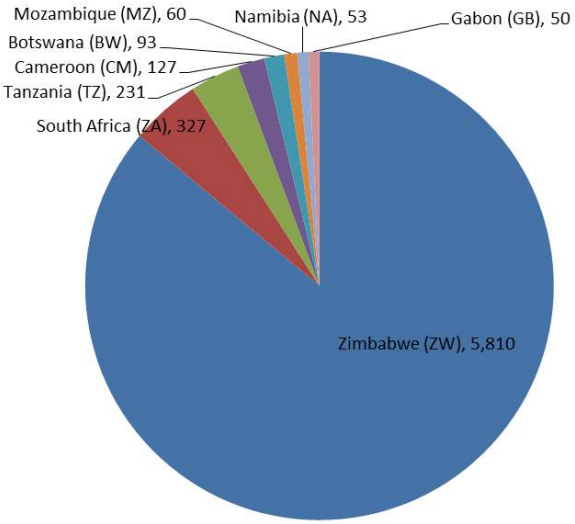


Figure 26: Total Estimated African Elephants Impacted by the Global Gross Wild-Sourced Personal Purpose Imports of Elephants and their Parts from Range States between 2003 and 2012, Top Countries

Source: CITES Trade Database, "gross imports" search completed on 7 November, 2014, using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and personal purpose. Search was conducted separately for all African elephant range states as exporters.

In terms of the role the U.S. has in gross personal purpose imports from African elephant range states, the highest number of elephants imported between 2003 and 2012 are as follows: South Africa (85 estimated elephants), Zimbabwe (65 estimated elephants), Botswana (13 estimated elephants), Namibia (11 estimated elephants), Cameroon (2 estimated elephants), among others. *See* Table 21.

Table 21: U.S. Gross Imports of Wild-Sourced Elephant Parts for Personal Purpose (2003-2012)

U.S. Gross Imports of Wild-Sourced Elephant Parts for Personal Purpose (2003-2012)						
		South Africa	**Zimbabwe**	**Botswana**	**Namibia**	**Cameroon**
U.S. Gross Number of Imports	Ivory	N/A	N/A	N/A	N/A	N/A
	Tusks	83 ÷ 2 (tusks per elephant) = 42 el.	41 ÷ 2 (tusks per elephant) = 21 el.	2 ÷ 2 (tusks per elephant) = 1 el.	2 ÷ 2 (tusks per elephant) = 1 el.	2 ÷ 2 (tusks per elephant) = 1 el.
	Trophies	43 el.	44 el.	12 el.	10 el.	N/A
	Bodies	N/A	N/A	N/A	N/A	N/A
	Live	N/A	N/A	N/A	N/A	N/A
	Total Elephants	**85 el.**	**65 el.**	**13 el.**	**11 el.**	**2 el.**

Source: CITES Trade Database, search completed in January 16, 2015 using the following terms: Loxodonta africana, year range 2003-2012, wild sources, and hunting trophy purpose. Exporting countries selected included: South Africa, Zimbabwe, Botswana, Namibia, and Cameroon. Filtered for U.S. as importer.

a. African elephant specimens in trade (personal purpose)

Global imports: Of total global net imports traded between 2003 and 2012 for all purposes (with no measurable units recorded), 49,390 African elephant specimens were imported from all sources and for personal purpose (18% of the total specimens imported for all purposes and from all sources). In terms of global net personal imports from wild sources, 28,048 specimens were imported between 2003 and 2012.

As Figure 27 illustrates, global net personal imports from all sources (no measurable unit recorded) have grown steadily between 2003 and 2012 (except for a large spike in 2005). U.S. personal imports have not shown a similar increase with respect to non-measurable units. Global personal imports experienced a spike in growth following the 2008/2009 CITES one-off sale of ivory.

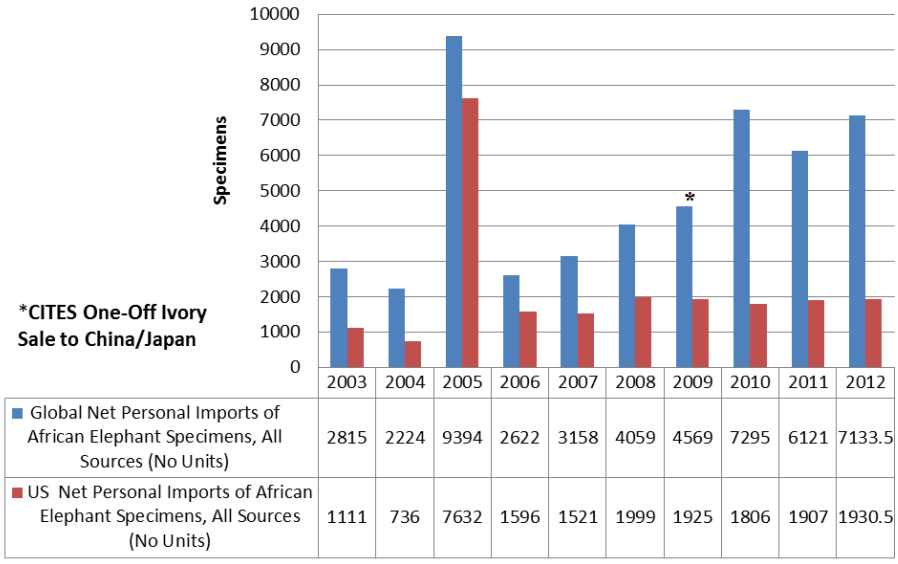
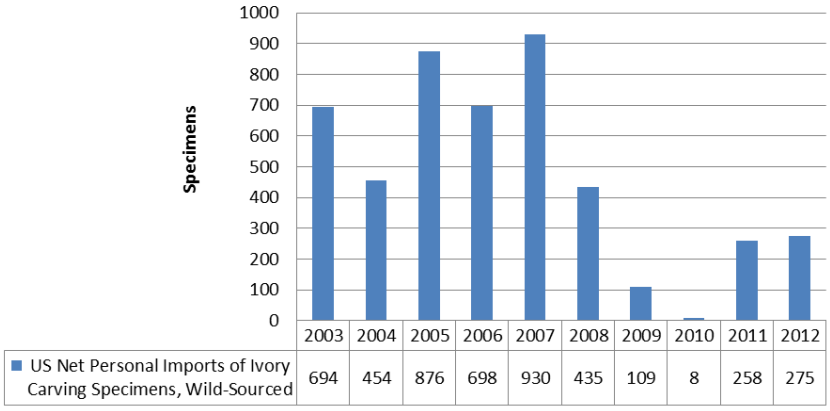


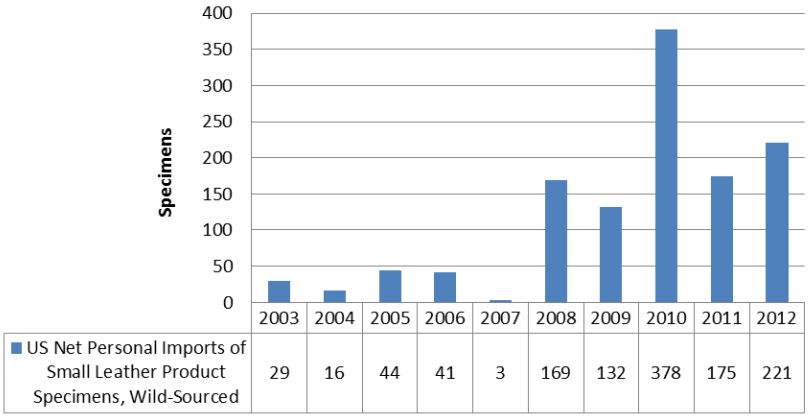
Figure 27: Global and U.S. Net Personal Imports of African Elephant Specimens, All Sources (No Units) (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, all sources, and personal purpose. Totals were calculated globally and for US.

U.S. imports: Of this trade U.S. imported 22,164 African elephant specimens between 2003 and 2012 for personal purpose (without a measurable unit recorded) which is 45% of the total global net imported personal specimens. It also imported 11,659 wild-sourced African elephant specimens between 2003 and 2012.

The top three items in terms of numbers of U.S. net personal imports of wild-sourced specimens between 2003 and 2012 are as follows: ivory carvings (4,737 specimens), small leather products (1,208 specimens), and feet (935 specimens). U.S. net personal imports of wild-sourced ivory carvings have declined since 2007 from the highest point of 930 specimens imported to 275 imports in 2012. U.S. net personal imports of wild-sourced small leather products have generally increased, with the highest imports of 378 specimens in 2010. Finally, U.S. net personal imports of wild-sourced feet specimens were minimal between 2003 and 2008 (ranging between zero and 12) and reached a high of 254 specimens in 2010. *See* Figure 28.





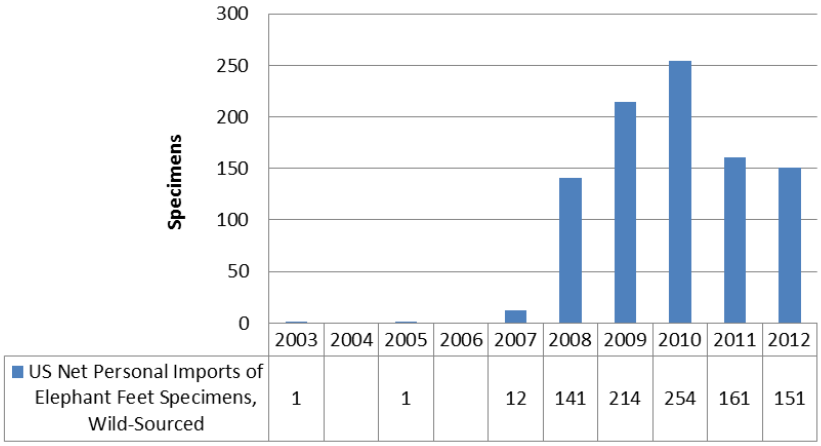


Figure 28: U.S. Net Personal Imports of Ivory Carvings, Small Leather Products, and Feet Specimens, Wild-Sourced (2003-2012)

Source: CITES Trade Database, search completed on September 29th, 2014 using the following terms: Loxodonta africana, year range 2003-2012, wild-sourced, and personal purpose. Filtered for U.S. and "blank" terms and graphs created for the top imported specimens: ivory carvings, small leather products, and feet specimens.

b. International Legal Trade in African Elephants and their Parts by Source Country

There are thirty-seven African elephant range States.[279] According to the CITES Trade Database, imports of African elephants and their parts have been reported from eighteen African elephant range states between 2003 and 2012 and they include: Botswana, Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Kenya, Mozambique, Senegal, South Africa, South Sudan, Swaziland, Tanzania, Zambia, and Zimbabwe. The top five sources of imports, according to totals of imports for commercial, hunting trophy, and personal purpose are South Africa, Botswana, Zimbabwe, Namibia, and Tanzania. Note that the populations of South Africa, Botswana, Zimbabwe and Namibia are the only populations on Appendix II of CITES. Whereas the populations of all other range states are on Appendix I.

Table 22: Thirty-Seven Recognized African Elephant Range States

Angola, Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Democratic, Republic of the Congo, Côte d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Guinea Bissau, Kenya, Liberia, Malawi, Mali, Mozambique, Namibia, Niger, le Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, United Republic of Tanzania, Togo, Uganda, Zambia and Zimbabwe

Below are detailed summaries on the 11 range states from which the U.S. imported wild-sourced African elephants and their parts for all purposes between 2003 and 2012, which demonstrate that the U.S. must list this species as Endangered in order to ensure that such

[279] CITES, *African Elephant Action Plan*, CITES COP15 INF. 68 (2010) *available at* http://cmsdata.iucn.org/downloads/e15i_68.pdf (last visited Nov. 5, 2014).

imports only occur for purposes that promote the conservation of the species. The countries are listed from greatest number of estimated African elephants impacted by the U.S. imports to smallest: Zimbabwe, Botswana, South Africa, Namibia, Tanzania, Zambia, Cameroon, Ghana, Gabon, Mozambique, and Kenya. Data for other range states that exported African elephants and their parts between 2003 and 2012, but from which the U.S. did not import specimens, can be found throughout the Appendix of this petition.

i. Zimbabwe

African elephants of Zimbabwe have been listed on Appendix II of CITES since 1997. Tables 23 and 24 summarize that 969 African elephants were impacted by global commercial imports from Zimbabwe between 2003 and 2012. 7,238 African elephants were impacted by global hunting trophy imports from Zimbabwe between 2003 and 2012. 1,416 African elephants were impacted by global personal imports from Zimbabwe between 2003 and 2012. Between 2003 and 2012, U.S. imports of hunting trophies were the largest category 3,729 estimated elephants.

Table 23: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Zimbabwe between 2003-2012, Adjusted for other Origins

	ZIMBABWE 2003-2012: GLOBAL IMPORTS					
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
Global Gross Number of Imports from Zimbabwe	Ivory	3,821kg ÷ 6.66kg = 574	Ivory	20,249kg ÷ 6.66kg = 3,040	Ivory	6,718kg ÷ 6.66kg = 1,009
	Tusks	457 ÷ 2 (tusks per elephant) = 229	Tusks	3,168 ÷ 2 (tusks per elephant) = 1,584	Tusks	485 ÷ 2 (tusks per elephant) = 243
	Trophies	159	Trophies	2,614	Trophies	164
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	7	Live	N/A	Live	N/A
	Total Elephants	**969**	**Total Elephants**	**7,238**	**Total Elephants**	**1,416**

Table 24: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Zimbabwe between 2003-2012, Adjusted for other Origins

ZIMBABWE 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
US Gross Number of Imports from	Ivory	N/A	Ivory	10,404kg ÷ 6.66kg = 1,562	Ivory	N/A

Zimbabwe	Tusks	175 ÷ 2 (tusks) = 88	Tusks	1,247 ÷ 2 (tusks) = 624	Tusks	42 ÷ 2 (tusks) = 21
	Trophies	21	Trophies	1,543	Trophies	44
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	7	Live	N/A	Live	N/A
	Total Elephants	**116**	**Total Elephants**	**3,729**	**Total Elephants**	**65**

ii. Botswana

The African elephants of Botswana have been listed on Appendix II of CITES since 1997. Botswana also currently bans hunting of certain species, including elephants.[280] Tables 25 and 26 summarizes that 9,553 African elephants were impacted by global commercial imports from Botswana between 2003 and 2012. 3,284 African elephants were impacted by global hunting trophy imports from Botswana between 2003 and 2012. 93 African elephants were impacted by global personal imports from Botswana between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies made up the majority of US imports (1,487 estimated elephants).

Table 25: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Botswana between 2003-2012, Adjusted for other Origins

BOTSWANA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
Global Gross Number of Imports from Botswana	Ivory	43,171 kg ÷ 6.66kg = 6,482	Ivory	198kg ÷ 6.66kg = 30	Ivory	N/A
	Tusks	6,134 ÷ 2 (tusks per elephant) = 3,067	Tusks	2,490 ÷ 2 (tusks per elephant) = 1,245	Tusks	52 ÷ 2 (tusks per elephant) = 26
	Trophies	4	Trophies	2002	Trophies	66
	Bodies	N/A	Bodies	7	Bodies	1
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**9,553**	**Total Elephants**	**3,284**	**Total Elephants**	**93**

[280] *Botswana hunting ban takes effect*, All Africa (23 Jan 2014), available at http://allafrica.com/stories/201401240031.html (last visited Nov. 26, 2014).

Table 26: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Botswana between 2003-2012, Adjusted for other Origins

BOTSWANA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
US Gross Number of Imports from Botswana	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	1003 ÷ 2 (tusks per elephant) = 502	Tusks	51 ÷ 2 (tusks per elephant) = 26
	Trophies	3	Trophies	985	Trophies	12
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**3**	**Total Elephants**	**1,487**	**Total Elephants**	**92**

iii. South Africa

The African elephants of South Africa have been listed on Appendix II of CITES since 2000. Tables 27 and 28 summarize gross imports of wild-sourced African elephant specimens from South Africa between 2003 and into the U.S. 15,255 African elephants were impacted by global commercial imports from South Africa between 2003 and 2012. 1,892 African elephants were impacted by global hunting trophy imports from South Africa between 2003 and 2012. 327 African elephants were impacted by global personal imports from South Africa between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies made up the majority of these imports (1,286 elephants).

Table 27: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from South Africa between 2003-2012, Adjusted for other Origins

SOUTH AFRICA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
Global Gross Number of Imports from South Africa	Ivory	101,537 kg ÷ 6.66kg = 15,246	Ivory	90 kg ÷ 6.66kg = 14	Ivory	N/A
	Tusks	12 ÷ 2 (tusks per elephant) = 6	Tusks	1,816 ÷ 2 (tusks per elephant) = 908	Tusks	478 ÷ 2 (tusks per elephant) = 239
	Trophies	3	Trophies	966	Trophies	80
	Bodies	0	Bodies	4	Bodies	8
	Live	0	Live	0	Live	0
	Total Elephants	**15,255**	**Total Elephants**	**1,892**	**Total Elephants**	**327**

Table 28: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from South Africa between 2003-2012, Adjusted for other Origins

SOUTH AFRICA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
US Gross Number of Imports from South Africa	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	4 ÷ 2 (tusks per elephant) = 2	Tusks	853 ÷ 2 (tusks per elephant) = 474	Tusks	82 ÷ 2 (tusks per elephant) = 46
	Trophies	3	Trophies	859	Trophies	43
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**5**	**Total Elephants**	**1,286**	**Total Elephants**	**84**

iv. Namibia

The African elephants of Namibia have been listed on Appendix II of CITES since 1997. Tables 29 and 30 summarize gross imports of wild-sourced African elephant specimens from Namibia between 2003 and into the U.S. 2,257 African elephants were impacted by global commercial imports from

Namibia between 2003 and 2012. 876 African elephants were impacted by global hunting trophy imports from Namibia between 2003 and 2012. 53 African elephants were impacted by global personal imports from Namibia between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies made up nearly all of these imports (316 elephants).

Table 29: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Namibia between 2003-2012, Adjusted for other Origins

NAMIBIA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
Global Gross Number of Imports from Namibia	Ivory	15,008 kg ÷ 6.66kg = 2,253	Ivory	N/A	Ivory	N/A
	Tusks	6 ÷ 2 (tusks per elephant) = 3	Tusks	777 ÷ 2 (tusks per elephant) = 389	Tusks	32 ÷ 2 (tusks per elephant) = 16
	Trophies	1	Trophies	487	Trophies	37
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**2,257**	**Total Elephants**	**876**	**Total Elephants**	**53**

Table 30: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Namibia between 2003-2012, Adjusted for other Origins

NAMIBIA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph**	**Term**	**# Eleph**	**Term**	**# Eleph**
US Gross Number of Imports from Namibia	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	266 ÷ 2 (tusks per elephant) = 133	Tusks	2 ÷ 2 (tusks per elephant) = 1
	Trophies	N/A	Trophies	183	Trophies	10
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	**316**	**Total Elephants**	**11**

v. Tanzania

The African elephants of Tanzania have been listed on Appendix I of CITES since 1990. Tables 31 and 32 summarize gross imports of wild-sourced African elephant specimens from Tanzania between 2003 and into the U.S. 1 African elephant was impacted by global commercial imports from Tanzania between 2003 and 2012. 1,376 African elephants were impacted by global hunting trophy imports from Tanzania between 2003 and 2012. 231 African elephants were impacted by global personal imports from Tanzania between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies accounted for all of these imports.

Table 31: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Tanzania between 2003-2012, Adjusted for other Origins

TANZANIA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Tanzania	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	973÷ 2 (tusks per elephant) = 487	Tusks	18 ÷ 2 (tusks per elephant) = 9
	Trophies	1	Trophies	888	Trophies	222
	Bodies	N/A	Bodies	1	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**1**	**Total Elephants**	**1,376**	**Total Elephants**	**231**

Table 32: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Tanzania between 2003-2012, Adjusted for other Origins

TANZANIA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Tanzania	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	N/A	Tusks	N/A
	Trophies	N/A	Trophies	337	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**N/A**	**Total Elephants**	**337**	**Total Elephants**	**N/A**

vi. Zambia

The African elephants of Zambia have been listed on Appendix I of CITES since 1990. Zambia

also currently has an active ban on the hunting of certain species, including elephants.[281] Tables 33 and 34 summarize gross imports of wild-sourced African elephant specimens from Zambia between 2003 and into the U.S. There were no African elephants impacted by global commercial imports from Zambia between 2003 and 2012. 129 African elephants were impacted by global hunting trophy imports from Zambia between 2003 and 2012. 16 African elephants were impacted by global personal imports from Zambia between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies made up all of these imports.

Table 33: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Zambia between 2003-2012, Adjusted for other Origins

ZAMBIA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Zambia	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	181 ÷ 2 (tusks per elephant) = 91	Tusks	7 ÷ 2 (tusks per elephant) = 4
	Trophies	N/A	Trophies	38	Trophies	12
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	**129**	**Total Elephants**	**16**

Table 34: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Zambia between 2003-2012, Adjusted for other Origins

ZAMBIA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Zambia	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	÷ 2 (tusks per elephant) = 10	Tusks	18 ÷ 2 (tusks per elephant) = 9	Tusks	N/A
	Trophies	N/A	Trophies	11	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**N/A**	**Total Elephants**	**20**	**Total Elephants**	N/A

[281] J. Kunda. *Zambia: Hunting Ban On Elephants Still On*, All Africa (4 Sep 2014), available at http://allafrica.com/stories/201409050096.html (last visited Nov. 26, 2014).

vii. Cameroon

The African elephants of Cameroon have been listed on Appendix I of CITES since 1990. Tables 35 and 36 summarize gross imports of wild-sourced African elephant specimens from Cameroon between 2003 and into the U.S. Only two African elephants were impacted by global commercial imports from Cameroon between 2003 and 2012. 612 African elephants were impacted by global hunting trophy imports from Cameroon between 2003 and 2012. 137 African elephants were impacted by global personal imports from Cameroon between 2003 and 2012. Gross 2003-2012 U.S. imports of hunting trophies amounted to 1 estimated elephant, and imports for personal purpose also amounted to 1 elephant.

Table 35: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Cameroon between 2003-2012, Adjusted for other Origins

CAMEROON 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Cameroon	Ivory	N/A	Ivory	36kg ÷ 6.66kg = 5	Ivory	N/A
	Tusks	2 ÷ 2 (tusks per elephant) = 1	Tusks	340 ÷ 2 (tusks per elephant) = 170	Tusks	16 ÷ 2 (tusks per elephant) = 8
	Trophies	1	Trophies	435	Trophies	119
	Bodies	N/A	Bodies	2	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**2**	**Total Elephants**	**612**	**Total Elephants**	**137**

Table 36: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Cameroon between 2003-2012, Adjusted for other Origins

CAMEROON 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Cameroon	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	N/A	Tusks	2 ÷ 2 (tusks per elephant) = 1
	Trophies	N/A	Trophies	1	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A

	Total Elephants	N/A	**Total Elephants**	1	**Total Elephants**	1

viii. Ghana

The African elephants of Ghana have been listed on Appendix II of CITES since 1997. Tables 37 and 38 summarize gross imports of wild-sourced African elephant specimens from Ghana between 2003 and into the U.S. No African elephants were impacted by global commercial or hunting trophy imports from Ghana between 2003 and 2012. The total previous cited, African elephant parts that represent 6 elephants, were all imported for personal purposes from Ghana between 2003 and 2012. Gross 2003-2012 U.S. imports for personal purpose imports accounted for all imports.

Table 37: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Ghana between 2003-2012, Adjusted for other Origins

GHANA 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Ghana	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks		Tusks	N/A	Tusks	11 ÷ 2 (tusks per elephant) = 6
	Trophies	N/A	Trophies	N/A	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	N/A	**Total Elephants**	6

Table 38: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Ghana between 2003-2012, Adjusted for other Origins

GHANA 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Ghana	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	N/A	Tusks	1 ÷ 2 (tusks per elephant) = .5
	Trophies	N/A	Trophies	N/A	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	N/A	**Total Elephants**	.5

ix. Gabon

The African elephants of Gabon have been listed on Appendix II of CITES since 1997. Tables 39 and 40 summarize gross imports of wild-sourced African elephant specimens from Gabon between 2003 and into the U.S. No African elephants were impacted by global commercial or hunting trophy imports from Gabon between 2003 and 2012. All 50 estimated elephants were imported for personal purposes from Gabon between 2003 and 2012. Gross 2003-2012 U.S. imports for personal purpose imports accounted for all imports.

Table 39: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Gabon between 2003-2012, Adjusted for other Origins

GABON 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Gabon	Ivory	N/A	Ivory	N/A	Ivory	(5.04 kg ÷ 6.66kg = 1
	Tusks	N/A	Tusks	N/A	Tusks	96 ÷ 2 (tusks per elephant) = 48
	Trophies	N/A	Trophies	2	Trophies	1
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	**2**	**Total Elephants**	**50**

Table 40: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Gabon between 2003-2012, Adjusted for other Origins

GABON 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Gabon	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	N/A	Tusks	2 ÷ 2 (tusks per elephant) 1
	Trophies	N/A	Trophies	N/A	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	N/A	**Total Elephants**	N/A	**Total Elephants**	1

x. Mozambique

The African elephants of Mozambique have been listed on Appendix I of CITES since 1990. Tables 41 and 42 summarize gross imports of wild-sourced African elephant specimens from Mozambique between 2003 and into the U.S. Only two African elephants were impacted by global commercial imports from Mozambique between 2003 and 2012. 713 African elephants were impacted by global hunting trophy imports from Mozambique between 2003 and 2012. 60 African elephants were impacted by global personal imports from Mozambique between 2003 and 2012. Gross 2003-2012 U.S. imports for hunting trophy purpose amounted to 1 estimated elephant.

Table 41: Gross Number of Global Imports of Wild-Sourced African Elephant Specimens from Mozambique between 2003-2012, Adjusted for other Origins

MOZAMBIQUE 2003-2012: GLOBAL IMPORTS						
	Wild-Sourced Elephants for *Commercial Purpose*		**Wild-Sourced Elephants for *Hunting Trophy Purpose***		**Wild-Sourced Elephants for *Personal Purpose***	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
Global Gross Number of Imports from Mozambique	Ivory	N/A	Ivory	208 ÷ 6.66kg = 31	Ivory	N/A
	Tusks	3 ÷ 2 (tusks per elephant) = 2	Tusks	663 ÷ 2 (tusks per elephant) = 332	Tusks	N/A
	Trophies	N/A	Trophies	350	Trophies	60
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**2**	**Total Elephants**	**713**	**Total Elephants**	**60**

Table 42: Gross Number of U.S. Imports of Wild-Sourced African Elephant Specimens from Mozambique between 2003-2012, Adjusted for other Origins

MOZAMBIQUE 2003-2012: UNITED STATES IMPORTS						
	Wild-Sourced Elephants for Commercial Purpose		**Wild-Sourced Elephants for Hunting Trophy Purpose**		**Wild-Sourced Elephants for Personal Purpose**	
	Term	**# Eleph.**	**Term**	**# Eleph.**	**Term**	**# Eleph.**
US Gross Number of Imports from Mozambique	Ivory	N/A	Ivory	N/A	Ivory	N/A
	Tusks	N/A	Tusks	2 ÷ 2 (tusks per elephant) 1	Tusks	N/A
	Trophies	N/A	Trophies	N/A	Trophies	N/A
	Bodies	N/A	Bodies	N/A	Bodies	N/A
	Live	N/A	Live	N/A	Live	N/A
	Total Elephants	**N/A**	**Total Elephants**	**1**	**Total Elephants**	**N/A**

c. International Illegal Trade in African Elephant and their Parts

i. Legal commercial trade in ivory has stimulated illegal trade

As demonstrated through the original analysis in this petition, the scope of currently legal international trade in ivory is quite large, but it pales in comparison to the illegal trade in ivory. The U.S. must further restrict its imports of African elephant parts and products in order to prevent continued overutilization of this species.

A study by Wittemyer (2014) estimated that approximately 33,630 elephants were poached every year between 2010 and 2012, amounting to the deaths of nearly 100,000 African elephants in that three-year period. This rate of poaching is not biologically sustainable and clearly constitutes over-utilization.

Evidence shows a strong link between legal trade in African elephant ivory, and the recent increased demand for ivory. In 1989, the CITES Parties listed the African elephant on Appendix I, which prohibited international commercial trade in African elephant ivory beginning in 1990. (The Asian elephant was already on Appendix I and so international trade in Asian elephant ivory was already prohibited under CITES.) In subsequent years, ivory-carving industries in the main ivory consumer countries of Japan and China dwindled and ivory demand subsided. A continent-wide survey[282] to evaluate the impact of the Appendix I listing in 15 African ivory countries found that each of the surveyed countries, apart from Nigeria, demonstrated a decline in demand for ivory and a drop in the size of ivory markets where illegal ivory was traditionally sold. As further evidence of the positive impact of the CITES ivory trade ban, the volume of ivory seized worldwide declined from 1989 to 1994 and was stable from then until 1998.[283]

However, after 1998, two CITES-sanctioned sales of large amounts of stockpiled ivory from four southern African countries to two Asian ivory consumer countries created a partial lifting of the 1989 ban. In 1997, the CITES Parties transferred the African elephant populations of Botswana, Namibia and Zimbabwe to Appendix II and in 1999, 49,574 kg of stockpiled ivory from those countries were exported to Japan where it could be used for sale only on the domestic market (not for export). In 2000, the CITES Parties transferred the elephant population of South Africa to Appendix II. In 2009 the four countries with populations on Appendix II exported 107,770 kg of stockpiled ivory to Japan and China where it could be used for sale on the domestic market.

The partial lifting of the ban and the flow of ivory to Japan and China stimulated ivory markets in those countries, creating a large market demand that could not be completely met by the legal ivory trade. This led directly to increased levels of poaching and illegal ivory trade. The volume of ivory seizures increased substantially after 1999 even more so after 2008, particularly those shipments destined for China. *See* Figure 29.

[282] E. Martin & D. Stiles, The Ivory Markets of Africa (March 2000), available at http://danstiles.org/publications/ivory/01.2000%20Africa.pdf (last visited Jan. 19, 2015).
[283] CITES, *Illegal ivory trade*.

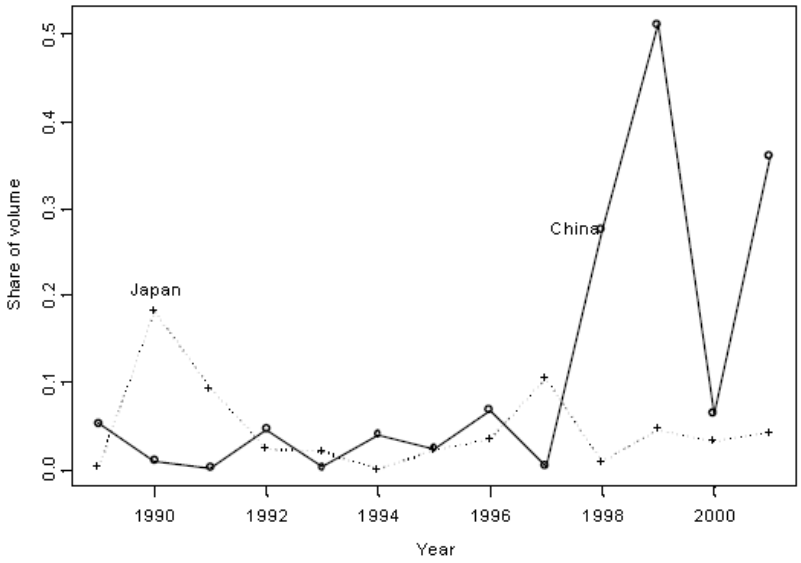


Figure 29: China's and Japan's share of the total volume of seized ivory represented by the ETIS data (28 August 2002)

Source: T. Milliken, R. W. Burn and L. Sangalakula, Illegal Trade in Ivory and other Elephant Specimens, CoP12 Doc. 34.1 (2002).

According to a 2002 Elephant Trade Information System (ETIS) report "As can be seen [in the figure above], China's role as a destination for illegal consignments of ivory was fairly minor from 1989 through 1997. Thereafter, however, China emerges as the single most important destination for ivory that has been seized and reported to ETIS."[284] Moreover, in Figure 30 ETIS data reveals that there was a significant increase in seizures of raw and worked ivory following 1997.

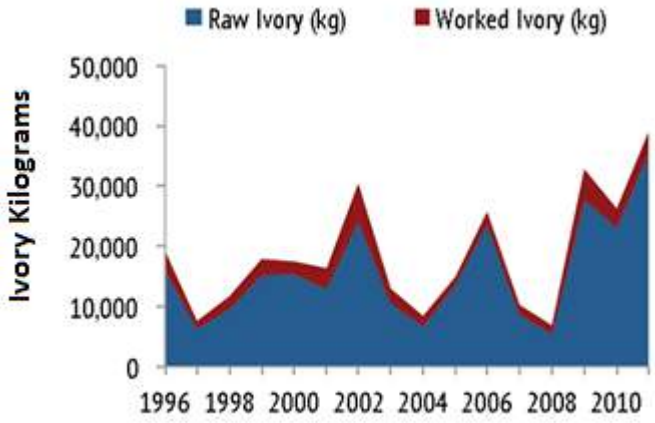


Figure 30: Ivory Seizures by Type between 1996 and 2011 (ETIS)

Source: Varun Vira, Thomas Ewing, and Jackson Miller, Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory, 2014 pg. 1-59 (2014).

[284] T. Milliken et al., *Illegal Trade in Ivory and other Elephant Specimens*, CoP12 Doc. 34.1 (2002), *available at* http://www.cites.org/sites/default/files/eng/cop/12/doc/E12-34-1.pdf (last visited Jan. 19, 2015). [hereinafter "Milliken et al., *Illegal Trade in Ivory*"].

According to Vira et al. (2014) the 2009 ivory sale "coincided with a massive surge in ivory-related demand, reaching unprecedented levels."[285] In fact, following the legal sale to China "the wholesale price of ivory has exploded in China. Once pegged at $450/kg in Fuzhou in 2010, by 2014 the same researchers concluded that wholesale prices had almost tripled to $2,100/kg."[286]

A 2013 ETIS report to CITES states that there was "a progressively sharper and statistically significant increase in illicit ivory trade from 2008 onwards."[287] Figure 30 illustrates the drastic increase in ivory seizures following 2008, whereby seizures of raw and worked ivory surpassed those of all previous years studied (from 1996 to 2008). Figure 31 below also shows that along with an increase in ivory seizures, the trend in the proportion of illegally killed elephants (PIKE) has also spiked after 2009 to its highest levels since 2002 and has continued to increase. Moreover, the percentage of illegally killed elephants has exceeded the offtake sustainability limit, the natural reproduction rate, since 2010.

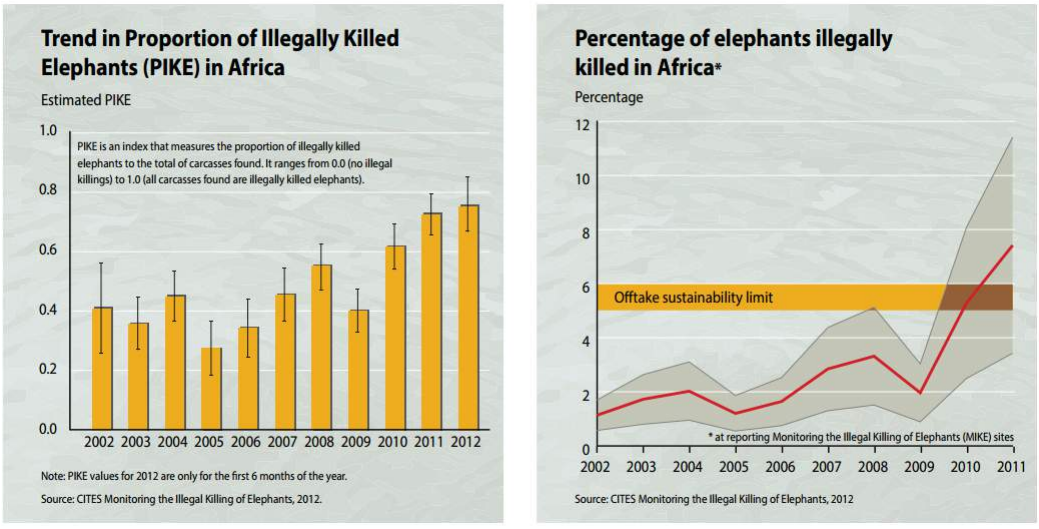


Figure 31: Trend in Proportion of Illegal Killed Elephants (PIKE) in Africa and Percentage of elephants illegally killed in Africa

Source: UNEP, CITES, IUCN, TRAFFIC (2013). Elephants in the Dust – The African Elephant Crisis. A Rapid Response Assessment. United Nations Environment Programme, GRID-Arendal.

Figure 32 confirms that the illegal offtake was still unsustainable as of 2013.

[285] V. Vira et al., *Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory*, 2014 1-59 (2014), available at http://a362a94f6d3f5f370057-c70bddd8faa4afe1b2ec557b907836d0.r4.cf1.rackcdn.com/Out-of-Africa-2014.pdf (last visited Nov. 4, 2014) [hereinafter "Vira et al., *Out of Africa*"].
[286] Vira et al., *Out of Africa*.
[287] T. Milliken et al., ETIS Report of TRAFFIC, CoP 16 Doc. 53.2.2 (Rev. 1) (2013), *available at* http://www.cites.org/sites/default/files/eng/cop/16/doc/E-CoP16-53-02-02.pdf (last visited Jan. 19, 2015). [hereinafter "Milliken et al., *ETIS Report of TRAFFIC*"].

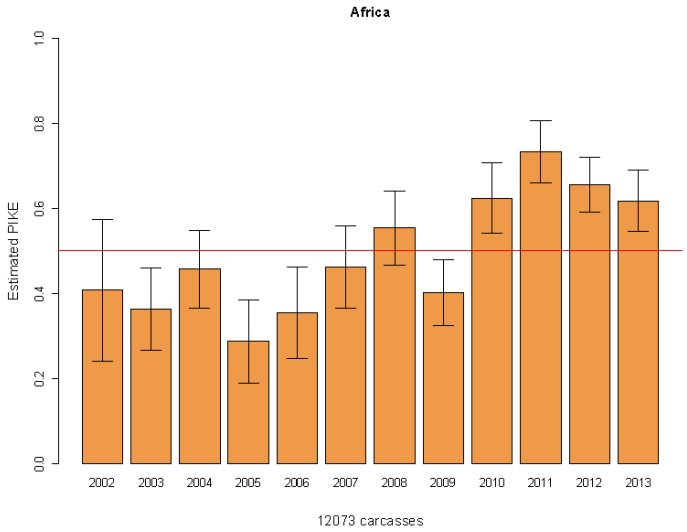


Figure 32: PIKE trends in Africa with 95 % confidence intervals. PIKE levels above the horizontal line at 0.5 (i.e. where half of dead elephants found are deemed to have been illegally killed) are likely to be unsustainable.[288]

The Monitoring the Illegal Killing of Elephants (MIKE) Central Coordination Unit of the CITES Secretariat confirms that "overall higher PIKE levels are apparent in all four African subregions in the second half of the period covered by MIKE monitoring (2008-2013)."[289]

Notably, the U.S. has one of the most significant markets for ivory in the world.[290] It has been estimated that one-third of ivory offered for sale in the U.S. was carved after 1989, indicating that the ivory was most likely illegally imported after the CITES Appendix I listing. See the discussion under the section titled *United States and the illegal trade in African elephant parts* for more information.

ii. Poaching for the illegal ivory trade is not biologically sustainable

The legal trade in African elephants and their parts has had a substantial negative impact on the population of this species, and the combined poaching and illegal trade has brought this species to the brink of extinction. The best available science clearly shows that the "current offtake exceeds the intrinsic growth capacity of the species."[291]

In 1978, the Department of Interior listed African elephants as "Threatened" recognizing that "elephants were exterminated in large parts of their range by ivory hunters and pressure from growing human populations."[292] At that time, there were "at least 1.3 million of these animals still in existence,"[293] more than double the present day population estimate of 433,999 to 683,888 African elephants. Even more striking is that the population was estimated to be ten million in

[288] CITES, *Elephant Conservation.*
[289] CITES, *Elephant Conservation.*
[290] Stiles & Martin, *U.S.A.'s Ivory Markets* at 71.
[291] Wittemyer et al., *Illegal Killing*.
[292] 43 Fed. Reg.F. 20499-20504 (1978).
[293] 43 Fed. Reg. 20499-20504.

1930.[294] Even in 1978, the USFWS recognized that, with respect to ivory, "legal sales may stimulate poaching, and it may be impossible to determine how a particular product was obtained."[295] There is now a well-established link between the two recent CITES-approved sales of ivory, an increase in demand for ivory, and the subsequent catastrophic spike in poaching rates to meet that increased demand (as discussed below).

In its 1978 listing, the USFWS supported continued interstate commerce in ivory as well as importation of ivory. The reasoning offered by the USFWS was as follows:

> Nevertheless, it may not be advisable to completely stop commerce or, insofar as can be accomplished by the Service, importation into the United States. Substantial amounts of ivory are collected from elephants that die of natural causes or are killed legally to protect human life or property. A limited number of elephants can be killed each year, and their ivory used, without detriment to overall populations. The sale of such ivory could result in extra funds for conservation programs, or at least could provide an economic incentive for such programs.[296]

Similar logic was used to justify the CITES-approved legal sale of ivory, with CITES requiring that the countries selling the ivory "are obliged to use the funds raised exclusively for elephant conservation and community development programmes within or adjacent to the elephant range."[297] However, instead of yielding conservation benefits, this pay-to-play scheme leads to a catastrophic increase in ivory demand and poaching that has put the species on the brink of extinction.[298]

Indeed, the USFWS has recently recognized the need to further restrict international and domestic trade in elephant parts and products[299] stating that "[g]iven the unparalleled and escalating threats to African elephants, we believe that a nearly complete ban on commercial elephant ivory trade is the best way to ensure that U.S. domestic markets do not contribute to the decline of this species in the wild."[300]

Increased consumer demand in the last decade has pushed ivory wholesale prices from $5/kg in

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[294] IUCN, *Elephant Database* ; E/The Envtl. Mag., *Are Elephant Populations Stable These Days?* Sci. Am. (Apr. 9, 2009) (available at http://www.scientificamerican.com/article.cfm?id=are-elephant-populations-stable [http://perma.cc/0zbziWRC2Hm].
[295] 43 C.F.R. 20499-20504, 20500 (1978).
[296] 43 C.F.R. 20499-20504 (1978).
[297] CITES, *Ivory Auctions Raise 15 Million U.S.D.*
[298] This point is addressed in the section of this petition titled "Legal commercial trade and increased demand for ivory." Following 1997, China emerged as the most important destination for "ivory that has been seized and reported to ETIS." Milliken et al., *Illegal Trade in Ivory*.2002.2002. Moreover, another ETIS report from 2013 revealed that there was "a progressively sharper and statistically significant increase in illicit ivory trade from 2008 onwards." Milliken et al., *ETIS Report of TRAFFIC*.2013.2013. Elephant poaching has been at an all-time high with nearly 100,000 poached between 2010 and 2012. Wittemyer et al., *Illegal Killing*.
[299] *USFWS Moves to Ban Commercial Elephant Ivory Trade Questions & Answers* (2014), https://www.fws.gov/international/travel-and-trade/ivory-ban-questions-and-answers.html (last visited Nov. 4, 2014). [hereinafter "*USFWS Moves to Ban Commercial Elephant Ivory*"].
[300] *USFWS Moves to Ban Commercial Elephant Ivory*.

1989 to $2,100/kg in 2014 in China. This skyrocketing value has incentivized poaching in Africa (often by actors with strong ties to organized crime and militant groups); current poaching rates stand at 5-7% of the African elephant population each year.[301] According to Vira et al. (2014), "[t]he volume of illegal trade is estimated to have tripled between 1998-2011 and is increasing at an escalating rate: activity more than doubled between 2007 and 2011."[302]

Analyses show a clear trend of escalating elephant deaths and dwindling populations. The IUCN estimates that in 2012 alone, at least 22,000 elephants were killed illegally[303] and yielded approximately $552 million in sale value.[304] In one stark example, researchers estimated that the population of forest elephants alone decreased by 62% between 2002 and 2011.[305] A more recent report by Wittemyer et al. (2014) estimated that poachers killed 33,630 elephants per year over the period 2010-2012,[306] and found that "elephant populations currently decline by nearly 60 to 70 percent every 10 years, making it likely for the species to go extinct in the near future."[307]

Because the range of the African elephants is vast and usually very remote, the bodies of poached elephants sometimes remain undiscovered. This indicates that the actual rate of poaching is likely to be much higher than estimated. Based on ivory seizure reports, 41.5 tons of ivory were confiscated in 2013 and with an interdiction rate of 10%,[308] meaning that only about 10% of illegally traded ivory is caught, "the true amount of trafficked ivory in 2013 was closer to 400 tons, or roughly 50,000[309] elephants."[310]

The following map (Figure 33) provides a visual illustration of the areas throughout Africa that have experienced the greatest poaching rates relative to the African elephant range:

[301] Vira et al., *Out of Africa*., at 3 *Out of Africa*, at 3.
[302] Vira et al., *Out of Africa* at 10. Report cites to CITES, *Elephant Conservation*.
[303] CITES, *Status of African Elephant Populations*.
[304] C4ADS estimate Using 2 tusks/elephant, 4kg/tusk and $3000/kg. Maisels et al., *Devestating Decline*.
[305] Maisels et al., *Devestating Decline*.
[306] Wittemyer et al., *Illegal Killing*.
[307] Wittemyer et al., *Illegal Killing*.
[308] The rule called "1-in-10" is also likely to be very conservative. It is usually used in Western law enforcement in application to other types of contraband like narcotics. In the case of ivory, it is transported through African and Asian ports that are known for poor port security and lacking screenings, and for insufficient penalties for wildlife crime. Ivory's Curse, at 5.
[309] C4ADS estimate Using 2 tusks/elephant, 4kg/tusk and $3000/kg.
[310] C4ADS estimate Using 2 tusks/elephant, 4kg/tusk and $3000/kg.

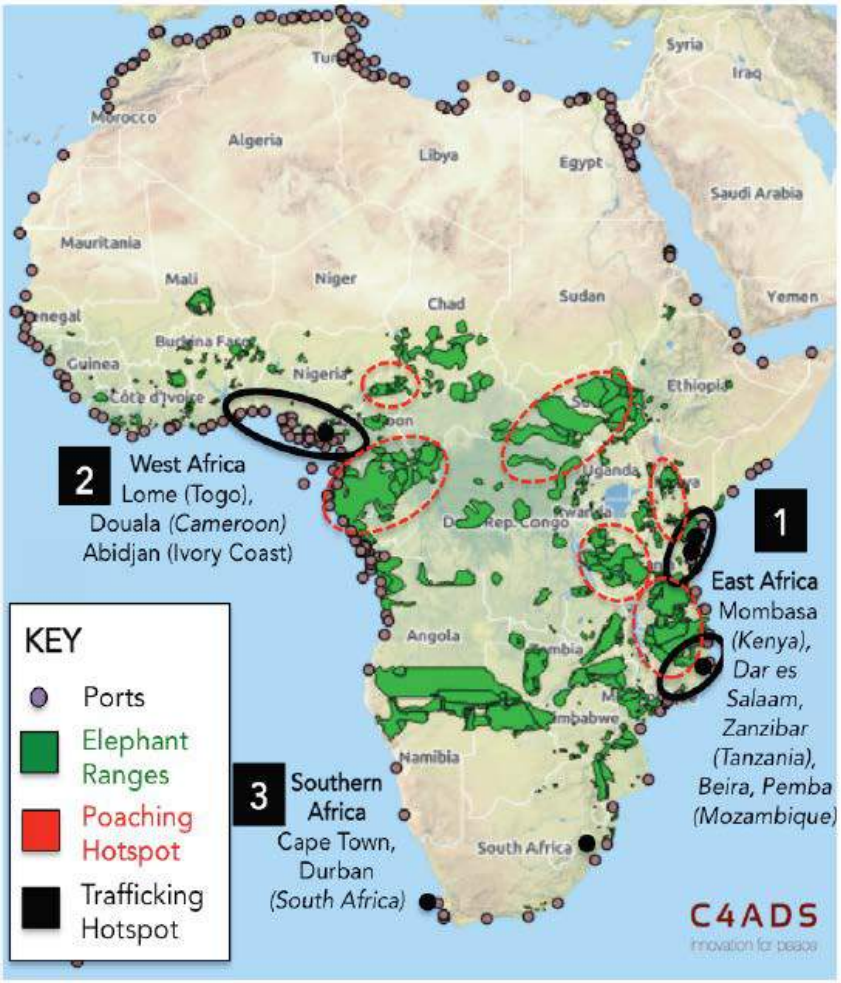

Figure 33: Major African Elephant Poaching Hotspots

Source: Varun Vira, Thomas Ewing, and Jackson Miller, *Out of Africa: Mapping the Global Trade in Illicit Elephant Ivory*, 2014 1-59 (2014).

a. West Africa

Data on poaching levels in West Africa is deficient due to a paucity of reliable information on the small and fragmented populations in that region (the smallest of all other sub regions) making it difficult to assess trends based on PIKE data.[311] Despite these limitations, it appears that poaching is increasing and levels "warrant concern."[312] As Figure 34 below illustrates, the proportion of illegally killed elephants (PIKE) to the total of carcasses found in West Africa has exceeded the 50% threshold for all but one of the last seven years, which is 2010. This means that over half the dead elephants were illegally killed in 2007, 2008, 2009, 2011, 2012 and 2013. This rate is highly likely to be unsustainable.[313]

[311] UNEP et al., *A Rapid Response*, at 35.
[312] UNEP et al., *A Rapid Response* at 35.
[313] CITES, *Elephant Conservation* at 19.

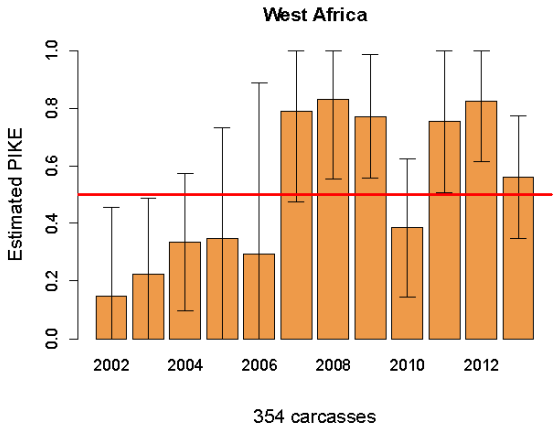

Figure 34: West Africa PIKE trends with 95 % confidence intervals. The number of carcasses on which the graphs are based is shown at the bottom of the graph.[314]

The level of concern as especially high because "populations in West Africa are particularly vulnerable to increases in poaching, which can severely distort sex ratios and lead to local extinctions."[315] Populations of fewer than 200 animals have been observed to disappear in just a few decades. One recent example is the Comoé National Park in Côte d'Ivoire where the increased rates of poaching, which have coincided with Côte d'Ivoire's civil war, have brought the country's African elephant population to the brink of extinction.[316]

b. Central Africa

The highest overall African elephant poaching levels are in Central Africa.[317] As Figure 35 below illustrates, the proportion of illegally killed elephants (PIKE) to the total of carcasses found in Central Africa has exceeded the 50% threshold for all but three of the twelve years assessed. This means that over half the dead elephants were illegally killed in 2003, 2004, 2007, 2008, 2009, 2010, 2011, 2012, and 2013. This rate is highly likely to be unsustainable.[318]

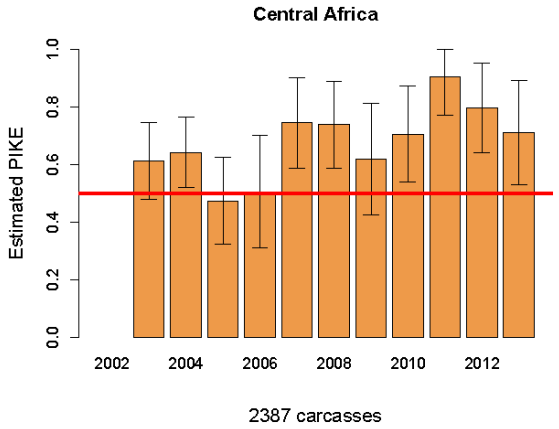

Figure 35: Central Africa PIKE trends with 95 % confidence intervals. The number of

[314] CITES, *Elephant Conservation* at 19.
[315] UNEP et al., *A Rapid Response* at 36.
[316] UNEP et al., *A Rapid Response* at 36.
[317] CITES, *Elephant Conservation.*
[318] CITES, *Elephant Conservation* at 19.

carcasses on which the graphs are based is shown at the bottom of the graph.[319]

In many places in Central Africa poaching is the lone observable cause of elephant deaths. According to Vira and Ewing (2014), "by 2011, 5 out of 15 recorded sites in Central Africa were registering a 100% PIKE rate, meaning every single elephant found dead had been illegally poached; at another four sites, the PIKE rate was higher than 87%."[320] Although African elephant numbers in Central Africa may have once numbered over a million, only around 50,000 (or 5% of the historic peak) remain, mostly in Gabon and the Republic of Congo.[321] With so few elephants left to kill, poaching rates appear to be leveling off, with that activity displacing to elsewhere on the continent.[322]

In Chad and the Democratic Republic of Congo, there are serious concerns regarding continued armed conflict, absent rule of law, and lack of accountability for those who engage in ivory trafficking, especially for those who occupy high positions in government. This creates an environment in which African elephants are extremely vulnerable and threatened with possible extinction.[323] In Chad, although Zakouma National Park is relatively difficult for poachers to penetrate, well-armed gangs (some with ties to the Sudanese Janjaweed militias) still focus attention on park boundaries and outlying areas.[324] The Republic of Congo has "a heavy and expanding extractive and logging industry in an environment of poverty and corruption" which means that their elephants "are prime targets, now that most other Central African ranges are nearly barren."[325]

c. Southern Africa

Namibia, Botswana, and South Africa "consistently score the lowest in terms of elephant poaching risk…"[326] As Figure 36 below illustrates, the proportion of illegally killed elephants (PIKE) to the total of carcasses found in Southern Africa has not yet exceeded the 50% threshold, which means the number of illegally killed elephants has remained at less than half the total.[327]

[319] UNEP et al., *A Rapid Response*.
[320] Ivory's Curse, at 6.
[321] Ivory's Curse, at 6.
[322] Ivory's Curse, at 7.
[323] Ivory's Curse, at 99.
[324] Ivory's Curse, at 99.
[325] Ivory's Curse, at 100.
[326] Ivory's Curse, at 100.
[327] CITES, *Elephant Conservation* at 19.

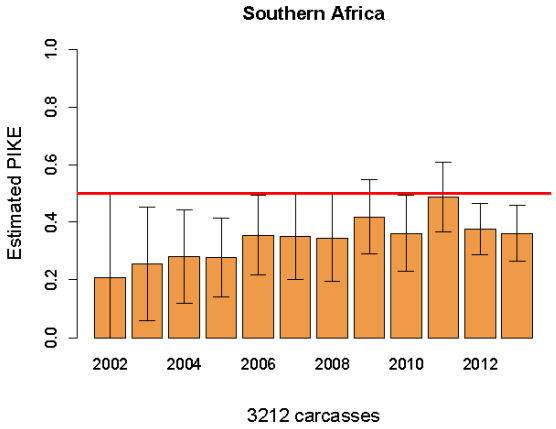

Figure 36: Southern Africa PIKE trends with 95 % confidence intervals. The number of carcasses on which the graphs are based is shown at the bottom of the graph.[328]

However, these low rates are "only relative"[329] according to Vira and Ewing (2014) because "[s]yndicates in the region appear to be targeting the higher-value rhino, but are becoming increasingly successful and coordinated."[330] Although it is primarily rhinoceros that are currently threatened by poaching in this region, the elements are in place for potential poaching increases in the future: elephants in the region are numerous and less protected than rhinos, with Botswana's population, for example, residing in a vast area that is difficult to monitor and police.

Mozambique's "last 20,000 or so elephants are in grave danger of extinction in the near term" due partly to the fact that most of Mozambique's elephants live close to the poorest and most vulnerable Mozambican communities, in unprotected habitat such as Niassa Reserve, where more than 8,000 elephants were poached between 2009-2012.[331]

With respect to Zimbabwe and Zambia, both countries are experiencing increased poaching. In the case of Zimbabwe, for example, 300 elephants were poisoned with cyanide in October of 2013.[332] Zambia is undeveloped and has low income levels, which incentivizes elephant poaching especially with the rising price for ivory.[333] On the other hand, gangs in Zambia have been documented to cross the border into Zimbabwe much more frequently, which may mean that poaching levels in Zimbabwe are probably higher than in Zambia.[334]

Finally, today "as few as 1,000 elephants live in Angola, down from estimates as high as 200,000 in the 1970s."[335]

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[328] CITES, *Elephant Conservation* at 19.
[329] Ivory's Curse, at 100.
[330] CITES, *Elephant Conservation* at 100.
[331] CITES, *Elephant Conservation* at 7.
[332] Joe Decapua, Voice of America, *Cyanide Kills Elephants, Ecosystem* (Nov. 1, 2013), *available at* http://www.voanews.com/content/elephants-cyanide-1nov13/1781504.html (last visited January 27, 2015) [hereinafter "Decapua, *Cyanide Kills Elephants*"].
[333] Decapua, *Cyanide Kills Elephants*.
[334] Decapua, *Cyanide Kills Elephants*.
[335] Decapua, *Cyanide Kills Elephant* at 8.

d. East Africa

UNEP asserts that Central Africa's dwindling elephant populations have led poachers to shift their efforts elsewhere, particularly to East Africa with that region's larger elephant numbers.[336] As Figure 37 below illustrates, the proportion of illegally killed elephants (PIKE) to the total of carcasses found in Eastern Africa has exceeded the 50% threshold for 2011 and 2012, and was right on the line of 0.5 for 2013. This rate is highly likely to be unsustainable.[337]

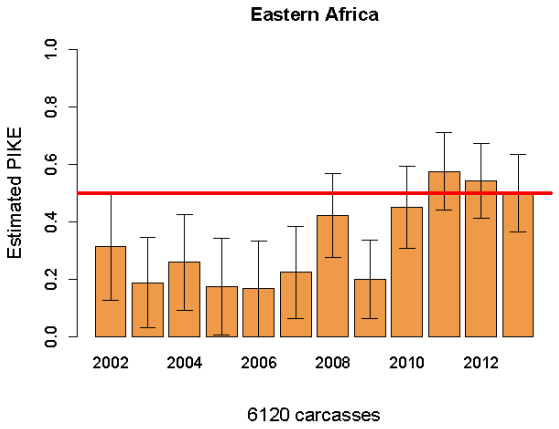

Figure 37: East Africa PIKE trends with 95 % confidence intervals. The number of carcasses on which the graphs are based is shown at the bottom of the graph.[338]

Tanzania, for example, has had an estimated 25,000 elephants poached in the Selous ecosystem between 2009 and 2013, which represents 66% of the country's population.[339] Kenya has also reported high levels of poaching, with poaching responsible for two-thirds of the elephant carcasses at monitored sites in 2011.[340] Both Kenya and Tanzania have most of the elements required to be "self-contained poaching and trafficking systems (in addition to transshipping ivory from other regions), with large elephant reserves, modern economies, and major ports implicated in regional trafficking."[341] According to ETIS, these two countries accounted for over half (16 out of 34) of the largest ivory seizures from 2009-2011.[342] In another East African example, South Sudan, the resurgence of civil war has relegated natural resource protection to an afterthought, with serious consequences for that country's elephants. [343]

iii. Ivory Trafficking and Global ETIS Seizure Data

The sections that follow address seizure rates recorded and analyzed by TRAFFIC's Elephant Trade Information System (ETIS) and also recorded by the CITES Trade Database. Seizures are

[336] Ivory's Curse, at 7.
[337] CITES, *Elephant Conservation* at 19.
[338] CITES, *Elephant Conservation* at 19.
[339] Ivory's Curse, at 7.
[340] UNEP et al., *A Rapid Response*, at 36.
[341] Ivory's Curse, at 99.
[342] UNEP et al., *A Rapid Response*. at 45.
[343] UNEP et al., *A Rapid Response* at 99.

an important indicator of illegal trade activity, but represent only a small fraction of actual illegal trade.

The scale of some of the most recent seizures illustrates the scope of the ivory trafficking problem. Nearly 40 tons of ivory were seized in 2011.[344] It is estimated that 41.5 total tons were seized in 2013 which according to a senior TRAFFIC official "is the largest volume of large-scale seizures we have seen in the past 25 years…"[345] The following are a sampling of some of the largest seizures to date: Six tons of ivory were confiscated in Malaysia in December of 2012, representing one of the biggest seizures of all time;[346] Four and a half tons were seized in one week in Kenya in July of 2013;[347] Similarly in October of 2013, a major seizure took place again in Kenya totaling four tons.[348]

ETIS is the largest database of elephant product seizure information from 1989 until the present. According to TRAFFIC's Tom Milliken (2014) "2011, 2012 and 2013 represent the three years in which the highest quantity of ivory was seized and reported to ETIS over the last 25 years."[349] Figure 38 below demonstrates the weight and number of seizures between 1989 and 2013. A significant increase in weight and number of seizures followed the 2008/2009 CITES permitted one-off sale of ivory.

[344] Milliken T. et. al, *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: A Report to the 16th Meeting of the Conference of the Parties to CITES* 4 (TRAFFIC Intl. 2013) (available at http://www.cites.org/eng/cop/16/doc/E-CoP16-53-02-02.pdf [http://perma.cc/0Yom7yJZTnP] (last visited Nov. 4, 2014)).

[345] Andy Coghlan, Record ivory seizures point to trafficking rise, NewScientist (3, Dec. 2013), *available at* http://www.newscientist.com/article/dn24692-record-ivory-seizures-point-to-trafficking-rise.html.

[346] TRAFFIC, *Massive African Ivory Seizure in Malaysia*, http://www.traffic.org/home/2012/12/11/massive-african-ivory-seizure-in-malaysia.html [http://perma.cc/08nYoo48ZSp] (Dec. 11, 2012) (last visited Nov. 4, 2014).

[347] Associated Press, *Kenyan Officials Seize Ivory Disguised as Peanuts*, http://news.yahoo.com/kenyan-officials-seize-ivory-disguised-peanuts-142215226.html [http://perma.cc/0pbjHPiTPZ6] (July 9, 2013) (last visited Nov. 4, 2014)

[348] Agence France-Presse, *Kenya Seizes Ivory as Elephant Slaughter Surges*, http://uk.news.yahoo.com/kenya-seizes-ivory-elephant-slaughter-surges-081447625.html [http://perma.cc/0bjQiTpE1t6] (Oct. 9, 2013) (last visited Nov. 4, 2014).

[349] Tom Milliken, *Illegal Trade in Ivory and Rhino Horn: An Assessment Report to Improve Law Enforcement Under the Wildlife TRAPS Project*, 1-30 (2014), available at http://www.traffic.org/storage/W-TRAPS-Elephant-Rhino-report.pdf (last visited Nov. 4, 2014). [hereinafter "Milliken, *Illegal Trade in Ivory and Rhino Horn*"].

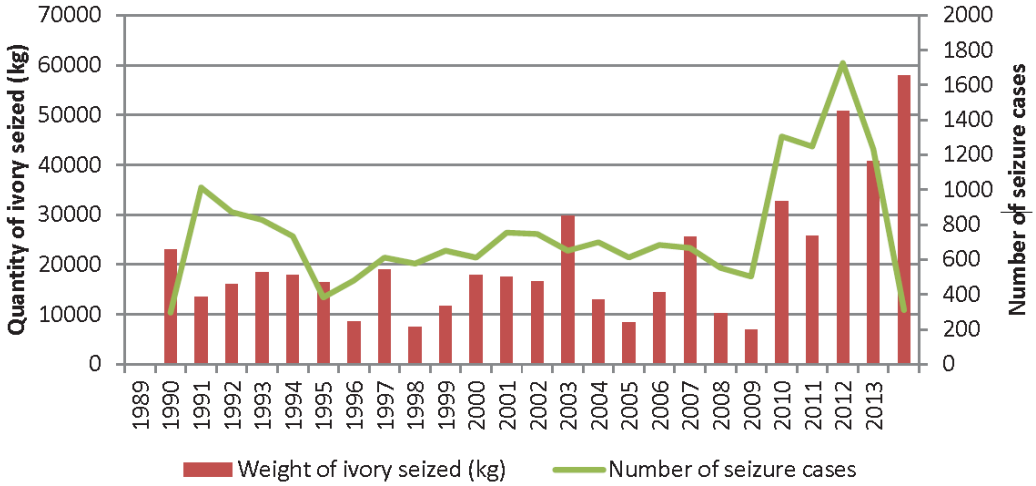

Figure 38: Estimated weight of ivory and number of seizure cases by year, 1989 - 2013

Source: CITES, Elephant Conservation, Illegal Killing, and Ivory Trade, SC65 Doc. 42.1 (Jul 2014), pg. 26.

ETIS places a special emphasis on tracking large seizures of over 500 kilograms in weight. These seizures "represent a kind of 'early warning' indicator of the illicit ivory trade as a whole" and "such seizures are also indicative of the presence of organized crime in the illicit ivory trade."[350] Transnational syndicates are behind these large shipments (considering the complexity of logistics – everything from the bribes required to pass them through each port of egress and entry, to consolidation of hundreds or thousands of items into a single crate, and more) and it is understood that they are predominantly "Asian-run, Africa-based operations."[351] The criminal nature of this illicit trade threatens global security, safety and stability of local communities, and certainly the survival of African elephants. According to sources, "Al Qaeda-affiliated al-Shabab in Somalia, Joseph Kony's Lord's Resistance Army in central Africa and Boko Haram in Nigeria are among the militants making money from trafficking ivory tusks from slaughtered elephants to pay their fighters and buy arms and ammunition,"[352] although each of these groups participates in the illegal trade to a different extent, and more information is needed to determine the scope of involvement.

Prior to 2009, on average between five and seven large-scale seizures took place each year.[353] However, after 2009 the average jumped to 15 and as many as 21 seizures weighing over 500 kilograms.[354] In 2013, 18 seizures were made, which is the "the greatest quantity of ivory derived from large-scale seizure events going back to 1989."[355] This 2013 data is distressing because it indicates that the rate of ivory trafficking continues to grow. As Figure 39 below demonstrates, a significant increase in large-scale seizures followed the 2008/2009 CITES permitted one-off sale of ivory. Some of the increase may also be the result of an improvement in enforcement and therefore increase in the number of seizures.

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[350] Milliken, *Illegal Trade in Ivory and Rhino Horn* at 5.
[351] Milliken, *Illegal Trade in Ivory and Rhino Horn* at 5.
[352] Sen, Ashish Kumar, *Terrorists slaughter African elephants, use ivory to finance operations* (13 Nov. 2013), *available at* http://www.washingtontimes.com/news/2013/nov/13/terrorists-slaughter-african-elephants-use-ivory-t/?page=all (last visited 5 Dec. 2014) [hereinafter "Kumar, *Terrorists slaughter African elephants*"].
[353] Kumar, *Terrorists slaughter African elephants.*
[354] Kumar, *Terrorists slaughter African elephants.*
[355] Kumar, *Terrorists slaughter African elephants.*

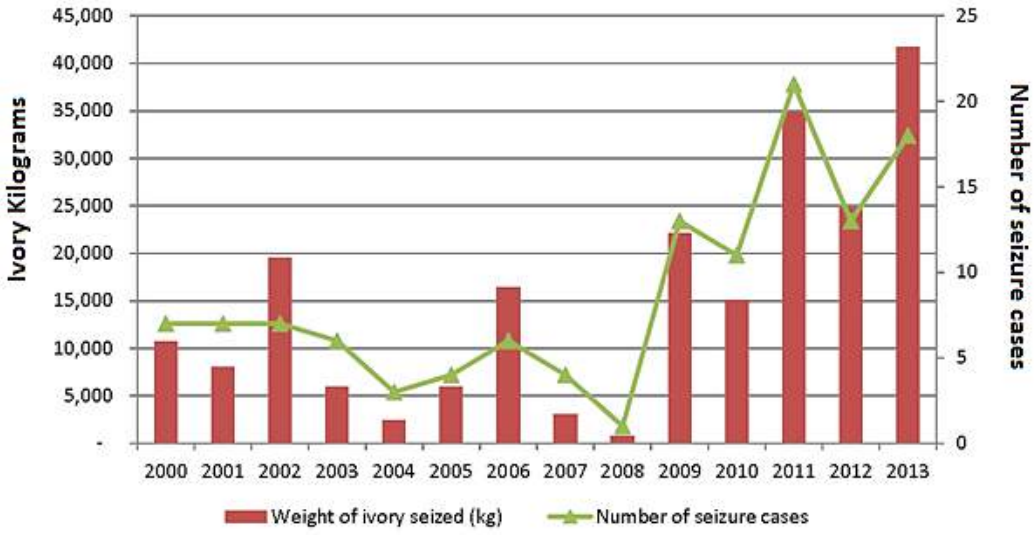

Figure 39: Estimated weight and number of large-scale (>500 kg) ivory seizures by year, 2000 - 2013 (ETIS 09 January 2014)[356]

Source: Milliken, T. (2014). Illegal Trade in Ivory and Rhino Horn: an Assessment Report to Improve Law Enforcement under the Wildlife TRAPS project. pg. 6.USAID and TRAFFIC.

With respect to the location of these seizures, "of the 76 large-scale ivory seizures made and reported to ETIS since 2009, two-thirds have occurred in countries and territories in Asia whilst in transit or during illegal import, and only one-third were seized in Africa prior to exportation."[357] However, since 2013 the seizures in Africa have exceeded those in Asia.[358]

iv. United States and the illegal trade in African elephant parts

a. Seizures

In a 2007 report presented by TRAFFIC at CITES COP 14 it was explained that "[t]he United States continues to rank highest in terms of number of seizures"[359] and the U.S. "continues to make a large number of rather small ivory seizures, which is indicative of a country largely dealing with the illegal import of ivory products as personal possessions."[360] At the same time TRAFFIC noted that "the 'mean weight' value [of U.S. seizures] is comparatively much larger than that of Group 11 (Australia and Switzerland), countries which otherwise share similar values and trade dynamics, suggesting that at least some part of the ivory traffic to the United States involves larger-scale shipments of either raw or worked ivory products that may be commercial in

[356] Milliken, *Illegal Trade in Ivory and Rhino Horn*, at 6.
[357] Milliken, *Illegal Trade in Ivory and Rhino Horn*, at 7.
[358] Milliken, *Illegal Trade in Ivory and Rhino Horn* at 7.
[359] CITES, *Monitoring of Illegal Trade in Ivory and Other Elephant Specimens*, 2007 CITESCoP14 Doc. 53.2(2007), http://www.cites.org/eng/cop/14/doc/E14-53-2.pdf (last visited Nov. 7, 2014).
[360] T. Milliken, R. W. Burn and L. Sangalakula, *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: A report to the 14th meeting of the Conference of the Parties to CITES*, CoP14 Doc. 53.2, Annex 1 (2007).

nature."[361]

In a Milliken et al. (2013) report to CITES COP 16, the U.S. was addressed in a group with Australia and Germany because all three countries regularly report ivory trade seizures. TRAFFIC revealed that "[w]ithin this group, ivory trade activity has only marginally dropped in the most recent period with 45% of the total trade by weight from 2006 occurring over the last three years."[362] Apart from trafficked ivory that is actually seized, Stiles and Martin (2008) report that "individuals probably smuggle in a significant quantity as personal effects, while other pieces enter by post and courier in mislabelled packages and occasionally by sea."[363]

The Stiles and Martin analysis also reviewed illegal imports between 1995 and 2007, as documented by the U.S. Law Enforcement Management Information System (LEMIS). Another analysis completed by the International Fund for Animal Welfare (IFAW) assessed the U.S. seizures of African elephant products between 2009 and 2012. IFAW reviewed LEMIS border seizures as well as USFWS investigations and special operations. This section presents the details of these findings.

Table 43: Ivory Imports Seized in the U.S. from 1992 and 2007, as well as 2009 and 2012, relative to Global ETIS Seizures

	Stiles & Martin[364] (1992 to 2007)	**IFAW[365] (2009 to 2012)**	**Global Seizures (ETIS) (2009-2012)[366]**
Seized Ivory Imports	8,852 specimens (avg. 553/year)	918 specimens (avg. 230/year)	2009: ~7,000kg 2010: ~32,000kg 2011: ~26,000kg 2012: ~51,000kg
	15.2 kg recorded* (avg. 0.95kg/year)	14 kg recorded* (avg. 3.5kg/year)	
Exporters of Illegal Ivory to U.S.	UK (80%), France (4%), Canada (3%)	UK, Nigeria, South Africa, Zimbabwe, and Japan	N/A
* Customs logbook entries sometimes note only with the weight of seized ivory items, rather than number of specimens. The weighted seizures in this table should be considered as *additional* to the number of specimens.			

The table below provides details of the IFAW analysis on the main countries of origin and export:

[361] T. Milliken et al., *The Elephant Trade Information System (ETIS) and the Illicit Trade in Ivory: A Report to the 14th Meeting of the Conference of the Parties to CITES*, Apr. 15, 2007 at, http://awsassets.panda.org/downloads/etis_report_cop14_doc__53_2_annex_1_final1.doc (last visited Nov. 7, 2014).
[362] T. Milliken et al., *ETIS Report of TRAFFIC*T.
[363] Stiles & Martin, *U.S.A.'s Ivory Markets* at 71.
[364] Stiles & Martin, *U.S.A.'s Ivory Markets* at 71.
[365] The analysis presented is based on data IFAW acquired on ivory trade in the U.S. from the USFWS's Law Enforcement Management Information System (LEMIS) in response to IFAW's December 2012 and February 2013 Freedom of Information Act (FOIA), 5 U.S.C. § 552, requests. USFWS, *Response to IFAW FOIA Requests, LEMIS Data* (Mar. 2013) [hereinafter "USFWS, *Response to IFAW FOIA Requests*"]. The analyses of U.S. ivory imports and exports presented in this Article are based on an internal IFAW report initially analyzing and interpreting the data. USFWS staff reviewed the IFAW report and provided feedback on the analyses.
[366] Milliken, *Illegal Trade in Ivory and Rhino Horn* at 2. Please note that these are rough approximations from a chart that did not include exact figures for ETIS-calculated global seizures.

Table 44: Main Countries of Origin and Export of U.S. Seized Ivory Imports from 2009-2012.

Ivory Type	Main Countries of Origin (by import entries)	Main Countries of Export (by import entries)
Ivory Carvings	Unknown; South Africa; Nigeria; Zimbabwe; Thailand; Cambodia; Cameroon; Vietnam; Canada; Central African Republic; U.K.; Ireland; Namibia; Zambia	U.K.; Japan; South Africa; Nigeria; France; Canada; Zimbabwe; China; Uruguay; Vietnam; Unknown; Australia; Cambodia; Germany; Ireland; Philippines; Belgium; Denmark; Greece; Indonesia; Mozambique; Netherlands; Portugal; United Arab Emirates; Burundi; Bolivia; Brazil; Cameroon; Egypt; Georgia; Hong Kong; Haiti; Israel; Italy; Kuwait; Malaysia; New Zealand; Panama; Peru; Saudi Arabia; South Korea; Syria
Ivory Jewelry	Unknown; South Africa; Zimbabwe; Nigeria; Thailand; Cameroon; Vietnam; Ghana; Namibia; Sudan; Zambia	Vietnam; South Africa; Nigeria; Zimbabwe; Thailand; Cameroon; Unknown; Ghana; Japan; Lebanon; South Korea; Eritrea; Germany; Honduras; Hong Kong; India; Italy; Namibia; Netherlands; New Zealand; Peru; U.K.
Tusks	Zimbabwe; Unknown; Nigeria; Namibia; Botswana; Central African Republic; Democratic Republic of the Congo; Kenya; Tanzania	Nigeria; Zimbabwe; Namibia; Belgium; Botswana; France; U.K.; Bahamas; Ghana; Greece; South Africa; Tanzania; Thailand; Venezuela
Ivory Pieces	Unknown; Congo; Laos; South Africa; Zambia	U.K.; Belgium; France; Japan; Laos; Morocco; New Zealand; South Africa
Trophies	Zimbabwe; Botswana; Tanzania	Zimbabwe; Botswana; South Africa; Tanzania
Ivory Piano Keys	Unknown	U.K.

While U.S. seizures of ivory are a small fraction of the global seizures recorded by ETIS, since most seizures are small-scale, seizures represent only a fraction of the actual illegal trade moving through the U.S. (Interpol estimates that 90% of illegal shipments are not interdicted by law enforcement).[367] The IFAW analysis reveals that "highlights from some USFWS investigations and special operations related to ivory from 2008 up to and including 2012 indicate that the ivory market in the U.S. involves sophisticated schemes including operatives and partners in the black market ivory trade from multiple countries."[368] Ivory investigations between 2008 and 2012 "involved defendants, in at least ten states, in relation to at least a dozen shipments"[369] and "[i]n one case in 2011, USFWS investigators seized one ton of elephant ivory from an individual," while "[a] single investigation in New York confiscated $2 million worth of ivory objects."[370] [371]

[367] Allgood et al., U.S. *Ivory Trade* at 56.
[368] Allgood et al., U.S. *Ivory Trade* at 31.
[369] Allgood et al., U.S. *Ivory Trade* at 57.
[370] David M. Halbfinger, *2 Manhattan Jewelers Admit Illegal Ivory Trading*, N.Y. Times (July 12, 2012) (available at

The CITES Trade Database also reveals additional specifics on the seizures that took place between 2003 and 2012. If looking at trophies, tusks, ivory carvings, and ivory pieces, in each of these categories there is a clear pattern of overall increase in the number of U.S. seizures after the CITES one-off sale in 2008/2009, except for ivory pieces. Moreover, there appears to be a drop in the number of seizures in 2012, but that does not necessarily indicate a trend. *See* Figures 40-43.

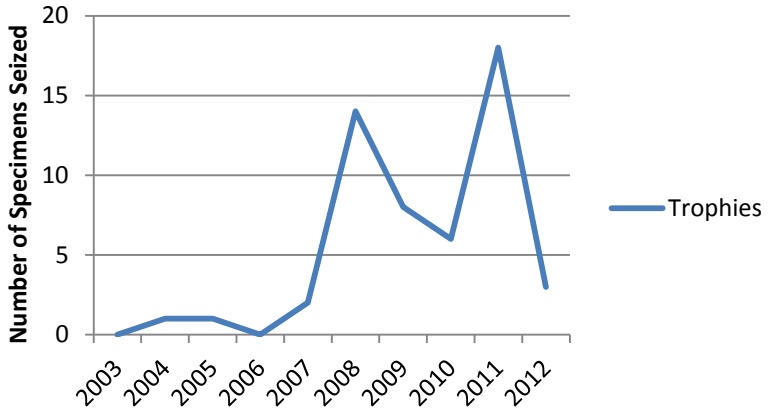

Figure 40: CITES Trade Database Reported U.S. Seizures of African Elephant Trophies between 2003 and 2012, No Units

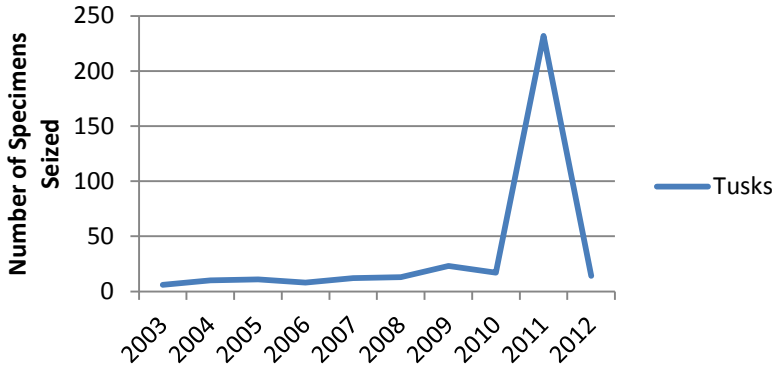

Figure 41: CITES Trade Database Reported U.S. Seizures of African Elephant Tusks between 2003 and 2012, No Units

http://www.nytimes.com/2012/07/13/nyregion/illegalivory- leads-2-to-plead-guilty-in-new-york.html [http://perma.cc/0MunQsSFSgx] (accessed Nov. 17, 2013)).

[371] USFWS, *Response to IFAW FOIA Requests*, at 57.

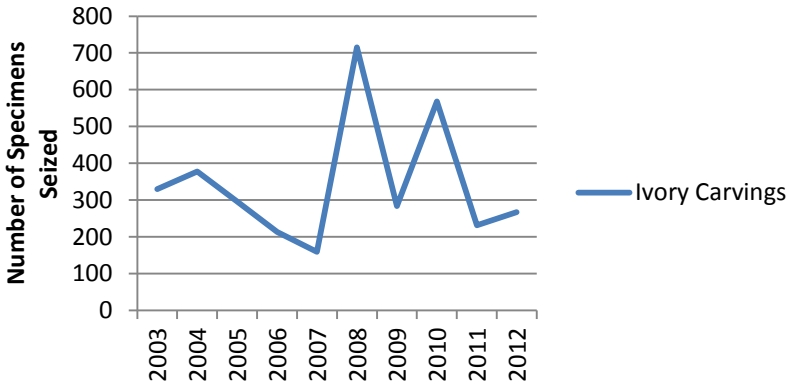

Figure 42: CITES Trade Database Reported U.S. Seizures of African Elephant Ivory Carvings between 2003 and 2012, No Units

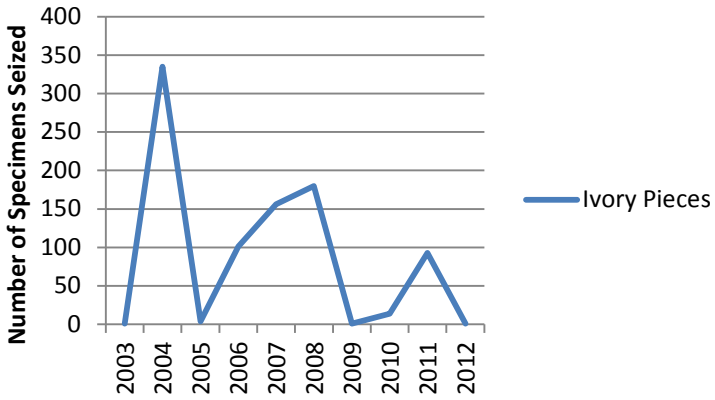

Figure 43: CITES Trade Database Reported U.S. Seizures of African Elephant Ivory Pieces between 2003 and 2012, No Units

v. Conclusion: the African elephant is endangered by overutilization for commercial and recreational purposes

The African elephant is clearly overutilized for commercial and recreational purposes. There are two components to this imminent threat to the species' survival: trade that is already illegal and trade that is currently legal. As documented in this Petition, substantial legal trade in ivory has stimulated demand for ivory that outpaces the legal supply. This has led to catastrophic levels of poaching that are not biologically sustainable. The lack of restrictions on domestic trade in ivory and elephant products in the U.S. has plays a role in the overutilization of wild elephants, as illegally-obtained ivory is frequently sold under the guise of being antique.[372] The frequency of federal law enforcement seizures of shipments of ivory directly from Africa further prove that the U.S. market drives unsustainable poaching and trafficking of elephants, which has greatly exacerbated in the last 5 years.[373, 374]

[373] Allgood et al.,IFAW, U.S. *Ivory Trade*.
[374] CITES, *Elephant Conservation*.

C. Disease or predation

Elephants are susceptible to several infectious diseases including tuberculosis[375] and elephant pox (genus *Orthopox*);[376] musculoskeletal diseases such as arthritis;[377] and other ailments. While these can be harmful or fatal to individual animals, disease is not presently considered a major contributor to overall population declines, according to the IUCN's 2008 threat assessment.[378] This may change in the future as genetic diversity and habitat are reduced, and bears close monitoring.

Likewise, natural predation is not currently a major factor in elephant population declines, according to IUCN. As a large animal with strong defensive herd instincts, most African predators avoid attacks on elephants as a matter of course, though crocodiles and lions have been known to predate juveniles and sick or injured adult elephants.

[375] S. Mikota, *A Brief History of TB in Elephants.* http://www.aphis.usda.gov/animal_welfare/downloads/elephant/A%20Brief%20History%20of%20TB%20in%20Elephants.pdf Accessed Nov. 1, 2014.
[376] P. Phuangkum et al., Elephant Care Manual for Mahouts and Camp Managers (Food & Agric. Org. of the United Nations 2005), http://www.fao.org/3/a-ae943e/ae943e0c.htm. Accessed Nov. 1, 2014 [hereinafter "P. Phuangkuam et al., *Elephant Care Manual*"].
[377] P. Phuangkuam et al., *Elephant Care Manual*.
[378] IUCN Red List, Loxodonta Africana.

D. Inadequacy of existing regulatory mechanisms

The African elephant is the subject of a large and varied body of law – including local, national, and international laws – much of which is designed to protect the species through mechanisms such as trade controls and direct prohibitions on take. Collectively, these laws and regulations have failed to prevent the drastic population loss (detailed in Section II) that the African elephant has suffered in recent years. Thus, the species is in danger of extinction due to this listing factor.

a. International law and agreements

i. CITES

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a 181-nation, multilateral agreement designed to monitor and regulate international wildlife trade.[379] While other frameworks (such as the Convention on the Conservation of Migratory Species of Wild Animals and the Convention on Biological Diversity) could potentially be used for protecting elephants, at this time CITES is the primary international legal mechanism for this purpose. Under the CITES system, species are given various levels of protection based on which "Appendix" they are listed under: "Appendix I includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances. Appendix II includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival."[380] (Appendix III is not relevant to this uplisting petition.) Appendix I is generally more restrictive than Appendix II, that is, persons who wish to engage in international trade for Appendix I species must demonstrate that this transaction is not primarily commercial in nature *and* does not detrimentally impact species survival; while Appendix II species may be traded internationally for commercial purposes, if that action does not detrimentally impact species survival. Another factor is that international shippers of Appendix I species must obtain both import and export permits (after demonstrating compliance with applicable law) from the countries' Management Authorities; Appendix II species need only an export permit.[381]

African elephants are listed under both CITES Appendix I and Appendix II, depending on the country: currently, elephants from Botswana, Namibia, Zimbabwe, and South Africa are listed under Appendix II, while the rest of the continental population is designated Appendix I.[382] This "split-listing" came about as an outcome of the 7th Conference of the Parties (CoP) in 1989, when all populations were listed on Appendix I, and when CoP delegates adopted Resolution Conf. 7.9, which laid out the process for transferring populations from Appendix I to II based on the "status of elephant populations, the effectiveness of conservation measures, and the degree of control of the movement of ivory within and through the Parties."[383] At subsequent meetings, populations of four countries (South Africa, Botswana, Namibia and Zimbabwe) were transferred to Appendix II, resulting in the "split-listing" observed today. This differential treatment has had serious implications for trade and conservation: Botswana, Namibia, Zimbabwe, and South Africa have all

[379] CITES, What is CITES? http://www.cites.org/eng/disc/what.php. Accessed January 12, 2015.
[380] CITES, How CITES Works , http://www.cites.org/eng/disc/how.php. Accessed October 1, 2014
[381] CITES, The CITES Appendices. http://www.cites.org/eng/app/index.php . Accessed January 12, 2015.
[382] CITES, *African Elephant*.
[383] Allgood et al., *U.S. Ivory* Trade, at 36.

participated in CITES-sanctioned sales of stockpiled ivory since 1999 (the buyers were China and Japan), which is unlawful for Appendix I-listed elephants under CITES.

In the 1978 USFWS decision to list the African elephant as Threatened under the Endangered Species Act, the USFWS stated that CITES "provides a mechanism for controlling the export of the elephant, and so long as this mechanism is functioning properly, there is no call for the United States to set up more, or less restrictive measures."[384] However, the CITES system has significant limitations when it comes to protecting African elephants, including: (1) CITES protections are marked by inconsistent implementation and enforcement (2) CITES governs only international trade, not domestic markets;(3) CITES protections do not apply equally to all classes of wildlife products in international trade; (4) CITES does not adequately monitor African elephant populations, mortality, or product shipments; and (5) in the case of African elephants, CITES Parties have on two separate occasions undermined elephant conservation by sanctioning ivory stockpile sales. Therefore, the U.S. must now establish more restrictive trade measures through an Endangered listing. We will examine these issues one by one in the following sections.

1. Inconsistent implementation and enforcement

CITES is an international treaty and Parties make decisions based on diplomatic needs, not necessarily the biological needs of the species. Consequently, the politics of restricting trade in highly valuable species can overshadow the biological requirements for species conservation. CITES relies on individual countries to follow CITES rules and regulations, and there is little oversight by CITES of countries' implementation, compliance or enforcement. In specific instances, there is a review of certain matters (such as whether countries have laws to implement the Convention, or whether countries are making certain findings) but these are extremely limited in scope and rarely result in punitive measures.

Also related to this is the fact that, as has been established through the Review of Significant Trade process, many countries are not making proper findings under CITES guidelines that are required in order to issue export permits. As a result of this process, the CITES Secretariat has recommended that Parties not trade in CITES specimens with certain Parties that have been found not to be making proper non-detriment findings as required by the Convention. The U.S., too, has found through its own analysis that Zimbabwe and Tanzania are not adequately protecting elephants and has taken stricter domestic measures as allowed under Article XIV of the Convention to prohibit imports from those countries (as discussed further below). Thus, the U.S. has already recognized that there are problems with CITES implementation by African elephant range countries, and existing CITES regulations are not enough to protect the species.

Politics has been an overriding factor in CITES Appendix listing decisions. The fact that not all African elephant populations are Appendix I-listed is itself a reflection of CITES' weak and decentralized power structure. In 1989, at the height of that era's poaching crisis, there was a strong push by numerous member states to transfer the species from Appendix II to Appendix I.[385]

[384] 43 Fed. Reg. 20499, 20500 (May 12, 1978).
[385] E. Barbier, et al., Elephants, Economics and Ivory 131 (Routledge 2013) http://books.google.com/books?id=SWD7AQAAQBAJ&pg=PA132&lpg=PA132&dq=cites+somalia+amendment+ivory&source=bl&ots=RkqbrXvCfQ&sig=phUm_x0AuYuwiaTOSFtHBJrAoSI&hl=en&sa=X&ei=kqD8U_G4IsPjsASaxIKgDg&ved=0CB4Q6AEwAA#v=onepage&q=cites%20somalia%20amendment%20ivory&f=false.

However, CITES delegates debated numerous alternatives to an across-the-board Appendix I listing and ultimately settled on a process whereby the species was transferred to Appendix I, with a later mechanism by which range states could petition to transfer their elephant populations to Appendix II.[386] This settlement was driven by Southern African range states that wanted to capitalize on their stockpiled ivory and skins as well as future revenue from trophy hunting.[387]

CITES enshrines the right to dissent from a decision of the Parties to list a species in any Appendix in the "reservation" clause of the Convention: "Any Party (member State) of CITES may make a unilateral statement that it will not be bound by the provisions of the Convention relating to trade in a particular species listed in the Appendices (or in a part or derivative listed in Appendix III."[388] The reservation clause allowed numerous range states to officially exempt themselves from trade restrictions that resulted from the 1989 CITES decision to list the African elephant on Appendix I;[389] this gave those states an enormous amount of leverage in setting their own trade agenda in the years to come.

Recent CITES measures to address illegal ivory trade illustrate failures of compliance
In March of 2013 the CITES Parties required a group of eight nations (China, Kenya, Malaysia, Philippines, Thailand, Uganda, the United Republic of Tanzania and Viet Nam) to develop national ivory action plans (NIAPs) detailing their responses to the poaching crisis. In July 2014, at a meeting of the CITES Standing Committee, that group was expanded to include eleven other source, transit, and consumer nations: Angola, Cambodia, Cameroon, Congo, the Democratic Republic of the Congo, Egypt, Ethiopia, Gabon, the Lao PDR, Mozambique and Nigeria.[390] These countries were threatened with the possibility of trade sanctions if satisfactory NIAP's are not developed and implemented.

Although honest assessment of countries' noncompliance is a necessary step, it is far from evident that meaningful change will result from this action. Taking Thailand as one conspicuous example, the initial threat of sanctions was relatively unheeded, despite a public commitment by the Thai government to reform: "A week before the [July 2014 intercessional CITES] meeting, TRAFFIC released a report on Thailand's ivory market, which found the availability of ivory on sale in Bangkok had tripled in the year since the country pledged to eradicate its domestic ivory market."[391] Thailand failed to submit a plan as required, and the CITES Standing Committee responded by (once more) threatening to impose trade sanctions on Thailand, but gave that country an additional eight months to make progress on its NIAP before a CITES Standing Committee vote on such a restriction would occur. Preliminary reports indicate that Thailand's NIAP "is unlikely to satisfy the international community's requirements for urgent action on the country's illegal ivory trade."[392] According to an October 15, 2014 editorial in the Bangkok Post, "It is an

[386] R. Orenstein, Ivory, Horn and Blood 62 (Firefly Books Ltd. 2013) [hereinafter "Orenstein, *Ivory, Horn and Blood*"].
[387] Orenstein, *Ivory, Horn and Blood* AT 78-84
[388] CITES, RESERVATIONS, http://www.cites.org/eng/app/reserve_intro.php. Accessed October 1, 2014
[389] Orenstein, *Ivory, Horn and Blood*, at 63.
[390] CITES, Reservations, http://www.cites.org/eng/app/reserve_intro.php. Accessed October 1, 2014.
[391] TRAFFIC, Thailand Must Address Illegal Ivory Trade or Could Face Sanctions: CITES (2014), http://www.traffic.org/home/2014/7/25/thailand-must-address-illegal-ivory-trade-or-could-face-sanc.html [hereinafter "TRAFFIC, *Thailand Must Address Illegal Ivory Trade*"].
[392] WWF, Thailand in the Spotlight Over National Plan to Control Ivory Trade (2014), http://wwf.panda.org/wwf_news/?230512/Thailand-in-the-spotlight-over-national-plan-to-control-ivory-trade.

excellent plan that everyone involved knows will fail, either partly or completely. The problem is the human element of the DNP [Department of National Parks, Wildlife & Plant Conservation]. The department has never properly enforced existing laws on protection of endangered species, including elephants. Simply put, it is too easy to buy fake papers detailing the origins of animals for trafficking."[393]

2. International trade vs. domestic market restrictions

CITES governs only international trade, not domestic markets. The CITES Parties' 1989 decision to uplist African elephants to Appendix I (while simultaneously establishing a process to selectively downlist certain populations) is often referred to as "the CITES ivory ban," a term which hides the fact that the restrictions applied solely to international trade in elephant parts between most countries. Leaving aside for a moment the implications of the dual Appendix listings, the crucial point is that the CITES ban did not (nor *could* it) limit domestic trade within any member nation; its authority stops at the international border.

This is not to say that the body ignored domestic trade entirely: "In 1997, the Parties adopted Res. Conf. 10.10, which recommended that ivory carving and importing countries enact comprehensive internal legislative, regulatory, and enforcement measures. Importantly, the Resolution recommended that Parties, including the U.S., 'register or license all importers, manufacturers, wholesalers and retailers' dealing in ivory products and that they 'establish a nationwide procedure, particularly in retail outlets, informing tourists and other non-nationals that they should not purchase ivory in cases where it is illegal for them to import it into their own home countries.' Res. Conf. 10.10 also recommends that Parties introduce recording and inspection procedures to monitor the flow of ivory."[394] Despite the existence of this resolution, "in 2004 the U.S. was found to be out of compliance with CITES Res. Conf.10.10"[395] and it is only recently that the U.S. federal government has begun implementing policies that would approximate the goals of the resolution, that is, strong domestic control and enforcement of ivory trade.

Other major consumer nations have different approaches to controlling their domestic ivory markets, but the case of China may be most instructive. As a requirement for participating in the second CITES-sanctioned stockpile sale, China was required to develop a comprehensive registration system to ensure that only legal ivory was bought and sold. The identification system (launched in 2004) consists of small official placards with a photo of the specific item and a short description; these placards must accompany the item through its commercial lifetime. Additionally, only government-sanctioned processers and retailers may engage in the business. Subsequent investigations have found that retailers frequently undermine the system by reusing the identification placard and/or by selling ivory without a government license: a 2011 investigation by the International Fund for Animal Welfare found that "[t]aken together, the unlicensed and non-compliant ivory facilities outnumbered legal ones – nearly six to one (135/23)."[396] In light of

[393] *Editorial: "War on Ivory" Will Fail*, 2014 Bangkok Post, Oct. 15, 2014 at (2014), http://www.bangkokpost.com/opinion/opinion/437640/war-on-ivory-will-fail.
[394] Allgood et al., *U.S. Ivory Trade*, at 36.
[395] Allgood et al., *U.S. Ivory Trade*, at 43.
[396] Int'l Fund for Animal Welfare, Making a Killing - a 2011 Survey of Ivory Markets in China 2, http://www.ifaw.org/united-states/resource-centre/making-killing.

such evidence, it is apparent that CITES' recommendations vis a vis registration and/or licensing are totally reliant on individual countries' willingness to enforce their own laws, a trust that is sorely abused in the real world.

3. CITES protections do not apply equally to all classes of wildlife products in international trade

According to the USFWS, the CITES *ban* "only applies to ivory acquired after elephants were listed under CITES. Ivory acquired prior to the species being listed under CITES (July 1, 1975 for Asian elephants and February 2, 1976 for African elephants) is considered pre-Convention. With proper CITES documentation, pre-Convention ivory can be imported, exported, or re-exported, unless stricter domestic laws prohibit such actions."[397] This leaves an entire class of ivory objects that escape CITES trade restrictions. This is a loophole that is being exploited by traffickers, but that could be addressed by the U.S. through an Endangered uplisting.

4. Inadequate monitoring

A basic element of any species conservation plan is an effective monitoring system. The CITES population and mortality index, called MIKE (Monitoring the Illegal Killing of Elephants) is inadequate for two major reasons: (A) It does not give a holistic picture of elephant mortality across the African continent, as it is limited to select sites; and (B) It "depends on often self-serving figures supplied by government authorities."[398] The result is that officials have to make assumptions based on piecemeal information – which is exacerbated by the lack of scientifically passable baseline data. The other component to CITES' monitoring efforts is the Elephant Trade Information System (ETIS), which is similarly plagued by problems of underreporting. According to a 2013 report coauthored by TRAFFIC's Tom Milliken, "The Elephant Trade Information System, a global database of reported seizures of illegal ivory, holds the only extensive information on illicit trade available. However inherent biases in seizure data make it difficult to infer trends; countries differ in their ability to make and report seizures and these differences cannot be directly measured."[399] This is a diplomatic way of acknowledging that many countries fail to adequately monitor or report law enforcement actions to ETIS, which fundamentally skews the data and gives a scant picture of the actual illegal trade. For example, the Democratic Republic of the Congo "has not provided any import/export or illegal trade statistics in accordance with the Convention since 2005."[400]

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[397] U.S. Fish & Wildlife Serv., CITES and Elephants: What Is the "global Ban" on Ivory Trade? (2013), https://www.fws.gov/le/pdf/CITES-and-Elephant-Conservation.pdf [hereinafter "USFWS, *CITES and Elephants*"].
[398] Orenstein, *Ivory, Horn and* Blood at 94.
[399] F. M. Underwood, et al. (2013) Dissecting the Illegal Ivory Trade: An Analysis of Ivory Seizures Data. PLoS ONE 8(10): e76539. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0076539
[400] DLA Piper, Empty Threat: Does the Law Combat Illegal Wildlife Trade? 76 (Michael S. Lebovitz, Heidi Newbigging & Alice Puritz eds., 2014), http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCAQFjAA&url=http%3A%2F%2Fwww.dlapiperprobono.com%2Fexport%2Fsites%2Fpro-bono%2Fdownloads%2Fpdfs%2FEmpty-Threat---Does-the-law-combact-illegal-wildlife-trade---Summary-Report-2014.pdf&ei=_hbZVMSKBvLksATAqIHIBA&usg=AFQjCNFAyJw3j2m8R-55fCLY945Kq5hrDw&sig2=wyoY5AnbBxggsrNNbNyI6Q&bvm=bv.85464276,d.cWc&cad=rja [hereinafter "Piper, *Empty Threat*"].

5. Undermining conservation through stockpile sales

Twice (in 1999 and again in 2008/9) CITES has sanctioned sales of stockpiled ivory, actions which many experts believe helped to boost consumer demand for this product and obscured the infiltration of illegal ivory into the marketplace.[401] The sales were intended to raise money for conservation but the returns were minimal—according to the USFWS: "The 1999 auction involved the sale of raw ivory from Botswana, Namibia, and Zimbabwe to just one designated trading partner, Japan. The total amount of funds received from the auctions was approximately $5 million. In 2008, South Africa joined Botswana, Namibia, and Zimbabwe in the sale of their raw ivory stockpiles to two designated trading partners—China and Japan. The total amount of funds received from the auctions was approximately $15.5 million."[402] It is unclear whether even this small amount was allocated for conservation programs. According to a 2009 investigation, South African officials misappropriated their share of the proceeds; and an internal government memo acknowledged that there was "no proper control over the income and expenditures generated from the fund" and that "large amounts of money had not been accounted for."[403]

While legalization of ivory trade (primarily through the mechanism of regulated stockpile sales) is again a hot topic, with advocates claiming that a well-regulated trade could reduce pressure on elephant populations, the vast majority of academic and expert testimony has weighed in against these proposals, pointing to the destructive impact of past sales.[404]

According to the USFWS, although the U.S. supported previous stockpile sales, "[t]oday, given the current poaching crisis and the scale of illegal trade, it's unlikely that the United States would be able to support a one-off sale."[405] Numerous countries (including the U.S.) have instead staged high-profile ivory stockpile crushes and burns, lending credence to the idea that is better to remove this material from circulation than to stimulate trade; however, certain CITES member states continue to lobby for a third sale, while others continue to stockpile ivory in anticipation of less restrictive trade rules in the future.[406]

ii. Convention on Migratory Species

The Convention on the Conservation of Migratory Species of Wild Animals (CMS) is a 120-Party international treaty developed through the United Nations to provide a framework for international cooperation for the conservation of migratory species throughout their range.[407] As with CITES,

[401] Int'l Fund for Animal Welfare, *Elephant Ivory Stockpile Sales Help Create a Deadly New Currency in China*, June 4, 2012 at http://www.ifaw.org/international/news/elephant-ivory-stockpile-sales-help-create-deadly-new-currency-china.
[402] USFWS, *CITES and Elephants* at 2.
[403] Sipho Kings, *Misappropriation of Ivory Funds Threatens Rhino Horn Sale* , Mail & Guardian, Oct. 28, 2014, http://mg.co.za/article/2014-10-28-misappropriation-of-ivory-funds-threatens-rhino-horn-sale.
[404] Katarzyna Nowak, *Opinion: Irrelevant, Illogical, and Illegal–24 Experts Respond to Arguments Supporting Legalization of the Ivory Trade*, Nat'l Geographic - a Voice for Elephants Blog, Oct. 2, 2014, http://voices.nationalgeographic.com/2014/10/02/opinion-irrelevant-illogical-and-illegal-24-experts-respond-to-arguments-supporting-legalization-of-the-ivory-trade/.
[405] USFWS, *CITES and Elephants* at 2.
[406] Carey L. Biron, *In Anti-Poaching Warning, U.S. Destroys Ivory Stockpiles*, Inter Press Service News Agency, Nov. 14, 2013, http://www.ipsnews.net/2013/11/in-anti-poaching-warning-u-s-destroys-ivory-stockpiles/.
[407] Convention on the Conservation of Migratory Species of Wild Animals (CMS), *CMS*. 2014. Accessed January 14, 2015 from http://www.cms.int/en/legalinstrument/cms).

CMS designates listed species under Appendices. Participating countries have obligations to help conserve and restore populations of species listed in CMS Appendix I and also prevent unwarranted take.[408] Countries are encouraged to also take action on species listed in CMS Appendix II through the development of binding agreements and non-binding memoranda of understanding.

The African elephant is listed in CMS Appendix II for its entire range. Thirteen West African countries signed the West African Elephant Memorandum of Understanding in 2005 to encourage international collaboration in restoring and maintain elephant populations in their territory.[409] The memorandum promotes legal protection as a strategy for individual countries, but is a non-binding agreement. Furthermore, the West African population of elephants is only about 2% of the total African population[410]

iii. Convention on Biological Diversity

The Convention on Biological Diversity (CBD) is another international treaty developed through the United Nations that promotes the "conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources."[411] Parties meet every two years to discuss emerging threats and strategies. The convention requires each of the 194 participating countries to prepare a national biodiversity strategy that outlines the implementation of the Convention's goals and the attainment of its various targets.[412] The CBD helps streamline strategies for protecting and sustainably using biodiversity, but does not provide explicit protections for any specific animal including the African elephant.

In summary, CITES (while an important international mechanism for protecting species in trade) falls short of providing the protections needed for African elephants, and existing international legal mechanisms are inadequate to protect African elephants from extinction.

b. Regional agreements

i. African Union

The African Union (AU) is an intergovernmental organization comprised of all but one (Morocco) of the 54 African states. The AU was formed in 1992 as a successor to the Organization of African Unity which was created in 1963. The Executive Council of the AU developed conventions on issues of interest to member states including environmental concerns.[413]

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[408] Convention on the Conservation of Migratory Species of Wild Animals website (CMS). 2003. Accessed January 14, 2015from http://www.cms.int/sites/default/files/instrument/cms_convtxt_english.pdf.
[409] Convention on the Conservation of Migratory Species of Wild Animals (CMS). 2014. Accessed January 14, 2015 from http://www.cms.int/en/legalinstrument/west-african-elephants.
[410] CMS, *West African Elephants.*
[411] United Nations (UN). 1992. Convention on Biological Diversity. Accessed January 14, 2015 from http://www.cbd.int/doc/legal/cbd-en.pdf [hereinafter "UN, *Convention on Biological Diversity*"]
[412] UN, *Convention on Biological Diversity*.
[413] The African Union Commission (AU). 2015. AU in a nutshell. Retrieved January 14, 2015 from http://au.int/en/about/nutshell.

The African Convention on the Conservation of Nature and Natural Resources, entered into force in 1969, is one such convention that requires contracting states to "adopt measures to ensure conservation, utilization and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people."[414] The Convention considers African elephants a "Class B" species which, according to the convention, "shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority."[415] While 31 countries have ratified the Convention, several with elephant populations are not listed, including countries with significant elephant populations, such as South Africa.[416] Furthermore, the Convention does not contain any enforcement mechanisms to address noncompliance and does not designate the role and frequency of meetings to update the agreement.

A Revised African Convention on the Conservation of Nature and Natural Resources was developed in 2003 that would, among other changes, establish a secretariat that would improve executive and implementation functions of the Convention.[417] The revised edition would also update rules pertaining to protected species such as the African elephant. As of July 2014, the revised Convention has not been adopted because only 12 countries have ratified it.[418]

ii. SADC Protocol on Wildlife Conservation and Law Enforcement

The Southern Africa Development Community (SADC), which is an inter-governmental organization of Southern African states, developed the Protocol on Wildlife Conservation and Law Enforcement in 1999. The Protocol, which came into force in 2003, lays down guidelines to foster international cooperation to ensure the "conservation and sustainable use of wildlife resources" under the jurisdiction of each member state.[419] The Protocol mandates the development and enforcement of legal instruments necessary to conserve wildlife resources, as well as the development and integration of conservation programs. The Protocol allows for sanctions if a state is not implementing conservation policies.[420]

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[414] The African Union Commission (AU). 1968. African Convention on the Conservation of Nature and Natural Resources. Retrieved January 14, 2015 from http://au.int/en/sites/default/files/AFRICAN_CONVENTION_CONSERVATION_NATURE_AND_NATURAL_RESOURCES.pdf [hereinafter "AU, *African Convention on the Conservation of Nature*"].

[415] AU, *African Convention on the Conservation of Nature*..

[416] The African Union Commission (AU). 2013. List of countries which have signed, ratified/acceded to the African Convention on the Conservation of Nature and Natural Resources. Retrieved January 14, 2015 from http://au.int/en/sites/default/files/Nature%20and%20Natural%20Resources_0.pdf [hereinafter "AU, *List of countries*"].

[417] The African Union Commission (AU). 2003. African Convention on the Conservation of Nature and Natural Resources (revised version). Retrieved January 14, 2015 from http://au.int/en/sites/default/files/AFRICAN_CONVENTION_CONSERVATION_NATURE_NATURAL_RESOURCES.pdf.

[418] AU, *List of countries.*

[419] Southern Africa Development Community (SADC). 1999. Protocol on Wildlife Conservation and Law Enforcement. Retrieved January 14, 2015 from http://sadc-tribunal.org/wp-content/uploads/2013/03/WildlifeConservation2.pdf [hereinafter "SADC, *Protocol on Wildlife Conservation*"].

[420] SADC, *Protocol on Wildlife Conservation*.

iii. Lusaka Agreement

The Lusaka Agreement on Cooperative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora was adopted and came into force in 1996. Seven African countries have since become Parties to the Agreement. The role of the Agreement is to create a task force that facilitates the enforcement of national wildlife laws through collaboration and "ultimately eliminating illegal trade in wild fauna and flora."[421] The Lusaka Agreement Task Force has focused on using law enforcement, capacity building, and collaboration to help reduce wildlife trafficking including elephant ivory smuggling.

c. National laws

The 37 African Elephant range states, along with the many transit and consumer nations, have taken a variety of approaches to solving the problems of wildlife trafficking, habitat loss, over-exploitation and other species threats (exacerbated recently by the growing influence of international organized criminal syndicates driving the poaching crisis). In general, however, most stakeholder countries do not have the infrastructure, funding, expertise, or political will to deal with the many different threats to elephants.

Despite a brief period of rebound in the early 2000's,[422] over the past three decades African elephants have faced overall declines in most regions where they are found,[423] including reductions in both range size and population numbers. These declines can be traced to such threats as habitat loss,[424] associated increases in human-elephant conflict,[425] and rampant poaching.[426] The threats are aided by a lack of regulatory tools and controls in relevant countries to protect elephants adequately. More specifically, better regulatory mechanisms are needed on the ground in range countries to stop the loss of habitat[427] and prevent elephant killings;[428] in elephant product transit countries to disrupt trafficking;[429] and in consumer nations to curb consumption and demand for elephant products.[430]

With poaching in particular, weak governance and political conflicts are systemic problems facilitating the current elephant crisis.[431] For example, elephants are known to be endangered by inadequate law enforcement and/or insufficient infrastructure to combat poaching and trafficking threats in range countries with still sizable elephant populations[432] like Cameroon,[433] CAR,[434]

[421] Lusaka Agreement Task Force (LATF). 2013. Vision and Mission Statement. Retrieved January 14, 2015 from http://lusakaagreement.org/?page_id=126.
[422] UNEP et al., *A Rapid Response* at 22
[423] UNEP et al., *A Rapid Response* at 22
[424] UNEP et al., *A Rapid Response* at 15.
[425] IUCN Red List, Loxodonta Africana.
[426] UNEP et al., *A Rapid Response* at 32.
[427] UNEP et al., *A Rapid Response* at 15.
[428] UNEP et al., *A Rapid Response* at. 22.
[429] UNEP et al., *A Rapid Response* at 40.
[430] UNEP et al., *A Rapid Response* at 40.
[431] UNEP et al., *A Rapid Response* at 69.
[432] UNEP et al., *A Rapid Response* at 25.
[433] UNEP et al., *A Rapid Response* at 41; African Elephant Status Report 2007 at 31.
[434] African Elephant Status Report 2007 at 36.

Congo,[435,436] DRC,[437] Gabon,[438] Kenya,[439] Mozambique,[440,441] South Africa,[442] Tanzania,[443,444] Uganda,[445,446] Zambia,[447] and Zimbabwe.[448] Similarly, elephant populations are being negatively impacted in range countries like Chad,[449] CAR,[450] and DRC,[451] where these nations are facing political instability and conflict that can exploit infrastructure gaps and open the door for organized crime and poaching rings.[452]

In addition to range countries like Kenya, South Africa, and Tanzania that also serve as transit hubs for trafficking elephant products,[453] there are countries outside of Africa that are transit—and sometimes end—points for these products. These include Asian countries like China, Hong Kong SAR, Malaysia, the Philippines, Thailand, and Viet Nam.[454] Weak governance as well as institutional corruption have been flagged as exacerbating factors in many of these elephant product transit countries of concern.[455]

In 2014 the international law firm DLA Piper, in concert with the UK-based NGO United For Wildlife, released a seminal report on African and Asian legislative, jurisprudential, and law enforcement mechanisms for controlling wildlife trafficking. The report, *Empty Threat: Does the Law Combat Illegal Wildlife Trade?*, was highly critical in its assessment of much of the African and Asian continental capacity in this regard, and spotlighted the need for drastic reform in many of the key countries along the elephant product supply chain. This included criticisms of laws and infrastructure to protect wildlife in elephant range and/or transit countries like Botswana,[456] Cameroon,[457] DRC,[458] Kenya,[459] and Tanzania[460] as well as transit and consumer countries like China,[461] Thailand,[462] and Viet Nam.[463]

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[435] African Elephant Status Report 2007 at 46.
[436] UNEP et al., *A Rapid Response* at 41.
[437] UNEP et al., *A Rapid Response* at 41.
[438] UNEP et al., *A Rapid Response* at 41; African Elephant Status Report 2007 at 62.
[439] UNEP et al., *A Rapid Response* at 41.
[440] African Elephant Status Report 2007 at 132.
[441] UNEP et al., *A Rapid Response* at 41.
[442] UNEP et al., *A Rapid Response* at 41.
[443] USFWS website, http://www.fws.gov/news/ShowNews.cfm?ID=2E6FF2A2-E10F-82BC-DAE08807810E3C6B
[444] UNEP et al., *A Rapid Response* at 41.
[445] African Elephant Status Report 2007 at 106.
[446] UNEP et al., *A Rapid Response* at 41.
[447] African Elephant Status Report 2007 at 152.
[448] African Elephant Status Report 2007 at 157.
[449] UNEP et al., *A Rapid Response* at 40.
[450] UNEP et al., *A Rapid Response* at 40.
[451] UNEP et al., *A Rapid Response* at 51.
[452] UNEP et al., *A Rapid Response* at 57.
[453] UNEP et al., *A Rapid Response* at 41.
[454] UNEP et al., *A Rapid Response* at 43.
[455] UNEP et al., *A Rapid Response* at 43.
[456] Piper, *Empty Threat* at 6.
[457] Piper, *Empty Threat* at 31.
[458] Piper, *Empty Threat* at 75.
[459] Piper, *Empty Threat* at 99.
[460] Piper, *Empty Threat* at 208.
[461] Piper, *Empty Threat* at 57.
[462] Piper, *Empty Threat* at 189.
[463] Piper, *Empty Threat* at 258.

Similar to unabated poaching, the ongoing and dramatic loss of habitat[464] in important elephant range countries is proof that existing national laws are inadequate. For example, between 1990 and 2005, the country of Tanzania lost forest cover at a rate double the average for low human development countries and five times the mean global rate.[465] This continued habitat loss has resulted in more than 37% of the country's forest and woodland habitat having disappeared since 1990.[466] Additionally, ongoing loss of habitat has created more human-elephant conflict and further reduced elephant range in countries like Tanzania that formerly hosted bountiful elephant populations.[467]

Similarly alarming is that the amount of land set aside for agriculture in Sub-Saharan Africa overall increased by 25% between 1970 and 2000.[468] And conversion for crop-land is just one type of habitat loss impacting elephants, along with increased livestock, human population growth, and urban development spread, all of which lead to increased human-elephant conflict[469] and subsequent elephant losses.[470] Without regulatory tools designed to control this loss, elephant habitat will continue to shrink.

It is important to note that even if one country has ostensibly strong laws protecting elephants and their habitats, transient or border populations can easily be negatively impacted by laws—or lack thereof—in other range, transit or consumer countries.[471]

In conclusion, the continuing decline in range and population numbers for elephants in almost all regions of Africa where they exist clearly show that elephant range, transit and consumer countries do not have adequate regulatory mechanisms in place to protect elephants from extinction.

i. Corruption

In many countries in Africa and Southeast Asia, corruption presents a serious threat to wildlife protection measures, such as elephant product trade controls and anti-poaching programs. As Bennet (2014) detailed in *Conservation Biology*, high levels of corruption in these regions make it difficult to enforce current regulations and should also be taken into account while examining proposals to legalize the ivory trade. Bennet writes, "If we are to conserve remaining wild

[464] IUCN Red List, Loxodonta Africana.
[465] P. Chardonnet, et al. (2010). *Managing the conflicts between people and lion: Review and insights from the literature and field experience* (Wildlife Management Working Paper 13). Rome, Italy: Food and Agriculture Organization of the United Nations, http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CCAQFjAA&url=http%3A%2F%2Fwww.fao.org%2Fdocrep%2F012%2Fk7292e%2Fk7292e00.pdf&ei=ghfZVLXcE-K1sATpxILIBw&usg=AFQjCNFGdHD8KbpcGcqnyEZjmhu3hYpITw&sig2=gGi2twhV43qbHtXDbwA3Qg&bvm=bv.85464276,d.cWc [hereinafter "Chardonnet, et al., *Managing the conflicts between people and lion*"].
[466] C. Packer et al., *Effects of Trophy Hunting on Lion and Leopard Populations in Tanzania*, Conservation Biology (Jul. 2009), available at http://www.cbs.umn.edu/sites/default/files/public/downloads/Effects%20of%20trophy%20hunting%20on%20populations%20of%20lions%20and%20leopards%20in%20TZ.pdf.
[467] African Elephant Status Report 2007 at 99.
[468] Chardonnet, et al., *Managing the conflicts between people and lion*.
[469] UNEP et al., *A Rapid Response* at 15.
[470] UNEP et al., *A Rapid Response* at 41.
[471] African Elephant Status Report 2007 at 3.

populations [of elephants], we must close all markets because, under current levels of corruption, they cannot be controlled in a way that does not provide opportunities for illegal ivory being laundered into legal markets."[472] This includes markets in the U.S. that are allowed under the current Threatened listing.

African elephant range states are among the most corrupt countries on the planet, with Bennet (2014) noting that "Of the 12 countries in Africa estimated to have elephant populations of 15,000 animals or more (UNEP et al. 2013), 8 are among the bottom 40% of the world's most corrupt countries and 3 are among the bottom 11% (Transparency International 2013)." [473] Corruption extends beyond turning a blind eye or even government officials' facilitation of illegal trade: in several countries including the DRC, South Sudan and Uganda, national military forces have been implicated in the direct slaughter of African elephants.[474] (Note that DRC and Uganda are parties to CITES, providing another reason to be skeptical of the efficacy of that treaty.)

In conclusion, while there exists a myriad of environmental laws and other relevant regulations in most elephant range, transit, and consumer nations, the ongoing decline of the species (in the face of habitat loss, overexploitation, and other threats) shows definitively that these systems are not adequate to save the species.

d. U.S. law

i. African Elephant Conservation Act

The 1988 African Elephant Conservation Act (AfECA) "created a major program for the conservation of African Elephants"[475] that included funding for conservation programs, and international trade restrictions for elephant ivory. The AfECA was passed at a time when there was a global, legal ivory trade. It allowed the U.S. to establish moratoria on imports of African elephant ivory from other countries, and set out criteria that needed to be met to remove those moratoria for each ivory exporting country. The Act prohibits: (1) The importation of raw ivory from any country other than an ivory producing country; (2) the export of raw ivory from the US; (3) the importation of raw or worked ivory that was exported from an ivory producing country in violation of that country's laws or of the CITES Ivory Control System; (4) the import of worked ivory, other than personal effects, from any country unless that country has certified that such ivory was derived from legal sources; and (5) the importation of raw or worked ivory from a country for which a moratorium is in effect.[476]

No CITES Appendix I range state has yet been determined to qualify for a blanket U.S. import exemption for ivory as provided in AfECA.[477] The Act does not address the import of sport hunted African elephant trophies and clearly recognizes that the ESA grants USFWS authority to enact

[472] BENNETT, E. L. Bennett (2014), Legal Ivory Trade in a Corrupt World and its Impact on African Elephant Populations. Conservation Biology. Abstract: http://onlinelibrary.wiley.com/doi/:: 10.1111/cobi.12377/abstract [hereinafter: Bennett, *Legal Ivory Trade in a Corrupt World*"].
[473] Bennett, *Legal Ivory Trade in a Corrupt World* at 3.
[474] Orenstein, *Ivory, Horn and Blood* at 116.
[475] P. Saundry, *Endangered Species Act: United States*, available at http://www.eoearth.org/view/article/152413/.
[476] 16 U.S.C. §§ 4222 *et seq*.
[477] U.S. Fish & Wildlife Serv., Importing Your Leopard or African Elephant Sport-Hunted Trophy (2014), http://www.fws.gov/international/pdf/factsheet-import-leopard-elephant-sport-hunted-trophy-2013.pdf.

additional restrictions on trade in ivory and other elephant parts. 16 U.S.C. §§ 4222, 4223, 4241.

ii. Endangered Species Act

The Endangered Species Act (ESA) is one of the most comprehensive and important wildlife conservation statutes in existence today, but current ESA protections applied to African elephants are inadequate.

Pursuant to the ESA (16 U.S.C. § 1538(a)) and Fish and Wildlife Service regulations (50 C.F.R. §§ 17.21, 17.22), once the Service lists a species as endangered, individuals of listed species are protected from import, export, take, and interstate commerce unless such action will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement authorization may only be issued for activities that *positively benefit* the species in the wild. *See also* U.S. Fish and Wildlife Service Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

Enhancement authorization must be granted on a case-by-case basis, with an application and opportunity for meaningful public participation. 16 U.S.C. § 1539(c); *Friends of Animals v. Salazar*, 626 F. Supp. 2d 102, 119 (D.D.C. 2009). Before the Service can issue authorization to conduct otherwise prohibited acts, it must find that: (1) the permit or registration was "applied for in good faith;" (2) the permit or registration "will not operate to the disadvantage of such endangered species;" and (3) the proposed action "will be consistent with the purposes and policy" of the ESA (i.e., *conservation*[478]). 16 U.S.C. § 1539(c)-(d). As explained by Congress, these requirements were intended "to limit substantially the number of exemptions that may be granted under the act." H. R. Rep. No. 93-412 p. 17 (1973) (emphasis added). Implementing regulations further require that applicants provide detailed information about the animals, persons, facilities, and actions involved in the otherwise prohibited activity. 50 C.F.R §§ 17.21(g), 17.22; *id.* § 13.21(b)(2)(3) (authorization may not be issued if applicant "failed to disclose material information required" or "failed to demonstrate a valid justification").

In deciding whether to issue an enhancement permit, the USFWS must consider "[t]he probable and indirect effect which issuing the permit would have on the wild populations of the wildlife sought to be covered by the permit;" "[w]hether the permit . . . would in any way, directly or indirectly, conflict with any known program intended to enhance the survival probabilities of the population from which the wildlife sought to be covered by the permit was or would be removed;" "[t]he opinions or views of scientists or other persons or organizations having expertise concerning the wildlife or other matters germane to the application;" and "[w]hether the expertise, facilities, or other resources available to the applicant appear adequate to successfully accomplish the objectives stated in the application." 50 C.F.R. § 17.22(a)(2).

[478] The primary purpose of the ESA is to "provide a program for the conservation of such endangered species." 16 U.S.C. § 1531(b). The term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary" – i.e. to recover the species in the wild so that it may be taken off of the list of endangered species. 16 U.S.C. § 1532(3).

When a species is listed as threatened, individuals of the species may not be subjected to import, export, take, or interstate commerce, unless such action is conducted pursuant to a permit or a special rule. 16 U.S.C. § 1538(a); 50 C.F.R. §§ 17.31, 17.32, 17.40. Special rules must be designed and implemented to promote the conservation of the species. *See Sierra Club v. Clark*, 755 F.2d 608 (8th Cir. 1985). But under the current Threatened listing and special rule (50 C.F.R. § 17.40(e)), which largely mirrors the restrictions established by the AfECA, trade in African elephant parts and products is not sufficiently regulated to protect the species from extinction, as required by law.

a. Ivory

According to USFWS Director's Order 210 (issued in 2014 to urge strict enforcement of existing law), pursuant to the Threatened listing and the AfECA, it is currently lawful to import certain elephant parts and products to the U.S., as follows:

(1) Raw or worked African elephant ivory imported by an employee or agent of a Federal, State, or tribal government agency for law enforcement purposes.

(2) Raw or worked African elephant ivory imported for genuine scientific purposes that will contribute to conservation of the species.

(3) Worked African elephant ivory imported for personal use as part of a household move or as part of an inheritance, provided that the worked elephant ivory:

- Was legally acquired prior to February 26, 1976;
- Has not subsequently been transferred from one person to another person for financial gain or profit since February 25, 2014; and
- The item is accompanied by a valid Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) pre-Convention certificate.

(4) Worked African elephant ivory imported as part of a musical instrument, provided that the worked elephant ivory:

- Was legally acquired prior to February 26, 1976;
- Has not subsequently been transferred from one person to another person for financial gain or profit since February 25, 2014;
- The person or group qualifies for a CITES musical instrument certificate; and
- The musical instrument containing elephant ivory is accompanied by a valid CITES musical instrument certificate or an equivalent CITES document that meets all of the requirements of CITES Resolution Conf. 16.8.

(5) Worked African elephant ivory imported as part of a travelling exhibition, provided that the worked elephant ivory:

- Was legally acquired prior to February 26, 1976;
- Has not subsequently been transferred from one person to another person for financial gain or profit since February 25, 2014;

- The person or group qualifies for a CITES travelling exhibition certificate; and
- The item containing elephant ivory is accompanied by a valid CITES travelling exhibition certificate or an equivalent CITES document that meets the requirements of 50 CFR 23.49.

Further, the ESA special rule allows for interstate commerce in lawfully imported ivory, leading to a robust domestic market for elephant parts and products that serves as a cover for rampant illegal trade and fails to adequately protect the species (as described in detail above).

b. Sport hunted trophies

Under the African elephant special rule, the importation of sport hunted trophies is allowed under the following circumstances: If the trophy's country of origin has notified the USFWS of its ivory quota[479] for the year of export; if CITES permit requirements are met; if an enhancement finding has been made; and if marking and labelling requirements have been met.[480] Due to the differential CITES listing, in practice this means that the U.S. does not require individual permits for imports of sport-hunted African elephant trophies from Botswana, South Africa, and Namibia, while the U.S. does require an importer to obtain a permit for the import of trophies from Appendix I range states. The Service has previously asserted that it considers trophy-hunting of imperiled species to have a positive overall impact on species conservation.[481] However, there is minimal data showing this to be the case, especially as pertains to elephants and other iconic African species.[482]

But in 2014, the Service suspended imports of elephant trophies from Tanzania and Zimbabwe, finding that such countries have suffered from severe poaching crises and are not sustainably managing their elephant populations.[483]

The recent suspensions of trophy imports from Tanzania and Zimbabwe call attention to the fact that the Service has historically not exercised maximum oversight of African elephant range states to ensure that U.S. activities are not exploiting poorly managed populations.

According to Selier et al. (2014). in a recent peer-reviewed article published in *The Journal of Wildlife Management*, even those range states from which USFWS currently allows trophy imports may be setting unsustainably high hunting quotas: in the Greater Mapungubwe

[479] In this case, CITES considers the term "ivory quota" to collectively refer to "procedures to control the international trade in ivory from African elephants," including trophies. (http://www.cites.org/eng/cop/06/doc/E06-21.pdf)
[480] *See* 50 C.F.R. § 23.74.
[481] USFWS, Suspension of Import of Elephant Trophies Taken in Tanzania and Zimbabwe: Questions and Answers. available at http://www.fws.gov/international/pdf/questions-and-answers-suspension-of-elephant-sport-hunted-trophies.pdf (Accessed January 14, 2015).
[482] Economists at Large. (2013). The $200 million question: How much does trophy hunting really contribute to African communities? A report for the African Lion Coalition, prepared by Economists at Large, Melbourne, Australia, http://www.ecolarge.com/our-work/.
[483] *See* 79 Fed. Reg. 44459, 44460 (July 31, 2014) ("Without management plans with specific goals and actions that are measurable and reports on the progress of meeting these goals, the Service cannot determine if…Zimbabwe is implementing, on a national scale, appropriate management measures for its elephant populations."); U.S. Endangered Species Act Enhancement Finding for Tanzanian Elephants (http://www.fws.gov/international/pdf/enhancement-finding-2014-elephant-Tanzania.PDF) ("Questionable management practices, a lack of effective law enforcement, and weak governance have resulted in uncontrolled poaching and catastrophic population declines in Tanzania.").

Transfrontier Conservation Area (at the nexus of South Africa, Botswana, and Zimbabwe), scientists found that, in contrast to current hunting allowances, "only a small number of bulls (<10/year) could be hunted sustainably. At current rates of hunting, under average ecological conditions, trophy bulls will disappear from the population in less than 10 years."[484]

The special rule also allows for imports and exports of elephant products other than sport-hunted trophies and ivory, such as skin or body parts, so long as such activities comply with CITES permitting guidelines. Domestic trade is also allowed in such parts as long as the parts were not illegally imported.[485]

Thus, the current Threatened listing for African elephants, which minimizes federal oversight of imports and allows substantial domestic trade in the species, fails to adequately protect the species, and uplisting to Endangered status is required by law. While some states, such as New York and New Jersey, have recently taken action to restrict their ivory markets, federal action is necessary to fully address the overutilization that is contributing to the demise of this iconic species. Indeed, the Service has recognized the need to increase protection for the African elephant under the Endangered Species Act, though to date it has not formally proposed any such regulations.[486]

A notable conservation benefit to the African elephant resulting from an Endangered listing would be that all applications for otherwise prohibited activities would be subject to public comment and review. This would increase the information available to the USFWS, by enabling experts and others with pertinent and timely information to inform the agency's decision-making. Further, improved transparency would benefit the species by shining a light on potentially illegal trade.

iii. Lacey Act

The Lacey Act (16 U.S.C. §§ 3371-3378) makes it "unlawful to import, export, sell, acquire, or purchase fish, wildlife or plants taken, possessed, transported, or sold: 1) in violation of U.S. or Indian law, or 2) in interstate or foreign commerce involving any fish, wildlife, or plants taken possessed or sold in violation of State or foreign law." Essentially, Lacey criminalizes commercial activity in wildlife products—such as poached elephant products— that were illegally obtained in the first place. The law is considered to be among the most important wildlife trade laws in the U.S., but without strong underlying state and international protection for the species, the Lacey Act is not an adequate regulatory mechanism to save this species from extinction.

[484] S. Selier et al. (2014), Sustainability of elephant hunting across international borders in southern Africa: A case study of the greater Mapungubwe Transfrontier Conservation Area. The Journal of Wildlife Management, 78: 122–132.
http://www.researchgate.net/publication/259539652_Sustainability_of_elephant_hunting_across_international_borders_in_southern_Africa_A_case_study_of_the_greater_Mapungubwe_Transfrontier_Conservation_Area
[485] 50 C.F.R. § 17.40(e).
[486] *USFWS Moves to Ban Commercial Elephant Ivory*.

E. Other natural or manmade factors affecting the species' existence

Several biological traits make African elephants susceptible to over-utilization. African elephants are often used as one of the best examples of a 'k-selected' species: those species with traits such as large body size, long life expectancy, a late age at which they reach sexual maturity, and the production of fewer offspring, which often require extensive parental care until they mature. This contrasts with 'r-selected' species which produce many offspring, each of which has a relatively low probability of surviving to adulthood. The elephant's low reproductive output means that offtake can easily exceed reproductive output and result in population decline. This is especially true when females of reproductive age are killed, as happens with elephant poaching and trophy hunting, because this further diminishes the reproductive output.

V. CONCLUSION

This Petition demonstrates that the African elephant species meets the statutory criteria for an Endangered listing under the ESA. The species is currently "in danger of extinction throughout all or a significant portion of its range" and, therefore, must be listed as Endangered.[487] The future security and viability the African elephant is uncertain – the species faces a multitude of threats including habitat loss, exploitation, killings from human-elephant-conflict, and rampant poaching.

As the U.S. is not part of the African elephant's natural range, protection under the ESA would occur by, *inter alia*, a prohibition on the import into the U.S., and interstate commerce within the U.S., of elephant specimens except where the activity enhances the propagation or survival of the species or is for scientific purposes.[488] Listing the African elephant under the ESA would directly benefit this species in crisis by significantly limiting trade linked to unnecessary killings for sport or commercial purposes. An uplisting would also allow for and encourage the U.S. to provide elephant range States with further assistance in the development and management of programs useful to the conservation of the species. Such a listing would also serve to heighten awareness of the importance of conserving the African elephant among foreign governments, conservation organizations, and the general public.

The iconic African elephant is in danger of extinction if action is not immediately taken to reverse the current trend toward extinction. The U.S. is the world's largest importer of African elephant hunting trophies, and has large domestic ivory markets that facilitate illegal trade. It is time for the U.S. to play a leading role in the effort to save the African elephant. Listing the species as Endangered under the ESA is a significant and necessary step toward controlling unsustainable exploitation, curbing demand by Americans, and keeping this crisis in the eye of the global conservation community.

[487] 16 U.S.C. §§ 1532(6), 1533.
[488] 16 U.S.C. §§ 1538(a), 1539(a).

Annex XX

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Petition to the Department of the Interior

Petition to List the Giraffe (*Giraffa camelopardalis*) under the Endangered Species Act; April 19, 2017 (124 pages)

Attached below.

Barbara Hollweg

PETITION TO LIST THE GIRAFFE (*GIRAFFA CAMELOPARDALIS*) UNDER THE ENDANGERED SPECIES ACT

April 19, 2017

by

CENTER FOR BIOLOGICAL DIVERSITY, HUMANE SOCIETY INTERNATIONAL, THE HUMANE SOCIETY OF THE UNITED STATES, INTERNATIONAL FUND FOR ANIMAL WELFARE, and NATURAL RESOURCES DEFENSE COUNCIL

Notice of Petition

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Petitioners

The Center for Biological Diversity (Center)
378 N Main Avenue,
Tucson, AZ 85701

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center is supported by more than one million members and activists throughout the United States. The Center and its members are concerned with the conservation of endangered species and the effective implementation of the Endangered Species Act.

Humane Society International (HSI)
1255 23rd St., NW Suite 450
Washington, DC 20037

Humane Society International is one of the only global animal protection organizations working to help all animals—including animals in laboratories, animals on farms, companion animals and wildlife—and our record of achievement demonstrates our dedication and effectiveness. HSI: Celebrating Animals, Confronting Cruelty.

The Humane Society of the United States (HSUS)
1255 23rd St., NW Suite 450
Washington, DC 20037

The Humane Society of the United States ("HSUS") is the nation's largest animal protection organization. Based in Washington, DC, HSUS works to protect all animals and combat cruelty through litigation, legislation, investigation, education, advocacy, grant-making, emergency rescue missions, field work, and direct care to tens of thousands of animals. HSUS has worked for decades to improve the plight of African wildlife, including increasing Endangered Species Act ("ESA") protection for imperiled species like elephants, lions, and chimpanzees.

International Fund for Animal Welfare (IFAW)
290 Summer Street
Yarmouth Port, MA 02675

Founded in 1969, IFAW rescues and protects animals around the world. With projects in more than 40 countries, IFAW rescues individual animals, works to prevent cruelty to animals, and advocates for the protection of wildlife and habitats.

Natural Resources Defense Council (NRDC)
40 West 20th Street
11th floor
New York, NY 10011

NRDC works to safeguard the earth—its people, its plants and animals, and the natural systems on which all life depends. We combine the power of more than two million members and online activists with the expertise of some 500 scientists, lawyers, and policy advocates across the globe to ensure the rights of all people to the air, the water, and the wild.

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Submitted this 19th Day of April, 2017

Pursuant to Section 4(b) of the Endangered Species Act (ESA), 16 U.S.C. § 1533(b); Section 553(e) of the Administrative Procedure Act (APA), 5 U.S.C. § 553(e); and 50 C.F.R. § 424.14(a), the Center for Biological Diversity, International Fund for Animal Welfare, Humane Society International, The Humane Society of the United States, and Natural Resources Defense Council hereby petition the Secretary of the Interior, through the U.S. Fish and Wildlife Service (Service), to protect the giraffe (*Giraffa camelopardalis*) as an endangered species under the Endangered Species Act, 16 U.S.C. § 1533, or alternatively if taxonomic consensus changes or the Service decides to list an entity below the species level, we request that all giraffe subspecies or distinct population segments be protected at least as threatened, with qualified subspecies or distinct population segments protected as endangered.

This Petition presents substantial scientific and commercial information indicating that the giraffe is in danger of extinction throughout all or a significant portion of its range. *See* 50 C.F.R. § 424.14(h)(1) ("substantial scientific or commercial information" refers to credible scientific or commercial information in support of the petition's claims such that a reasonable person conducting an impartial scientific review would conclude that the action proposed in the petition may be warranted). Therefore, the Secretary of the Interior, through the Service, must make an initial finding "that the petitioned action *may be* warranted." 16 U.S.C. §1533(b)(3)(A)(emphasis added) (The Secretary must make this initial finding "[t]o the maximum extent practicable, within 90 days after receiving the Petition"); *HSUS v. Pritzker*, 2014 WL 6946022 (D.D.C. 2014) (holding that conclusive evidence is not required to make a positive 90-day finding).

The giraffe has suffered a major reduction in population size across its range primarily due to habitat loss, commercial overutilization, and severe poaching, and such decline continues unabated. The Service has a duty to protect the iconic giraffe by listing the species as endangered under the federal Endangered Species Act, which would meaningfully contribute to giraffe conservation by strictly regulating the import, export, and interstate commerce in giraffes and their parts and products. *See* 16 U.S.C. § 1531(b),(c) (providing that federal agencies "shall utilize their authorities in furtherance of" the conservation purpose of the ESA).

Respectfully Submitted,

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Executive Summary

This Petition presents substantial information indicating that the giraffe (*Giraffa camelopardalis*) is currently in danger of extinction throughout all or a significant portion of its range and meets the statutory criteria for an endangered listing under the Endangered Species Act (ESA), 16 U.S.C. §§ 1531-1544. The Petitioners— the Center for Biological Diversity, Humane Society International, The Humane Society of the United States, International Fund for Animal Welfare, and Natural Resources Defense Council—therefore petition the Secretary of the Interior and the U.S. Fish and Wildlife Service (the Service) to protect the giraffe as an endangered species under the ESA; or alternatively, if taxonomic consensus changes or the Service decides to list an entity below the species level, we request that all giraffe subspecies or distinct population segments be protected at least as threatened, with qualified subspecies or distinct population segments protected as endangered.

The ESA requires the Secretary to determine within 90 days of receiving a petition whether the petition "presents substantial scientific or commercial information indicating that the petitioned action may be warranted." 16 U.S.C. § 1533(b)(3)(A). Such determination must be made solely on the basis of the "best scientific and commercial data available." *Id.* § 1533(b)(1)(A). Following a positive 90-day finding, the Secretary must, within one year of receipt of the petition, complete a review of the status of the species, publish a finding of whether the petitioned action is warranted and, if so, promptly propose a rule to list the species. *Id.* § 1533(b)(3)(B). Should a rule be proposed, the Secretary has an additional year to finalize regulations protecting the species. *Id.* § 1533(b)(6)(A).

Once foreign species are listed as endangered, protection under the ESA occurs by, *inter alia*, prohibiting import, export, and interstate commerce in live animals and derivatives, 16 U.S.C. § 1538(a)(1), (c), (g), unless such activity enhances the propagation or survival of the species or is for conservation science purposes. *Id.* § 1539(a)(1)(A). Furthermore, Section 8 of the ESA provides for "International Cooperation" in the conservation of foreign species, and listing foreign species heightens global awareness about the importance of conserving the species. *Id.* § 1537. This is essential for an animal like the giraffe where the public is generally unaware of its population decline.

The Petition lays out the taxonomic status of the giraffe species, its natural history and biology, and the current status, distribution, and population trends. The Petition describes the threats facing giraffes including habitat destruction and fragmentation; overutilization through illegal hunting, legal sport hunting, and for use in international trade; disease and predation; and the inadequacy of the current regulatory mechanisms. The combination of these threats puts the conservation status of the species at risk. Listing the giraffe as endangered is necessary to prevent the decline of the species and promote its conservation both in the U.S. and in giraffe range countries, as required by law.

Taxonomy, Status, and Distribution

Currently, consensus on giraffe taxonomy is evolving. Numerous and varied recommendations exist in the scientific literature to change the longstanding taxonomy recognizing one species of giraffe (*Giraffa camelopardalis*), varying upon the weight given to morphological features,

genetic data, and biological considerations. In classifying the giraffe as vulnerable to extinction in December, 2016, the IUCN Giraffe and Okapi Specialist Group recognized one species (*Giraffa camelopardalis*) and nine subspecies: West African (*Giraffa camelopardalis peralta*); Kordofan (*G. c. antiquorum*); Nubian (*G. c. camelopardalis*); reticulated (*G. c. reticulata*); Rothschild's (*G. c. rothschildi*); Masai (*G. c. tippelskirchi*); Thornicroft's (*G. c. thornicrofti*); Angolan (*G. c. angolensis*); and South African (*G. c. giraffa*). Thus, this Petition addresses the giraffe species as a whole but, where relevant, also provides information on the nine subspecies.

Giraffes once occupied much of the savannah and savannah woodlands of Africa. Today, the species only retains a fraction of that expansive range due to human population expansion. Current giraffe range includes isolated parts of West and Central Africa, increasingly fragmented habitat in East Africa, and parts of southern Africa. According to the IUCN's most recent estimate (2016), the giraffe has undergone a 36 to 40% population decline over the past 30 years. Today, roughly 97,500 giraffes remain in Africa compared to the over 150,000 giraffes recorded in Africa in 1985/ or within the last three generations.

Threats

Giraffes have experienced severe habitat loss and fragmentation as a result of the expansion of human activities into their habitats. The conversion of native habitat to agriculture, uncontrolled timber harvest, poor land use planning, and urban expansion have all played a role in the loss and degradation of giraffe habitat.

Giraffes are hunted both legally and illegally for sport and for their parts and products. Most range countries nominally protect the species, but a lack of enforcement of local laws, in addition to civil unrest in certain parts of giraffe habitat have allowed poaching for bushmeat, bones, tail hair, and other parts to become a leading cause of giraffe mortality and major contributor to their decline. Poaching, as well as legal sport hunting, is further spurred by the international trade in giraffe parts and products, which is quantified in this Petition through original analysis of data from the Service's LEMIS database and an assessment of online sales of giraffe products. The online sales assessment and LEMIS data review show only a small part of the international trade in giraffes.

Through available LEMIS data, it is clear that the U.S. is contributing to giraffe population decline. Over the past decade, the U.S. imported 21,402 bone carvings, 3,008 skin pieces, and 3,744 hunting trophies. The original analysis presented in this Petition shows that between 2006 and 2015 (the most recent decade for which complete data are available), 39,516 giraffe specimens (giraffes, dead or alive, and their parts and derivatives) were imported to the U.S. for all purposes. This equates to a very conservative, bare minimum equivalent of at least 3,751 giraffes. The equivalent of approximately 3,718 giraffes were imported for recreational or commercial purposes, and a staggering 20,885 giraffe bone carvings were imported for commercial purposes during the period studied. Further, because the giraffe is not listed on the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the scale of the global trade is unknown, but considering the volume of trade in other African wildlife species it is very likely to many times the size of the U.S. market alone, compounding the threat that international trade poses to this species.

Giraffes are further threatened by the proliferation of disease including the Giraffe Skin Disease (GSD), inbreeding depression in isolated populations, collisions with automobiles and airplanes, and the increased frequency and magnitude of droughts associated with climate change.

Conclusion

The "Vulnerable" classification of the giraffe by the IUCN in 2016 was a wake-up call to the world that the tallest land mammal on earth is undergoing a silent extinction due to widespread poaching, legal hunting, habitat loss and fragmentation, and other factors. With fewer giraffes left in Africa than elephants, it is imperative that we turn our attention to these unique animals before it is too late. Because the U.S. is a conservation leader and also a significant giraffe product consumer, conservation of these rare mammals can and should start here. This Petition clearly shows that the best available science and data unequivocally confirms that the giraffe meets the statutory requirements for listing as endangered under the ESA. The U.S. can end its role in the international trade of giraffe parts and products, while bringing further awareness to the rapid decline of one of the most well-recognized and celebrated icons of African biodiversity.

I) Introduction

Best known for their long necks and distinctive coat patterns, giraffes (*Giraffa camelopardalis*) are fascinating mammals that have long captured the human imagination. They are the tallest land mammals with the highest blood pressure and long tongues reaching up to 50.8 cm (20 inches) that aid in browsing on a wide variety of trees and shrubs. The past decade has seen an increase in scientific research into these mammals, which has revealed that shockingly few giraffes remain in the wild. Deemed the "silent extinction" by the head of the IUCN's Giraffe and Okapi Specialist Group,[1] the IUCN at the end of 2016 announced that the giraffe population has suffered a 36-40% population decrease over the last thirty years. An estimated 97,560 giraffes remain in sub-Saharan Africa distributed in small populations ranging from Niger to Kenya and south to South Africa. This population decline is attributed to habitat loss and fragmentation, and overutilization of giraffes particularly for bushmeat but also for hair and in international trade ranging from bones to sport-hunted trophies. Civil unrest and a growing human population with its consequent land use changes (e.g., increased agricultural fields, mining, and logging/land clearing) have both contributed to habitat loss and the increase in illegal killing (poaching) of giraffes. Current regulatory mechanisms fail to protect giraffes as evidenced by ongoing population declines, habitat loss, and other threats.

As a significant importer of giraffes and their parts, and as a global leader in conservation, the U.S. can make a large and positive impact on the international trade of the species. An endangered listing for giraffe will help the species in a number of ways. Perhaps most importantly, it will better regulate the import to and export from the U.S. of giraffe parts (e.g., bone, skin, hair, feet, tails), sport-hunted trophies, live giraffes, etc. for commercial import/export and require enhancement authorization for trophies. This is especially important given that imports in giraffe trophies and parts have increased in recent years, with 39,516 giraffe specimens—the equivalent of at least 3,751 giraffes—imported into the U.S. between 2006 and 2015, as described in more detail in Section V.B. An endangered listing will also help regulate the interstate trade in giraffe trophies and parts, which appears to be growing with at least 1,224 giraffe parts available for sale online in the U.S. over a period of less than one month, including skeleton parts and products made from giraffe bone, hair, and skin. ESA protections will also benefit giraffe by increasing worldwide awareness of its plight and generating potential funding for scientific research and in-situ conservation of the species in range countries.

While scientists continue to unravel the genetics of giraffes and finally determining whether multiple giraffe species exist, the current taxonomic consensus supports recognizing one species of giraffe and nine subspecies. Thus, we petition for an endangered listing of the giraffe species due to the small and declining population over a significant portion of the species' range, wide spread habitat loss and fragmentation, and overutilization of giraffe. If taxonomic consensus changes or the Service decides to list an entity below the species level, we request that all giraffe subspecies or distinct population segments be protected at least as threatened, with qualified subspecies or distinct population segments protected as endangered.

[1] As quoted in the Washington Post and other media outlets. (https://www.washingtonpost.com/news/morning-mix/wp/2016/12/08/silent-extinction-giraffes-listed-as-a-vulnerable-species-after-30-year-population-plunge/?utm_term=.7e2dda22601b).

II) Taxonomy

Giraffe belong to the mammalian order *Cetartiodactyla* and the family *Giraffidae* (Mitchell et al., 2003). This family consists of two living genera, *Giraffa* and *Okapia*, which are both native to the African continent (ibid.). These two genera diverged from a common ancestor roughly 11.5 million years ago (Agaba et al., 2016, p. 2).

The giraffe was formally described by Linneas in 1758 based on an earlier description of a captive giraffe in Cairo (Seymour, 2012, p. 5). Linneas originally placed giraffe in the *Cervidae* genus along with elk and deer, but it was later reclassified to the currently used nomenclature *Giraffa camelopardis* in 1848 (ibid.). Throughout much of the 1800s, giraffes were considered to be represented by two species based on descriptions of pelage patterns from a skin collected in southern Africa and another collected in northern Africa (ibid.). As more specimens became available for scientific description, various new taxonomies were put forward including alternative species descriptions as well as subspecies descriptions (see for example de Winton, 1899; Thomas, 1901; Lydekker, 1904, 1911; Krumbeigel, 1939 as described by Seymour 2012). Eventually, the commonly accepted taxonomy settled around a single species, *Giraffa camelopardis,* and nine subspecies as described by Dagg (1971, p. 1). Although subsequent treatments have proposed additional alternatives (including East, 1999 and Grubb, 2005), Dagg (1971) has continued to remain the most commonly referenced taxonomy for the giraffe.

These early descriptions of giraffes were based primarily on morphological traits including pelage patterns and skull size including ossicone (horn like structures) measurements, as well as the geographic distribution of this morphological variation across the African continent (Lydekker, 1904, 1911; Dagg, 1971; East, 1999; Grubb, 2005). More recently, genetic analyses have added to morphological data to further inform the possible taxonomy of giraffes (Hassanin, et al., 2007, p. 267; Brown et al., 2007, p. 3; Brenneman et al., 2009, p. 721; Fennessy et al., 2013, p. 636; Bock et al., 2014, p. 1; Fennessy et al., 2016, p. 1; Bercovitch et al., 2017, p. 1). In 2007, Hassanin et al. sequenced mitochondrial DNA from 23 individuals across six of the various subspecies' range. The authors continued to recognize the previously described subspecies, but did suggest redefining the geographical separation between the western *G. c. peralta* and the central *G. c. antiquorum* subspecies. Similarly, Bock et al. (2014, p. 10) used mitochondrial DNA sequences from 161individuals across eight of the described subspecies and found strong genetic structuring between subspecies, but did not propose a new taxonomy. They did however propose refining the geographic limits between the Angolan *G. c. angolensis* and the South African giraffe, *G. c. giraffa*. Their results indicated that the range of the South African giraffe may extend further north than previously thought to include several populations of giraffe in Botswana, Namibia, Zambia, and Zimbabwe that were historically considered Angolan (Bock et al., 2014, p. 2; see also Brenneman et al., 2009, p. 721).

Brown et al. (2007, p. 3) sampled six of the nine subspecies described by Dagg (1971) and found clear genetic differentiation between all six subgroups based on both mitochondrial DNA sequences as well as 14 nuclear microsatellite loci. In addition, Brown et al. (2007, p. 7) found a near absence of hybrids even between parapatric subspecies. The combination of genetic and phenotypic differentiation along with the absence of hybridization led the authors to conclude that "the giraffe might represent more than one species." The authors suggest recognizing the six subspecies that they sampled as "evolutionarily significant units if not species" (Brown et al.,

2007; p. 57) and they suggest that additional taxonomic units could be recognized if the remaining described subspecies were also sampled.

The lack of hybridization between the recognized subspecies of this highly mobile and transient animal is striking and suggests both a history of separation and the presence of pre-mating isolating mechanisms. Subspecies are expected to demonstrate some level of introgression, or genetic exchange. However, Bock et al. (2014, p. 9) identified clear matrilineal structuring of distinct clades and limited evidence for haplotype sharing between subspecies indicating very little to no genetic exchange between subspecies. In fact, Bock et al. (2014, p. 8) suggest that the few individuals whose haplotypes differed from their assigned subspecies could be attributable to human translocation or misidentifications. Brown et al. (2007, p. 3) also found strong genetic subdivisions between described subspecies using both mitochondrial DNA sequence as well as nuclear microsatellites. The authors theorized that behavioral isolation such as assortative mating based on pelage patterns of geographically proximate giraffes could explain these strong subdivisions (ibid.). This strong genetic structuring and near lack of hybridization even among parapatric subspecies lends support for the possible recognition of additional species within the giraffe complex.

Based on the genetic data from Hassanin et al. (2007, p. 266) and Brown et al. (2007, p. 3), Groves and Grubb (2011) superimposed their morphological data to suggest the recognition of eight distinct species of giraffe. Finally, most recently, a genetic study based on more extensive sampling of all nine described subspecies asserted that giraffe are actually composed of at least four different species and five subspecies (Fennessy et al., 2016, p. 2). The authors examined mitochondrial DNA sequence data as well as nuclear intron sequence data and discovered deeply structured genetic groups. This newly proposed taxonomy, however, is still subject to scientific debate (see Bercovitch et al., 2017).

A variety of different taxonomies have been proposed to describe giraffe over the past several centuries and even the last few decades. The lack of consensus on this topic largely has to do with the fact that each individual study has been based on different, and often incomplete, sampling of populations as well as the examination of different types of data. Although Fennessy et al. (2016, p. 2) presents one of the most extensive studies to date both in terms of individuals, populations, and genetic sampling, there is still some dispute as to whether all of the populations, or putative subspecies, were sampled adequately (Bercovitch et al., 2017, p. 1). Additionally, Fennessy et al. (2016, p. 5) largely relies on molecular markers that help to distinguish differentiation at the species level and above, but may not, for example, be adequate for distinguishing below species level differentiation at the subspecies and population level. Finally, Fennessy et al. (2016, p. 2) largely ignore other taxonomically informative data such as geography, ecology and morphology.

Given the ongoing investigations into the taxonomy of giraffe, the 2016 IUCN giraffe assessment concluded that, "Until an extensive reassessment of the taxonomic status of giraffes is completed . . . it is premature to alter the taxonomic *status quo*" (Muller et al., 2016; p. 1). The authors write that "[t]he IUCN SSC Giraffe and Okapi Specialist Group (GOSG) currently recognizes a single species, *Giraffa camelopardalis*" and that "[n]ine subspecies of Giraffes are currently recognized" (ibid., p.1). This consensus statement is significant as the specialist group is made up of many of the leading researchers on giraffe taxonomy including several who have proposed alternative and competing taxonomies.

Therefore, while the precise taxonomy of giraffe at the species and subspecies level remains a topic of active scientific research and debate, the consensus scientific opinion from the leading international giraffe experts is to recognize one species, *Giraffa camelopardis*, with nine subspecies: West African (*G. c. peralta*); Kordofan (*G. c. antiquorum*); Nubian (*G. c. camelopardalis*); reticulated (*G. c. reticulata*); Rothschild's (*G. c. rothschildi*); Masai (*G. c. tippelskirchi*); Thornicroft's (*G. c. thornicrofti*); Angolan (*G. c. angolensis*); and South African (*G. c. giraffa*) (Dagg, 1971; Dagg & Foster, 1976). Accordingly, this is the taxonomy that we follow in this petition and that we request the Service evaluate in their finding.

III) Natural History and Biology

A) Morphology

Giraffes are best known for their long necks, long legs, long dark tongues, and distinctive coat patterns. Their necks and tongues enable them to reach and process forage that few other mammals can access (Pretorius et al., 2015, p. 1; Simmons & Altwegg, 2010, p. 6-7), but their neck length may also have been sexually selected because it increases the likelihood of success among males in competition for dominance and access to females (Simmons & Scheepers, 1996, p. 771-72). Giraffes' coats and their unique patterns may help them identify kin (Bercovitch & Berry, 2013, p. 4 (Herd Composition)).

Giraffes also have long legs and are the tallest land mammal, with males and females averaging 5.3 meters and 4.3 meters respectively (Nowak, 1999, in Seymour, 2001, p. 71). Males weigh roughly 1,200 kg and females roughly 830 kg (Owen-Smith, 1992, in Seymour, 2001, p. 71). Due to their height, giraffes have the highest blood pressure of any land mammal. Their height also poses challenges for drinking water or reaching resources on the ground because their necks do not bend low enough to reach land. As a result, giraffes kneel or splay their legs to reach the ground or water (Seeber et al., 2012, p. 1). Giraffes have special physiological adaptations to regulate blood flow to the brain depending upon the height of the head to ensure they do not pass out while bending down (Brondum et al., 2009, p.1058-59). They are most vulnerable to predation when reaching to the ground because of their inability to kick, which is their primary defense (Periquet et al., 2010, p. 670; Seeber et al., 2012, p. 1).

Giraffes are born with their ossicones (a morphological feature that is akin to horns but unique to giraffids and also referred to as parietal horns). The ossicones only fuse to their skull when they reach sexual maturity (Davis et al., 2011, p. 6). Adolescent male giraffes have hair on their ossicones that wears off leaving adult males with bald ossicones while female's ossicones have hair. Giraffes also have median ossicones or bumps in the middle of their foreheads and may have small ossicones on the back of the skull called occipital ossicones (Spinage, 1968, p. 55-58).

As detailed above, Dagg (1971) classified nine separate subspecies of giraffe based on morphology and, until recently, this classification was the most frequently consulted for the status of giraffe taxonomy (Dagg, 1971, p. 1; Seymour, 2012, p. 6). The nine species have been delineated based on coat pattern, head shape, and ossicones. Table 1 describes morphological

differences in each of these subspecies relating to the coat pattern (or pelage) and differences in ossicones and skull shapes.

Table 1: Giraffe subspecies differences in morphology (Seymour, 2001).

Subspecies	**Coat Pattern**	**Distinguishing features**
West African giraffe *(G. c. peralta)*		Body spots are large coarsely divided lobes. Spots extend down the legs beyond the hocks. Parietal ossicones diverge and are more erect compared to other subspecies. Males have a well-developed median ossicone and females have a bony structure over the frontal bones. (Seymour, 2001, p. 52).
Kordofan giraffe *(G. c. antiquorum)*		Spotting is similar *to G. c. camelopardalis* but spots are smaller and less regular. Spotting is present on the insides of the legs and sometimes extends below the hocks. Males have a median ossicone. (Seymour, 2001, p. 51).
Nubian giraffe *(G. c. camelopardalis)*		Chestnut colored body spots are smooth and strongly defined. The belly is free of spotting, while the sides of the head are spotted. Males have a developed median ossicone. (Seymour, 2001, p. 51).

reticulated giraffe *(G. c. reticulata)*		Large spots are reddish-brown, well-defined, polygonal, and separated by a network of white lines. Males have a median ossicone. (Seymour, 2001, p. 53).
Rothschild's giraffe *(G. c. rothschildi)*		Large dark body spots usually have complete margins, with spots tending to break up with radiating lines inside the dark spots. The occipital ridge develops into paired occipital ossicones which may be individually variable. Males have a well-developed median ossicone. (Seymour, 2001, p. 53).
Masai giraffe *(G. c. tippelskirchi)*		Body spots are can be reticulate as well as stellate, and intermediate, and leg spots continue down to the hooves. The males typically have a median ossicone, but the presence is individually variable. (Seymour, 2001, p. 54).
Thornicroft's giraffe *(G. c. thornicrofti)*		Body spots are slightly stellate. Neck spots are typically elongated, while legs may be fully spotted or uniformly colored. Males have little developed and unobtrusive median ossicones. (Seymour, 2001, p. 54).

Angolan giraffe *(G. c. angolensis)*		Large brown body spots have slightly notched edges. Spots on the neck and rump are broken into smaller spots. Spotting is present on the legs and lower half of face, and a small white ear patch is present. Males are two-ossiconed. (Seymour, 2001, p. 51).
South African giraffe *(G. c. giraffa)*		Dark body spots with some fine projections occur on a tawny ground color. Spotting is present on legs and decreases in size further down the legs. The males do not have a well-developed median ossicone. (Seymour, 2001, p. 52).
Coat pattern images by Amada44/Wikipedia, CC-BY-SA		

B) Behavior

Giraffes are social animals and non-territorial in nature (Van der Jeugd & Prins, 2000, p. 19; VanderWaal et al., 2014, p. 23). Their ranges vary in size depending upon available habitat and food resources (McQualter et al., 2015, p. 100). Giraffes move through their range usually in herds. Giraffe herds were long thought to be casual associations but recent research indicates that they live in fission-fusion societies such as elephants and other species (Bercovitch & Berry, 2013, p. 6 (Herd Composition)). Researchers are just beginning to investigate whether giraffes vocally communicate with one another, as is common in fission-fusion societies (Baotic et al., 2015, p. 2-3). Recent work by Baotic et al. (2015, p. 8-9) documented that giraffes engage in a low-frequency, highly structured hum at night, which may provide a window into giraffe communication.

Historically, large herds of 20-30 animals were commonly seen and, while herds of over 50 giraffes can occasionally still be seen today in open areas, smaller herds are most common (Muller et al., 2016, p. 5). Bercovitch and Berry (2013, p. 6 (Herd Composition)) found that giraffe herds typically have five to six animals but size varies depending upon resource availability. Herds of females are more common than female-male groupings or male-male groupings (ibid.).The authors have shown that giraffe herds are more often based on lengthy social associations, often of kin or closely related giraffes (ibid., p. 6-7). Females share responsibilities for caring for young giraffes (allomothering) with related and unrelated giraffes

(ibid.). Giraffes born around the same time as each other to the same cohort form strong bonds and often will remain in herds together (Bercovitch & Berry, 2013, p. 4 (Age Proximity). The oldest adult female, or matriarch, is mostly likely the leader of a giraffe herd (Berry & Bercovitch, 2014, p. 179).

Male giraffes tend to be more solitary upon leaving their natal herds (Bercovitch et al., 2006, p. 314). To prepare for dominance battles, young males engage in sparring and duels involving intertwining of necks as each opponent assesses the other's strength (called necking) (Pratt & Anderson, 1982, p. 486; Coe, 1967, p. 315). When males are older they may engage in necking or more aggressive fighting that entails knocking heads and tackling each other with their ossicones. The fighting usually ends when the losing opponent walks away leaving the winner to establish dominance (ibid., p. 317, 320).

Giraffes browse on a very wide number of different types of trees and scrubs (Dagg & Foster, 1976; Pellew, 1983; Fennessy, 2009, p. 320). Females spend a large part of the day and some of the night browsing, while males browse and search for females. Giraffes spend around 13 hours per day browsing and roughly 4.5 hours a day ruminating (Mitchell et al., 2015, p. 125).

Giraffes can "sit" with their feet tucked under the body while the head remains upright. Actual sleep consists of very short naps during which time the giraffe curves its neck and lays its head on its flank (Pellew, 1984, p. 65).

C) Reproduction

Female giraffes give birth throughout the year (Dagg & Foster, 1972, p. 9). Pregnancy lasts about 15 months, and generally there are two-year intervals between births (Bercovitch & Berry, 2009, p. 535). First parturition occurs when the female is between five and seven years old (ibid.; Bercovitch & Berry, 2015, p. 207). Males reach sexual maturity at seven to eight years of age (Bercovitch & Berry, 2012, in Dagg, 2015, p. 144). Males travel extensively to investigate and detect females receptive to mating (Bercovitch et al., 2006, p. 315). To determine which female is ready for courting and mating, male giraffe stimulate female urination and will sample the females' urine (flehmen), which is followed by attempts to mount females in estrus (Leuthold, 1979, p. 30).

When giving birth, the female stands letting the calf fall to the ground (Dagg, 2015, p. 136). Female giraffes typically give birth to just one calf at a time with an average calf weighing five kg and with an average height of 1.8 m at birth (Dagg & Foster, 1982 in ibid.). The calf is able to stand within the first twenty minutes and can start suckling about an hour after birth (Kristal & Noonan, 1979, p. 105). Giraffes are most vulnerable to predation during the first year of life, although predation remains a threat throughout a giraffe's life (Strauss & Packer, 2013, p. 134). Bercovitch and Berry (2009, p. 538) concluded that reproductive rate is not as important as the survival of calves and longevity in terms of reproductive success. Mothers may leave their young in a cluster called a crèche or nursery to protect the calves from predation while they feed (Strauss & Packer, 2013, p. 134; Young & Isbell, 1991, p. 80). Young giraffes can be weaned as early as one month, although they may suckle for much longer (Foster & Dagg, 1972, p. 8).

D) Feeding and Ecology

Giraffes are browsers, spending between 40 to 85 percent of their time feeding primarily on new shoots, leaves, twigs, fruit, and grasses (Ciofolo & Pendu, 2002, p. 191; Pellew, 1984, p. 62; Zinn et al., 2007, p. 124). Giraffes forage varies largely depending on the time of the year and the giraffe's location. Males browse at a higher feeding height than females (O'Connor et al., 2015, p. 190). Due to their height, elephants are the only other mammals that compete with giraffes for food at the tree level; however giraffe compete with kudu and impala at the shrub level of habitats (Pellew, 1984, p. 59; Sauer et al., 1977, p. 58). Giraffes generally feed on succulent vegetation and are thought to be able to live for extended periods without fresh water although they will drink water when it is available (Foster & Dagg, 1972, in Dagg, 2015, p. 15).

Apart from acacia species, giraffes consume a variety of vegetation types and have been found to eat up to 93 different species of trees, scrubs, and plants (Ciofolo & Pendu, 2002, p. 187; Mueller et al., 2016, p. 6; Parker & Bernard, 2005, p. 207). Giraffes have been observed licking soil near termite mounds—likely for their high salt content—and may chew on bones (Ciofolo & Pendu, 2002, p. 187).

E) Habitat Requirements

Giraffes can be found throughout sub-Saharan Africa but are primarily located in savanna and woodland habitats (Mueller et al., 2016, p. 6). Giraffes can have large home ranges where they encounter a wide variety of vegetation types (Skinner & Smithers, 1990, in Parker & Bernard, 2005, p. 207). There are differences in habitat preferences between sexes due to males preferring habitats offering taller browse, while females select habitats with lower browse (Pellew, 1984b, p. 62).

Giraffes do not need to drink water every day (Mueller et al., 2016, p. 6), but tend to stay in areas near rivers especially during the dry season because these areas offer permanent food and water supply (Fennessy, 2004, p. 199; Leuthold & Leuthold, 1978, p. 18). Giraffes also tend to avoid areas where predators, especially lions and leopards, may be located and prefer open scrub and open woodlands as habitats less likely to contain predators (Thaker et al., 2011, p. 403). Giraffes are vulnerable to predators when drinking water and maintain a high level of vigilance for predators when at watering holes (Creel et al., 2014, p. 9; Periquet et al., 2010, p. 670).

IV) Population Status and Distribution

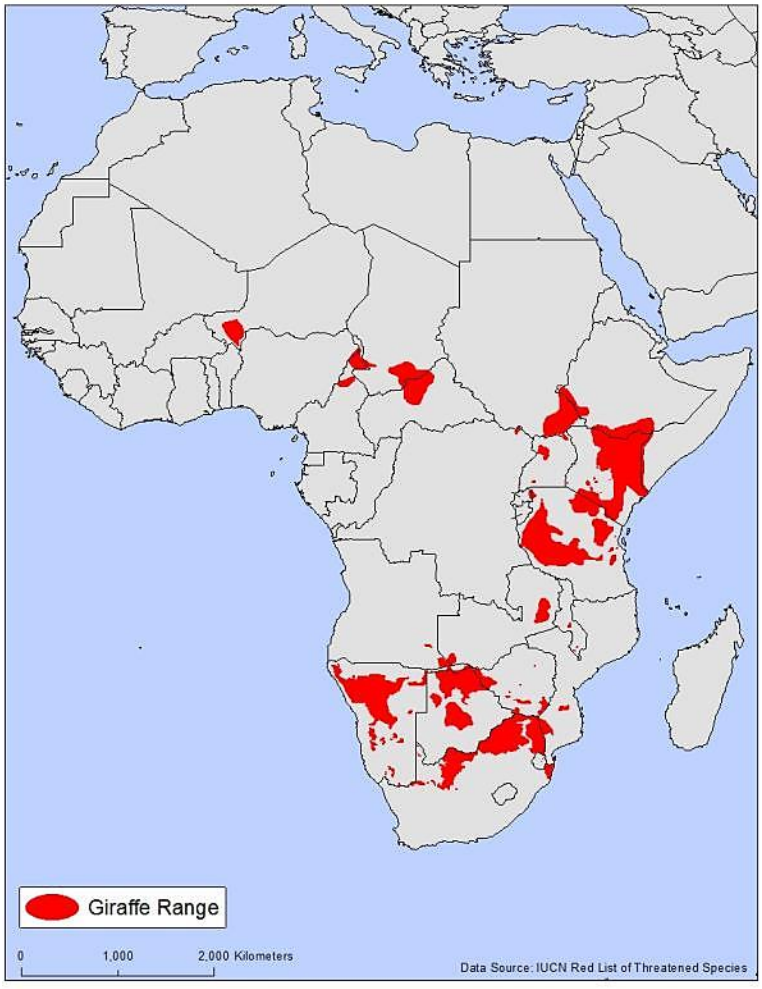
A) Giraffe (*Giraffa camelopardalis*)

1) Distribution

The historic distribution of *Giraffa camelopardalis* is thought to include much of the semi-arid savannah and savannah woodlands of Africa (Dagg, 1971, p. 1; East, 1999, p. 99). Giraffes today are found south of the Sahara and only maintain a fraction of their range due to human population expansion and increased aridity (Muller et al., 2016, p. 2; Dagg, 1971, p. 1). In West Africa, giraffes historically ranged from Senegal to Lake Chad, but now only a small population

of the West African giraffe (*G. c. peralta*) remains in Niger (Suraud et al., 2012, p. 577). In Central Africa, giraffes remain in some protected areas and their surrounds in southern Chad, northern Cameroon, northern Central African Republic (CAR), South Sudan, and northeastern Democratic Republic of the Congo (DRC) (Muller et al., 2016, p. 2). In East Africa, the giraffe range has been severely reduced in Ethiopia, Somalia, South Sudan, and Uganda, but has remained relatively stable in Kenya and Tanzania (East, 1999, p. 97-98). An isolated, but stable, population of Thornicroft's giraffe (*G. c. thornicrofti*) persists in northeastern Zambia (Du Raan et al., 2015, p. 7; East, 1999, p. 98). In southern Africa, giraffes retain much of their range in Namibia, Botswana, South Africa, and Zimbabwe, but were severely reduced or even extirpated in Angola and Mozambique (East, 1999, p. 98-99). Giraffes have been translocated into protected areas in several countries both within their native range (northeastern South Africa, Kenya, Uganda, Mozambique, Angola, northeastern Zambia, and others) and outside their range (parts of South Africa, southwestern Zambia, Swaziland, and Rwanda).

Map 1 Current Range of Giraffe



2) Population Status

In 2016, the IUCN Red List of Threatened Species updated its assessment of *Giraffa camelopardalis* to "Vulnerable," citing an ongoing population decline between 36% and 40% over the last 30 years or three generations (Muller et al., 2016, p. 1). The previous IUCN assessment, conducted in 2010, considered the species of "Least Concern," but two subspecies (*G. c. peralta* and *G. c. rothschildi*) were assessed as "Endangered" in 2008 and 2010 respectively (Muller et al., 2016, p. 1-2; Shorrocks, 2016, p. 40).

Historic estimates of giraffe population sizes show a precipitous population decline at the species level. The IUCN Species Survival Commission (SSC) Giraffe and Okapi Specialist Group and the Giraffe Conservation Foundation (GCF) estimate that giraffes numbered between 151,702 and 163,452 in the 1980s (Muller et al., 2016, p. 4). East (1999, p. 100) estimated that there were approximately 141,000 giraffes in the wild in the 1990s. The IUCN's most recent (2015) estimate places the giraffe population at 97,562 individuals (Muller et al., 2016, Table 1). And while the overall population is trending downward, the trends vary significantly at regional and subspecies levels.

B) West African Giraffe (*Giraffa camelopardalis peralta*)

1) Distribution

The West African giraffe subspecies (*G. c. peralta*) formerly ranged from Senegal to Lake Chad in savannah zones including Burkina Faso, Guinea, Mali, Nigeria, Niger, and other West African countries (East, 1999, p. 99). Due to anthropogenic pressures including habitat loss, fragmentation, and overexploitation, only a small population remains in the arid Sahelian scrubland of southwestern Niger (Marais et al., 2014, p. 1 (Niger)).

2) Population Status

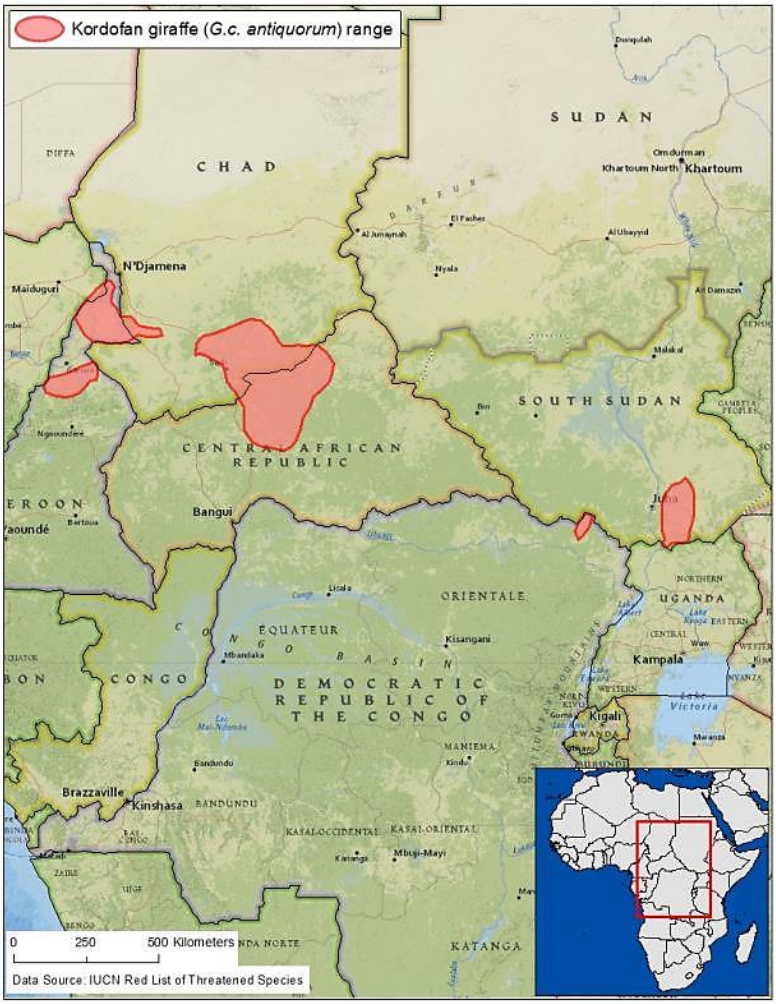
Since the Niger population plummeted to fewer than 50 giraffes in 1996, the Government of Niger has strictly protected the population by increasing enforcement of laws against hunting giraffe and improving community awareness (Suraud et al., 2012, p. 577). As a

result, the population has seen very little poaching and steady growth in recent years (ibid.), with an estimated 220 giraffes in 2009, 310 giraffes in 2011, and 403 giraffes in 2013 based on aerial surveys (ibid.; Marais et al., 2014, p. 4-5 (Niger)). This high growth rate may be unsustainable once the population hits carrying capacity due to lack of habitat and human encroachment (Suraud et al., 2012, p. 581). The IUCN recognized the subspecies as "Endangered" in 2008 (Fennessy & Brown, 2008). Fennessy et al. (2016, p. 2) estimates about 400 West African giraffes remain, making this subspecies one of the most imperiled despite its recent growth.

C) Kordofan Giraffe (*Giraffa camelopardalis antiquorum*)

1) Distribution

The Kordofan giraffe subspecies' (*G. c. antiquorum*) former range includes a large swath of the open savanna woodlands of Central Africa from northern Cameroon through central and southern Chad, CAR, South Sudan, and northern DRC (East, 1999, p. 96-97).[2] Human activities including development, agriculture, and logging have restricted Kordofan giraffe range to isolated protected areas (ibid.).



The Kordofan giraffe is presently found in the northern savannah of the Central African Republic and across the border into southern Chad, primarily in Zakouma National Park (Marais et al., 2012, p. 1 (CAR); Marais et al., 2014, p. 3 (Chad)). This subspecies is also found in the northern extremes of Cameroon, mostly in Waza National Park (Marais et al., 2013, p. 3 (Cameroon)). A small, isolated population also resides in DRC's Garamba National Park and adjacent hunting reserves bordering South Sudan (Marais et al., 2013, p. 1 (DRC)). In South Sudan, giraffe are found in Boma National Park and other protected areas towards the southern extent of the country, although it is not known if this population is *G. c. antiquorum* or another species (Marais et al., 2012, p. 4 (South Sudan)).

[2] East (1999) referred to both *G. c. antiquorum* and *G. c. peralta* as western giraffe, but *G. c. antiquorum* is now considered Kordofan giraffe (Marais et al., 2013, p. 2 (Cameroon)).

2) Population Status

The IUCN's 2016 assessment of *G. c. antiquorum* estimated 3,696 individuals between 1975 and 1986 (Muller et al., 2016, p. 5). The assessment estimates that as of 2016, the total population is approximately 2,000 individuals, translating to a 46% decline over the last three to four decades (ibid.).

In the CAR, the Kordofan giraffe population has declined extremely rapidly despite suitable landscape and low human population due to bushmeat hunting and trade (Marais et al., 2012, p. 3 (CAR)). In 1985, it was estimated that 1,757 Kordofan giraffes resided in the country (ibid.), but a 2010 aerial survey of wild mammals in the CAR's northern protected areas estimated only 162 Kordofan giraffes remain (Bouche et al., 2012, p. 7005).

In Chad, Kordofan giraffe formerly occurred widely in the central and southern parts of the country, but now survive primarily in Zakouma National Park where a 2014 aerial count found 934 individuals (Marais et al., 2014, p. 3 (Chad)). Zakouma National Park is managed by African Parks (African Parks, 2016) and the GCF determined that this population seems stable and relatively well protected (Marais et al., 2014, p. 3 (Chad)). Any populations outside of Zakouma National Park are small and vulnerable (ibid.).

In Cameroon, Kordofan giraffes formerly occurred throughout the northern savannah woodlands and Sahel zone (East, 1999, p. 96).[3] However, illegal hunting, conflict, population growth, and habitat destruction have restricted giraffes to a main population in Waza National Park and minor populations in other northern protected areas (Marais et al., 2013, p. 2 (Cameroon)). GCF's 2013 assessment of Cameroon giraffes estimates that fewer than 660 remain, with about 600 in Waza National Park and about 50 in other parks (ibid., p. 3).

In the DRC, giraffes formerly occurred throughout the northern Congo savannas (Marais et al., 2013, p. 3 (DRC)). Currently, giraffes are restricted to Garamba National Park and surrounding hunting reserves (ibid., p. 4). As recently as the early 1990s, there were approximately 350 giraffes in the park (ibid., p. 3). However, following years of conflict and illegal hunting in the region, a 2012 aerial count of the park and surrounding hunting reserves counted only 22 giraffes (Bolaños, 2012, p. 9). Bolaños states that this may be a moderate undercount, but it is clear that giraffe numbers in the area have fallen precipitously (ibid., p. 26-27). The GCF's 2013 assessment of DRC giraffe estimates that less than 80 remain in the entire country (Marais et al., 2013, p. 4 (DRC)).

In South Sudan, giraffes were common throughout what was then southern Sudan, with Kordofan giraffe occurring west of the Nile River (East, 1999, p. 97). As recently as 1980, there were an estimated 9,028 giraffes in Boma National Park and several thousands in other parks (Fryxell, 1980, in Marais et al., 2012, p. 3 (South Sudan)). Presently, there is only one known major population of giraffe in the country, found in Boma National Park, consisting of fewer than 450 individuals (Marais et al., 2012, p. 4 (South Sudan)). There is uncertainty over whether this population is Kordofan or Nubian giraffe (ibid.).

[3] East (1999) referred to both *G. c. antiquorum* and G. c. peralta as western giraffe, but *G. c. antiquorum* is now considered Kordofan giraffe (Marais et al., 2013, p. 2 (Cameroon)).

In summary, about 2,000 Kordofan giraffes remain when adding up the country by country estimates, with potentially 450 more depending on the subspecies of the South Sudanese population. In all range countries, this subspecies has seen a marked decline due to conflict, illegal hunting, and habitat degradation.

D) Nubian Giraffe (*Giraffa camelopardalis camelopardalis*)

1) Distribution

The Nubian giraffe subspecies (*G. c. camelopardalis*) historically occurred throughout South Sudan, southern and northeastern Sudan east of the Nile river, and through the western and southern lowlands of Ethiopia to the southwestern savannas of Eritrea (East, 1999, p. 97). Currently, the subspecies occurs in remnant populations in the far west of Ethiopia and potentially in east South Sudan; the population there is presumed to belong to either the Nubian or Kordofan subspecies (Marais et al., 2013, p. 3 (Ethiopia); Marais et al., 2012, p. 4 (South Sudan)). Giraffes are presumed to have been extirpated from Eritrea (Marais et al., 2014, p. 2 (Eritrea)).

2) Population Status

The IUCN's 2016 assessment of *G. c. camelopardalis* estimated that Nubian giraffes numbered 20,577 between 1970 and 1982 (Muller et al., 2016, p. 5). The assessment estimates that as of 2015, the total population was approximately 650 individuals, translating to a 97% decline over the last 35 years (ibid.).

In South Sudan, giraffes were common throughout what was then southern Sudan, with Nubian giraffe occurring east of the Nile River (East, 1999, p. 97). As recently as 1980, there were an estimated 9,028 giraffes in Boma National Park and several thousands in other parks (Marais et al., 2012, p. 3 (South Sudan)). At present, there is only one known major population of giraffes of fewer than 450 individuals, found in Boma National Park (ibid., p. 4). There is uncertainty over whether this population is Kordofan giraffe or Nubian giraffe (ibid.).

In Ethiopia, Gambella National Park is home to the country's primary remaining population of Nubian giraffes, which consists of approximately 90 individuals as of a 2009 aerial count (Marais et al., 2013, p. 3 (Ethiopia)). Several small populations of 20 individuals or fewer are thought to remain in Omo National Park and Tama Wildlife Reserve, but controversy remains about whether they are still there and what subspecies they are (ibid., p. 3-4; Renaud, 2007, p. 13)

In summary, about 650 Nubian giraffes remain in the wild, making this subspecies one of the most imperiled.

E) Reticulated Giraffe (*Giraffa camelopardalis reticulata*)

1) Distribution

The reticulated giraffe subspecies' (*G. c. reticulata*) historic range includes the southern lowlands of Ethiopia and Somalia, sweeping south into northern Kenya, bounded by the Tana River to the south (East, 1999, p. 97). Currently, *G. c. reticulata* maintains much of its historical range in Kenya, but overexploitation and habitat disruption have reduced giraffe range in Ethiopia to the protected areas bordering Kenya, and have probably led to extirpation in Somalia (Marais et al., 2013, p. 3 (Ethiopia); Marais et al., 2013, p. 2 (Somalia)).

2) Population Status

The IUCN's 2016 assessment of *G. c. reticulata* estimated that the subspecies numbered anywhere between 36,000 and 47,750 in the 1990s (Muller et al., 2016, p. 5). The assessment estimates that as of 2016, the current total population is approximately 8,661 individuals, translating to a 77-82% decline over the last 20-30 years (ibid.).

In Kenya, historically large populations of reticulated giraffe have been reduced due to habitat destruction, fragmentation, and increased bushmeat consumption (Marais et al., 2013, p. 2

(Kenya)). As recently as the early 1990s, it was estimated that about 27,540 reticulated giraffes resided in northern Kenya—mostly outside of protected areas (East, 1999, p. 95). More recent estimates show devastating losses. In Laikipia County, aerial surveys conducted between 2001 and 2012 estimate that the reticulated giraffe population declined by 36%, from 1,727 individuals in 2001 to 1,105 individuals in 2012 (Kinnaird et al., 2012, p. 6). In Garissa County, a 2011 aerial survey estimated 1,666 giraffe remained (King et al., 2011, p. 7). A 2013 GCF assessment collated recent aerial surveys of reticulated giraffe habitats in Kenya, including protected and private areas. The analysis estimated that fewer than 6,500 giraffes remain (Marais et al., 2013, p. 10 (Kenya)).

In Ethiopia, it is uncertain whether a small reticulated giraffe population still remains; GCF estimated in 2013 that anywhere from zero to 100 reticulated giraffe remain in the country (Marais et al., 2013, p. 4 (Ethiopia)).

In Somalia, all giraffe populations are presumed to be extirpated as of 2013 (Marais et al., 2013, p. 2 (Somalia)).

In summary, combining the most recent estimates of reticulated giraffe populations leads to a total estimate of fewer than 9,000 individuals remaining, almost entirely in northern Kenya. The GCF has since updated their population estimate to 8,660 reticulated giraffes in 2016 (Fennessy et al., 2016, p. 2) and the IUCN assessment is in agreement (Muller et al., 2016, p. 5). As recently as the early 1990s, there was, at the very least, three times that number (East, 1999, p. 95), equating to a well over 70% decline over the last two decades.

F) Rothschild's Giraffe (*Giraffa camelopardalis rothschildi*)

1) Distribution

The Rothschild's giraffe subspecies' (*G. c. rothschildi*) historic range includes central-west Kenya through Uganda to the Nile River and into South Sudan (Marais et al., 2013, p. 5 (Kenya)). Currently, only one naturally-occurring population remains in Murchison Falls National Park in Uganda (ibid.). Other populations of the subspecies have been reintroduced into several sites in Kenya that are presumed to be in their natural range, including Ruma National Park, Lake Nakuru National Park, Mt. Elgon National Park, and several game farms and reserves (ibid., p. 7-8, 10-11).

2) Population Status

The Rothschild's giraffe population has been severely reduced across its range, but is recovering due to conservation efforts. In 2010, the IUCN assessed the species as "Endangered," citing population declines across its range (Fennessy & Brenneman, 2010, p. 2). The IUCN's 2016 assessment estimated a total population size of 1,330 *G. c. rothschildi* in the 1960s, increasing to 1,671 individuals in 2016 (Muller et al., 2016, p. 5).

In Kenya, the subspecies had been nearly extirpated by the 1960s (Marais et al., 2013, p. 5 (Kenya)). Translocation and conservation efforts in the 1970s established protected and fenced areas for the animals in Kenya. Current population size estimates place the number of Rothschild's giraffe in Kenya at about 450 individuals split among several national parks and private conservation areas (ibid., p. 10-11; Muller, 2012, p. 4).

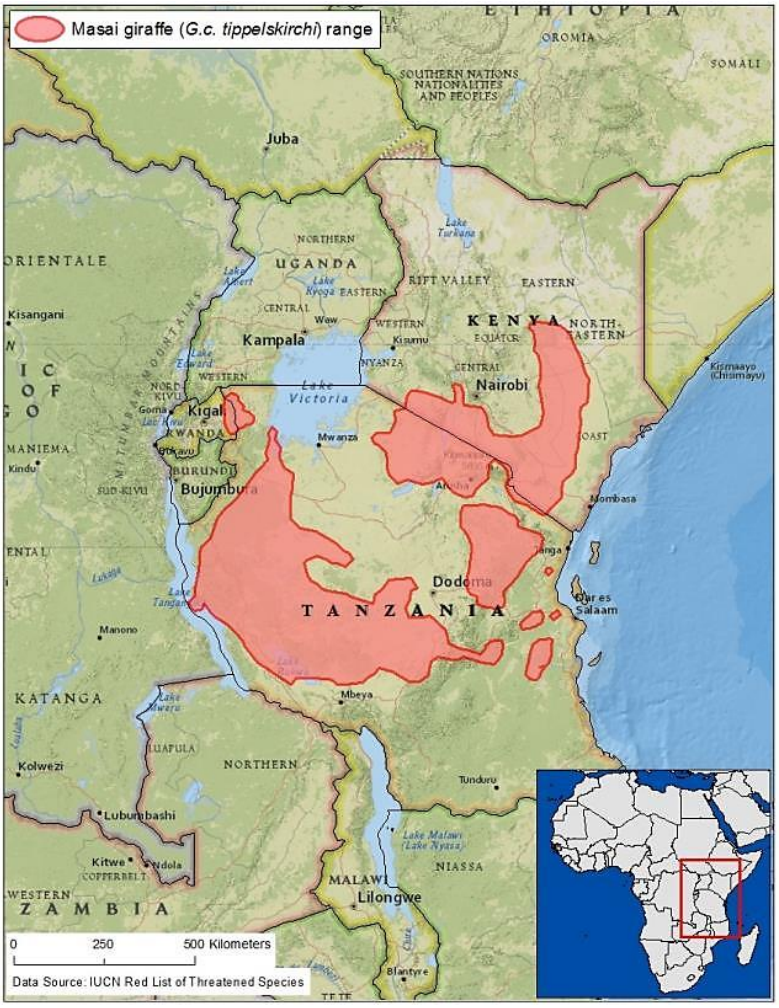
In Uganda, *G. c. rothschildi* once thrived both inside and outside of protected areas. Illegal hunting, habitat degradation, and habitat destruction led to near extirpation in the 1970s and 1980s. Starting in the late 1980s, Uganda improved management and anti-poaching efforts, leading the giraffe population to steadily increase, primarily in Murchison Falls National Park (Rwetsiba & Nuwamanya, 2010, p. 120). From estimated low population sizes of 78 giraffes in 1991 (ibid., p. 122) and 145 in the late 1990s (East, 1999, p. 95), giraffes increased to 245 in 2005 (Rwetsiba & Nuwamanya, 2010, p. 122). Recent surveys have shown that the Murchison

Falls population has increased, with 904 individuals estimated in 2010 (ibid.) and 757 individuals estimated in 2012 (Marais et al., 2016, p. 4 (Uganda)) based on aerial surveys. The GCF's 2016 assessment of Uganda giraffe populations estimated that 1,250 individuals currently reside in Murchison Falls (ibid.). Other smaller populations exist in Kidepo Valley National Park and Lake Mburo National Park (ibid.).

In summary, combining recent studies and surveys, it is estimated that approximately 1,700 Rothschild's giraffes remain.

G) Masai Giraffe (*Giraffa camelopardalis tippelskirchi*)

1) Distribution



The Masai giraffe subspecies (*G. c. tippelskirchi*) historically ranged across the open grasslands and woodlands of southern and eastern Kenya southwards through much of Tanzania to the Rufiji River (East, 1999, p. 98). The subspecies remains in southern Kenya and retains much of its historical range in Tanzania including the Serengeti, Tarangire, Ruaha, Kilamanjaro, and Lake Natron (East, 1999, p. 98; Okello et al., 2015, p. 160, 166). Additionally, there is an introduced population in Rwanda's Akagera National Park (Marais et al., 2012, p. 2 (Rwanda)).

2) Populations Status

The IUCN's 2016 assessment of *G. c. tippelskirchi* estimated that Masai giraffes numbered 66,449 between 1977 and 1980 (Muller et al., 2016, Table 1). East (1999, p. 95) estimated that there were 46,210 Masai giraffes in the 1990s. The IUCN assessment estimates that as of 2015, the total population was approximately 31,611 individuals, translating to a 52% decline over the last 25-28 years (Muller et al., 2016, Table 1).

In Kenya, *G. c. tippelskirchi* populations have seen sharp declines over recent decades. Kenya was home to an estimated 17,330 Masai giraffes in the late 1990s (East, 1999, p. 95), with only 2,530 individuals in protected areas. Surveys conducted in Kenya in 2010 and compiled by the

GCF in 2013 estimated that fewer than 8,000 individuals remain, primarily in the Masai Mara Ecosystem, Tsavo and Chyulu National Parks and surrounds, and the Amboseli Ecosystem (Marais et al., 2013, p. 9 (Kenya)). In the Masai Mara National Park and surrounding ranches on the Tanzanian border, several estimates show steep declines in Masai giraffe populations. Ottichilo et al. (2000, p. 206) found a 79% decline in the Masai giraffe population based on aerial survey data from 1977 to 1997. Ogutu et al. (2011, p. 4, supporting documentation) found the Masai giraffe population declined from an estimated 6,678 individuals in 1977 to 1,140 individuals in 2009, likely due to widespread illegal hunting. In Amboseli National Park and surrounding ranches, similar losses have occurred, but populations have recovered modestly from devastating droughts in the late 2000s (Okello et al., 2015, p. 171).

In Tanzania, East (1999, p. 95) estimated that in the 1990s, there were 28,860 Masai giraffes throughout the country, mostly in protected areas. East noted population reductions in much of central and coastal Tanzania as well as significant losses in the Serengeti (East, 1999, p. 98). Serengeti National Park was estimated to contain 10,750 Masai giraffes in 1975-1977, dropping to 6,673 individuals in 1988-1991 (Strauss et al., 2015, p. 512). A more recent estimate from 2008-2010 found that only 3,520 Masai giraffes remained (ibid.). Strauss et al. (2015, p. 512) estimated that Masai giraffes saw a 67%-86% reduction in density in the Serengeti from 1977 to 2010. A 2015 aerial survey of the savannah on the Kenyan border estimated only 726 Masai giraffes in the Lake Natron area and 237 in the West Kilimanjaro area by averaging dry and wet season censuses from 2010 and 2013 (Okello et al., 2015, p. 166).

In Rwanda, six Masai giraffes were introduced into Akagera National Park in 1986, and by 2012, expanded to about 100 giraffes (Marais et al., 2012, p. 2 (Rwanda)).

In summary, Masai giraffes have experienced a 52% drop in population over the previous two to three decades, from an estimated 66,449 in the late 1970s to the current estimate of 31,611 individuals (Muller et al., 2016, Table 1).

H) Thornicroft's Giraffe (*Giraffa camelopardalis thornicrofti*)

1) Distribution

Thornicroft's giraffes are entirely isolated to the Luangwa River Valley in northeastern Zambia, which includes South Luangwa National Park and surrounding areas (Du Raan et al., 2015, p. 2; Fennessy et al., 2013, p. 635-636).

2) Population Status

Estimates regarding the size of the isolated population of Thornicroft's giraffe in Zambia have varied over time, but are consistently small. In 2015, the GCF estimated the population included 300 individuals in 1980 (Du Raan et al., 2015, p. 2; Berry & Bercovitch, 2016, p. 1). East (1999, p. 95, 98) estimated that there were 450 Thornicroft's giraffes in Zambia in the early 1980s, but that the population grew to 1,160 by the 1990s.

A 2002 aerial census of the area estimated the population at 236, with 197 in the South Luangwa National Park and the remaining in the surrounding Lupande Game Management Area (Du Raan et al., 2015, p. 6). In 2011, an aerial survey of the Luangwa Valley Ecosystem estimated 407 giraffes (Du Raan et al., 2015, p. 7). A more current estimate in 2013, utilizing systematic surveys, estimated 556 individuals in the Luangwa Valley (ibid.).

The IUCN's 2016 assessment of *G. c. thornicrofti* estimated that the population is stable at about 600 individuals (Muller et al., 2016, p. 5).

I) Angolan Giraffe (*Giraffa camelopardalis angolensis*)

1) Distribution

The Angolan giraffe subspecies (*G. c. angolensis*) historically ranged from southern Angola through Namibia and east into central Botswana (Du Raan et al., 2016, p. 3; East, 1999, p. 98-99). The Angolan giraffe has since been extirpated from Angola following years of civil unrest (Marais et al., 2013, p. 3 (Angola)). The subspecies occupies much of its former range in Namibia and Botswana (East, 1999, p. 98). In Namibia, the subspecies can be found in substantial numbers across northern Namibia in conservancies, national parks (e.g., Etosha National Park), and surrounding areas (Du Raan et al., 2016, p. 7-8). In Botswana, Angolan giraffes currently occupy the expansive Central Kalahari Game Reserve (Bock et al., 2014, p. 7). In addition, giraffe populations in northern Botswana (the Okavango Delta, Chobe National Park, and other protected lands), southern Botswana (Southern and Kweneng Districts), northeastern Namibia (Bwabwata National Park), western Zimbabwe, and southern Zambia (Sioma Ngwezi National Park) are considered Angolan giraffes but a recent genetic study suggests they may actually be South African giraffes (Bock et al., 2014, p. 7). The IUCN's 2016 assessment has provisionally retained this population status as Angolan giraffes for the purposes of its status review (Muller et al., 2016, p. 5).

2) Population Status

In Namibia, Angolan giraffes in the northern national parks and their surrounds are increasing. In northwestern Namibia, a 2013 assessment estimated 2,039 Angolan giraffes across several conservancies, showing steady increases from estimates in 2002 (922 giraffes) and 2008 (1,269 giraffes) (Du Raan et al., 2016, p. 5). In north-central Namibia, most Angolan giraffes are found in Etosha National Park and the surrounding areas and a recent survey estimated 3,293 giraffes in the park and 1,743 around it (ibid., p. 8). This is a large increase from a 1995 estimate of 1,837 giraffes in Etosha National Park (ibid., p. 6). In northeastern Namibia, the GCF estimates that

about 1,000 giraffes occur across several national parks and surrounding regions (ibid., p. 8). Besides national park land and other government protected areas, much of Namibia's giraffe population resides on private game farms with an estimated 5,832 individuals, mostly in the Erongo, Kunene, and Otjozondjupa regions (ibid., p. 9). The GCF, in its 2016 assessment of giraffe in Namibia, estimated about 12,000 Angolan giraffes reside in the country, with about half on private land (ibid., p. 10). This is an increase from just one to two decades prior when estimates ranged from 5,000 to 10,415 in the country (ibid.).

In Botswana, a 2004 country-wide census estimated about 11,700 Angolan giraffes, with Okavango Delta as the largest population (Tutchings & Fennessy, 2009, p. 4). But more recent surveys and anecdotal evidence indicate that populations of Angolan giraffes in Botswana are decreasing (ibid.). A 2012 country-wide survey estimated that 8,976 individuals inhabit the country (Statistics Botswana, 2015, p. 11). It is estimated that northern Botswana Angolan giraffe populations have dropped from more than 10,000 to fewer than 4,000 individuals in the last ten years (Bock et al., 2014, p. 2). Data from Statistics Botswana estimated only 5,440 Angolan giraffes remained in 2013 in the northernmost districts, which include the Okavango Delta and Chobe National Park (Statistics Botswana, 2015, p. 12). In central Botswana, in the Ghanzi district, which includes the Central Kalahari Game Reserve, a 2013 survey estimated only 923 Angolan giraffes (ibid., p. 14). In southern Botswana, aerial surveys reveal smaller Angolan giraffe populations in the Kweneng and Kgatleng districts (ibid., p. 18, 19).

In Zambia, there is a small population of Angolan giraffes in Sioma Ngwezi National Park (Du Raan et al., 2015, p. 8; East, 1999, p. 98), although there is controversy over the population's subspecies (Bock et al., 2014, p. 7). A 2013 aerial survey estimated 232 Angolan giraffes in the park (Du Raan et al., 2015, p. 8).

In Zimbabwe, Angolan giraffes occur in Hwange National Park and surrounding areas on the western edge of the country (Bock et al., 2014, p. 2; Crosmary et al., 2015, p. 198). This population is assumed to be Angolan giraffes but recent genetic analysis suggests it may belong to the South African subspecies (Bock et al., 2014, p. 7).

The IUCN's 2016 assessment of *G. c. angolensis* estimated that the Angolan giraffe population has increased over the last four decades from about 15,000 individuals in the 1970s to the current 2016 estimate of over 30,000 giraffes (Muller et al., 2016, p. 5). This assessment includes the giraffe populations in central Botswana and north-central Namibia (estimated by the IUCN to be 5,000 in 1970 and 13,031 in 2016)), as well as the giraffe populations in northern and southern Botswana, northeastern Namibia, western Zimbabwe, and southern Zambia (estimated by the IUCN to be 10,000 in 1970s and 17,551 in 2016) (ibid.). This latter population could in fact be South African giraffes according to a recent genetic study (Bock et al., 2014, p. 7) but are provisionally included as Angolan (Muller et al., 2016, p. 5).

J) South African Giraffe (*Giraffa camelopardalis giraffa*)

1) Distribution

The historic distribution of the South African giraffe subspecies (*G. c. giraffa*) has been reported to follow the bushveld of northern South Africa east into southern Zimbabwe and southwestern Mozambique (East, 1999, p. 98-99). Current distribution includes northeastern South Africa as well as southern Zimbabwe and Mozambique on the border of South Africa (ibid., p. 99; Marias et al., 2013, p. 3 (Mozambique)). South African giraffes have also been introduced into Angola's Kissama National Park (Marais et al., 2013, p. 3 (Angola)). In addition, recent studies have indicated that giraffe populations in northern Botswana (the Okavango Delta, Chobe National Park, and other protected lands), southern Botswana, northeastern Namibia (Bwabwata National Park), western Zimbabwe, and southern Zambia (Sioma Ngwezi National Park) could be South African giraffes instead of Angolan giraffes, as previously described (Bock et al., 2014, p. 7). However, these populations will be considered to be Angolan giraffes until more evidence is collected indicating otherwise (Muller et al., 2016, Table 1). Extralimital populations of South African giraffe exist in Zambia, South Africa, and Swaziland (Bercovitch & Deacon, 2015, p. 142; Du Raan et al., 2015, p. 8; Marais et al., 2013, p. 3 (Swaziland)).

2) Population Status

Bercovitch and Deacon (2015, p. 142) estimated that as many as 30,000 South African giraffes occur in South Africa. This is a significant increase from East's estimate (1999, p. 95) that 7,880 giraffes occurred in South Africa in the 1990s following losses due to overhunting and expansion of agriculture. Most giraffes survived primarily in Kruger National Park (East, 1999, p. 99). Since then, giraffes have been reintroduced into private and protected areas throughout their

former range, as well as outside of their range, and populations have recovered (Bercovitch & Deacon, 2015, p. 142).

In Angola, it estimated that about 20 South African giraffes resided in Kissama National Park in 2013 (Marais et al., 2013, p. 3 (Angola)). This population originates from four giraffes introduced in 2001 (ibid.).

In Swaziland, there are about 209 South African giraffes in government-owned protected areas and private establishments (Marais et al., 2013, p. 3 (Swaziland)). All Swaziland giraffes are extralimital populations and were translocated (ibid.).

Giraffes were extirpated from Mozambique by the early 1970s due to overexploitation and habitat destruction (Marias et al., 2013, p. 2 (Mozambique)). However, translocations of South African giraffes from South Africa to Mozambique's Limpopo National Park and Maputo Special Reserve have helped reestablish small populations, with 116 giraffes in Limpopo National Park and 23 giraffes in Maputo Special Reserve (ibid., p. 3). The GCF's 2013 assessment of Mozambique giraffe populations estimates that there are 146 South African giraffes in the country (ibid.).

In Zimbabwe, South African giraffes historically occurred throughout the southern part of the country, and continue to persist in private and protected areas in the southeastern Lowveld, primarily in Gonarezhou National Park where a small population remains (East, 1999, p. 99).

The IUCN's 2016 assessment of *G. c. giraffa* estimated that the South African giraffe population has increased over the last three decades from about 8,000 individuals in the late 1970s to the current 2016 estimate of 21,387 individuals (Muller et al., 2016, p. 5). This assessment does not include the giraffe populations (estimated by the IUCN to be 10,000 in 1970s and 17,551 in 2016) in northern and southern Botswana, northeastern Namibia, western Zimbabwe, and southern Zambia, which are provisionally assumed to be Angolan giraffe, but could be South African according to a recent genetic study (Bock et al., 2014, p. 7).

V) Threats

Under the ESA, the Service is required to list a species as "Endangered" if it "is in danger of extinction throughout all or a significant portion of its range" or as "Threatened" if it "is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" based upon one or more threats or factors. 16 U.S.C. § 1532. There are five statutory listing factors that the Service must analyze for the species:

> (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
> (B) Overutilization for commercial, recreational, scientific, or educational purposes;
> (C) Disease or predation;
> (D) The inadequacy of existing regulatory mechanisms; and
> (E) Other natural or manmade factors affecting its continued existence.

Id. § 1533(a)(1)(A)-(E); 50 C.F.R. § 424.11(c)(1)-(5).

Based upon an analysis of these factors, all *Giraffa camelopardalis* should be protected as an endangered species under the ESA. 16 U.S.C. § 1533(a)(1). Alternatively, the Service could list all giraffes at the subspecies or distinct population segment level as either threatened or endangered.

A) Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Habitat loss and fragmentation are one of the primary causes of giraffe population decline (Fennessy, 2004, p. 12; Muller et al., 2016, p. 1, 6). Indeed, giraffes have experienced severe habitat loss and fragmentation as a result of increased human settlement; expansion of agricultural activities; conversion of land to industrial plantations (e.g., sugarcane); the uncontrolled harvesting of timber and wood for various uses, including firewood, logging, and charcoal production for both personal and commercial purposes; and poor land use planning (Muller et al. 2016, p. 6; Okello et al., 2015, p. 170). This situation is exacerbated by the fact that people living in and near giraffe habitat are typically poor and compete with giraffes for resources like trees and shrubs (Marais et al., 2013, p. 1 (Cameroon); Marais et al., 2013, p. 2 (Swaziland)).

Expansive habitat is a prerequisite for healthy giraffe populations, given their relatively large home ranges—which average between 68 km² and 514 km²—and their seasonal migration patterns (Shorrocks, 2016, p. 148). However, largely as a result of habitat loss and degradation, the giraffe's range has contracted significantly over the past century (Dagg, 1971, p. 1; Fennessy, 2004, p. 14; Skinner & Smithers, 1990, p. 204-206). This has resulted in geographical isolation of local populations and some herds surviving at the edge of the species' preferred range (Fennessy, 2004, p. 1).

West African giraffes once ranged from Senegal to Lake Chad, but now only exist in approximately 15,000 km² in southwestern Niger (Fennessy & Brown, 2010, p. 2). Habitat loss and fragmentation have contributed to the West African giraffe's range contraction and subsequent population loss (Marais et al., 2014, p. 1 (Niger)).

Kordofan giraffes, which once ranged from northern Cameroon through central and southern Chad, CAR, South Sudan, and northern DRC, now have limited habitat (East, 1999, p. 96-97). In Chad, Kordofan giraffes are losing habitat to cultivation and cattle grazing (Marais et al., 2014, p. 2 (Chad)). Increasing human development, agriculture, cattle grazing, and logging are contributing to Kordofan giraffe population declines in Cameroon (Marais et al., 2013, p.1-2 (Cameroon)). In South Sudan, giraffe habitat is lost to farming, logging, and human infrastructure and development (Marais et al., 2012, p. 2 (DRC)).[4]

Nubian giraffes historically occurred in southern and northeastern Sudan and through Ethiopia's western and southern lowlands to Eritrea's southwestern savannas, but are currently only found

[4] Giraffe in South Sudan may be Kordofan giraffe or Nubian giraffe (Marais et al., 2012, p. 4 (South Sudan)).

in Ethiopia and South Sudan (East, 1999, p. 97). In South Sudan, giraffe habitat is lost to farming, logging, and human infrastructure and development (Marais et al., 2012, p. 2 (DRC)). In Ethiopia, giraffe habitat is limited due to dense human populations and related fragmentation and loss of habitat (Marais et al., 2013, p. 1-2) (Ethiopia)).

Reticulated giraffes once ranged from the southern lowlands of Ethiopia and Somalia, sweeping south into northern Kenya, bounded by the Tana River to the south, but now are only found in northern Kenya and southern Ethiopia (East, 1999, p. 97). In Kenya, reticulated giraffes are losing habitat and migration corridors due to expanding human settlements and farmlands, as well as wood cutting, and are now largely confined to protected areas (Marais et al., 2013, p. 3 (Kenya)).

The world's only population of Thornicroft's giraffe resides in Zambia's Luangwa Valley, where habitat available to support wildlife is shrinking due to increased settlements, cultivation, traditional land claims, and uncoordinated planning by government departments (Du Raan et al., 2015, p. 3).

Historically, the Rothschild's giraffe was widespread, found in Uganda, southern Sudan, and across western Kenya (Okello et al., 2015, p. 160). However, it has been exterminated from most of its former range, with only a few small and fragmented populations in Uganda and Kenya (ibid.).

Masai giraffes, which exist primarily outside of government-protected areas, have also been eliminated in most of their former range over the last century, primarily due to anthropogenic activities (Marais et al., 2013, p. 2 (Kenya)). Changes in land use from crop farming, urbanization, and logging have led to range-wide habitat fragmentation which prevents giraffe dispersal (ibid.).

Increasing human populations and related habitat loss are also a concern for Angolan and South African giraffes (Du Raan et al., 2016, p. 1; Marais et al., 2013, p. 1 (Mozambique)).

Even Africa's national parks and sanctuaries—which were historically occupied by giraffes—have experienced severe habitat destruction impacting giraffes, mainly due to the lack of effective park management and law enforcement (Marais et al., 2013, p. 2 (Cameroon)). For example, in Angola the construction of two national roads through Kassima National Park has resulted in habitat fragmentation, shrimp farming, human encroachment, cultivation, oil production, livestock grazing, and charcoal production (Marais et al., 2013, p. 2-3 (Angola)). Most protected areas in Mozambique were invaded and occupied by local people from the surrounding areas during the Mozambican civil war (1977-1992), significantly reducing the country's biodiversity (Marais et al., 2013, p. 2 (Mozambique)). Following the Rwandan Civil War, Tanzanian and Ugandan refugees settled in much of Rwanda's Akagera National Park, negatively impacting wildlife (Marais et al., 2012, p. 1 (Rwanda)). Ethiopia, Cameroon, Somalia, and other giraffe range countries have experienced similar situations (Marais et al., 2013, p. 2 (Cameroon); Marais et al., 2013, p. 1-2 (Ethiopia); Marais et al., 2013, p. 1 (Somalia)).

As African countries continue to modernize, rapid population growth, infrastructure development, urbanization, agricultural development, deforestation, and other such activities will likely continue to escalate and negatively impact giraffes and their habitat (UNEP, 2013, p. 3, 10, 17).

B) Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

1) International Trade for Commercial, Recreational, or Scientific Purposes

As giraffes are not listed on the Appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a valuable source of information on the utilization of giraffes for commercial, recreational, or scientific purposes is the U.S. Law Enforcement Management Information System (LEMIS) trade database. The database contains import and export data compiled from U.S. Fish and Wildlife forms and Customs and Border Patrol reports, which are accumulated into an electronic database that is available to the public via Freedom of Information Act (FOIA) request.

This database can be used to determine the level of legal international trade to and from the U.S., as well as the types and sources of giraffes and their parts that are involved in trade. International trade as recorded in the LEMIS database includes commercial trade as well as trade associated with breeding, circus or travelling exhibition, education, enforcement, trophy hunting, medicinal use, personal use, reintroduction to the wild, scientific research, and zoological exhibition. By examining the documented purposes of trade, the LEMIS database can be used to evaluate the reasons behind the movement of giraffes and their parts to and from the U.S. The database also includes the source of giraffes and their parts in international trade, whether captive-bred, captive-born, illegal, ranch-raised, or wild. However, the LEMIS database does not contain information on total global trade in giraffe, total exports from range countries, or domestic use of giraffes or their parts for commercial, recreational, or scientific purposes; nor does it account for poaching and illegal trade, except where illicit international trade has resulted in a seizure by U.S. enforcement authorities. As the species is not listed on the CITES Appendices, this means that the volume of global trade in giraffes is unknown, but it is likely many times greater than the volume of U.S. trade presented in this petition.

Giraffes are over-utilized for commercial and recreational purposes. The original analysis presented in this petition shows that between 2006 and 2015 (the most recent decade for which complete data are available), 39,516 giraffe specimens (giraffes, dead or alive, and their parts and derivatives) were imported to the U.S. for all purposes (Annex A, Table 1), the equivalent of at a bare minimum at least 3,751 giraffes. This figure was derived by adding the figures for three types of specimens that likely represent one giraffe each: bodies, live, and trophies. After giraffe are hunted, their skin is usually removed in sections, leaving the skull, other bones, and body parts. Therefore in this analysis, the body or trophy is used to represent a giraffe – not the skull, skeleton, skin, or bones. However, because the majority of giraffe specimens in trade are giraffe parts (e.g., bone carvings, bones, skin pieces) and we are unable to determine how many giraffes these pieces represent, 3,751 is a very conservative estimate and the number of giraffes actually imported is likely much higher.

The most commonly-traded items were bone carvings (21,402), bones (4,789), trophies (3,744), skin pieces (3,008), bone pieces (1,903), skins (855), and jewelry (825) (see Table 2 below). Other giraffe specimens in trade include shoes (528), hair (501), small leather products (366), feet (339), large leather products (325), horn (ossicone) carvings (201), and smaller numbers of skulls, hair products, specimens, tails, skeletons, rugs, shell products, carapaces, trim, wood products (e.g. furniture), plates, genitalia, horns (ossicones), live animals, bodies, teeth, eggshells (e.g. ostrich egg products with giraffe hair affixed), ears, legs, and unspecified products (see Table 2 below).

U.S. imports of giraffes reported as bodies, trophies, and live animals (categories for which each specimen represents one individual animal) for the period of 2006 to 2015 total 3,751, including imports of 3 bodies, 4 live giraffes, and 3,744 trophies (see Table 2 below).

Table 2. Total U.S. Giraffe Imports, 2006-2015, all sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	2,933	4,194	1,641	2,735	1,736	233	790	1,418	1,495	4,227	**21,402**
Bodies	0	0	1	1	0	0	0	1	0	0	**3**
Bones	167	65	487	345	77	1403	350	434	775	686	**4,789**
Bone Pieces	1,691	2	15	9	10	2	37	7	76	54	**1,903**
Carapaces	38	0	0	0	0	0	0	1	0	0	**39**
Ears	0	0	0	0	0	0	0	0	1	0	**1**
Eggshells	0	2	0	0	0	0	0	0	0	0	**2**
Feet	18	9	22	37	45	29	69	58	23	29	**339**
Genitalia	0	0	2	1	0	0	0	0	2	1	**6**
Hair	400	2	5	1	0	1	0	81	0	11	**501**
Hair Products	10	0	0	2	2	0	1	0	3	100	**118**
Horn Carvings	0	0	0	0	0	3	0	63	48	87	**201**
Horns	0	0	0	0	0	2	3	0	0	0	**5**
Jewelry	53	66	670	0	10	0	5	9	5	7	**825**
Leather Products Large	2	3	6	18	32	11	11	58	76	108	**325**
Leather Products Small	5	4	3	1	1	3	42	147	58	102	**366**
Legs	0	0	0	0	0	0	0	1	0	0	**1**
Live	0	0	0	0	3	0	0	1	0	0	**4**
Plates	0	0	0	0	0	0	0	3	2	3	**8**
Rug	15	6	15	5	6	0	2	8	1	5	**63**
Shell Product	0	0	0	0	0	0	0	0	50	0	**50**
Shoes	0	0	0	0	0	0	0	2	8	518	**528**
Skeletons	0	0	0	0	0	0	0	0	0	64	**64**
Skins	16	22	115	18	307	9	18	22	163	165	**855**
Skin Pieces	50	310	85	133	34	245	62	704	465	920	**3,008**
Skulls	18	2	14	12	32	29	6	6	4	27	**150**

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Specimens	1	0	0	19	0	0	50	6	0	25	**101**
Tails	1	0	1	15	7	6	18	7	5	5	**65**
Teeth	0	0	0	0	1	0	0	0	0	2	**3**
Trim	0	2	3	4	0	9	0	1	0	2	**21**
Trophies	425	372	339	405	280	328	342	408	386	459	**3,744**
Unspecified	10	0	0	2	1	0	0	1	2	0	**16**
Wood Products	0	0	0	6	0	1	0	3	0	0	**10**
TOTAL	**5,853**	**5,061**	**3,424**	**3,769**	**2,584**	**2,314**	**1,806**	**3,450**	**3,648**	**7,607**	**39,516**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis.

Of this trade from all sources, 39,397 giraffe specimens, reported as being from a wild source—the equivalent of at least 3,740 giraffes (adding bodies, live, and trophies)—were traded internationally for all purposes (Annex A, Table 2). Wild-sourced specimens accounted for 99.7% of specimens in trade (39,397 of 39,516). The top countries exporting wild giraffes and their parts were South Africa (31,245 specimens representing at least 2,207 giraffes) (see Annex A, Table 25), Zimbabwe (5,249 specimens representing at least 971 giraffes) (see Annex A, Table 28), Tanzania (692 specimens representing at least 1 giraffe) (see Annex A, Table 26), and Namibia (685 specimens representing at least 521 giraffes) (see Annex A, Table 23). This means that South African giraffes, Angolan giraffes, and Masai giraffes are likely most frequently in trade.

From 2006 through 2015, giraffes and their parts from the following additional sources were imported into the U.S.:

- 30 captive-bred[5] giraffes and their parts, the equivalent of at least 4 giraffes, including 1 live, 3 trophies, 3 bones, 1 bone carving, 1 hair, 4 large leather products, 3 small leather products, 1 rug, 8 shoes, 6 skins, 1 skull, and 1 trim (Annex A, Table 3).

- 5 captive-born[6] giraffes and their parts, the equivalent of at least 4 giraffes, including 3 live, 1 trophy, and 1 bone carving (Annex A, Table 4).

- 28 ranched[7] giraffes and their parts, the equivalent of at least 3 giraffes, including 5 bone carvings, 12 bones, 5 hairs, 1 horn carving, 2 horns, 5 skulls, and 3 trophies (Annex A, Table 5).

- 16 unknown source[8] giraffes and their parts, the equivalent of >1 giraffe, including 1 bone carving, 12 bone pieces, 1 large leather product, and 1 unspecified product (Annex A, Table 6).

[5] LEMIS Source code C.
[6] LEMIS Source code F.
[7] LEMIS Source code R.
[8] LEMIS Source code U.

In addition, from 2006 through 2015, the U.S. exported a total of 1,204 giraffe specimens, representing 93 individual giraffes (65 live animals and 28 trophies). Other specimens exported included 51 bone carvings, 1 bone, 33 bone pieces, 6 feet, 1 hair, 700 pieces of jewelry, 4 large leather products, 4 small leather products, 1 plate, 1 rug, 134 shoes, 3 skeletons, 151 skins, 12 skin pieces, and 7 skulls (see Table 3 below).

Table 3. Total U.S. Giraffe Exports, 2006-2015, all sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	21	0	0	0	0	0	1	8	21	**51**
Bones	0	0	0	1	0	0	0	0	0	0	**1**
Bone Pieces	0	0	0	0	0	0	0	8	7	18	**33**
Feet	0	0	0	4	0	1	0	0	0	1	**6**
Hair	0	0	0	0	0	0	1	0	0	0	**1**
Jewelry	0	0	700	0	0	0	0	0	0	0	**700**
Leather Products, Large	0	0	0	0	0	0	0	0	1	3	**4**
Leather Products, Small	0	0	0	0	4	0	0	0	0	0	**4**
Live	9	9	1	0	9	4	4	4	13	12	**65**
Plates	0	0	0	1	0	0	0	0	0	0	**1**
Rugs	0	0	0	1	0	0	0	0	0	0	**1**
Shoes	0	0	0	0	52	8	40	12	22	0	**134**
Skeletons	0	0	1	0	2	0	0	0	0	0	**3**
Skins	2	0	0	0	0	1	1	1	122	23	**150**
Skin Pieces	0	0	0	0	0	0	0	0	11	1	**12**
Skulls	0	0	0	3	0	0	0	1	2	1	**7**
Trophies	1	4	2	2	1	9	2	3	1	3	**28**
TOTAL	**12**	**34**	**704**	**12**	**68**	**23**	**48**	**30**	**187**	**83**	**1,201**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for exports of Giraffa camelopardalis *from all sources and for all purposes.*

Of these, 1,131 were wild-sourced, representing at least 26 individual giraffes, including 26 trophies. Other giraffe products exported included bone carvings (4), bones (1), bone pieces (33), feet (6), jewelry (700), large leather products (4), small leather products (4), plates (1), shoes (134), skins (150), skin pieces (12), and skulls (7) (Annex A, Table 7).

From 2006 through 2015, giraffes and their parts from the following additional sources were exported from the U.S.:

- 59 captive-bred giraffes and their parts, the equivalent of at least 55 giraffes, including 55 live animals, 3 skeletons, and 1 hair (Annex A, Table 8).

- 8 captive-born giraffes and their parts, the equivalent of at least 8 giraffes, including 7 live and 1 trophy (Annex A, Table 9).

- 3 ranched giraffes, as live animals (Annex A, Table 10).

a) Trade for Commercial Purposes

Giraffa camelopardalis is not listed on the CITES Appendices and thus international trade is not monitored and traceable like trade in CITES-listed species. However, from the LEMIS data it is evident that most of the trade in giraffes to and from the U.S. is for commercial purposes.

i) U.S. Imports of Giraffes and Their Products for Commercial Purposes

From 2006 to 2015, at least 33,321 giraffe specimens, the equivalent of at least 157 individual giraffes, were imported into the U.S. for commercial purposes (see Table 4 below). Commercial giraffe imports represented 84.3% of the total imports during this period. The vast majority of these specimens were bone carvings (20,885), bones (3,768), skin pieces (2,820), and bone pieces (1,857). Other commercial imports included jewelry (766), skins (715), shoes (526), hair (487), small leather products (314), horn carvings (200), trophies (154), and smaller amounts of other parts and products.

Table 4. Total U.S. Giraffe Imports, 2006-2015, all sources, commercial purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	2,908	4,150	1,611	2,707	1,699	189	734	1,340	1,418	4,129	**20,885**
Bones	142	54	474	171	38	1,359	323	348	223	636	**3,768**
Bone Pieces	1,678	0	0	5	9	0	35	3	73	54	**1,857**
Carapaces	0	0	35	0	0	0	0	0	0	0	**35**
Feet	0	0	12	29	25	5	40	6	0	0	**117**
Hair	400	2	4	0	0	0	0	81	0	0	**487**
Hair Products	0	0	0	0	0	0	0	0	0	100	**100**
Horn Carvings	0	0	0	0	0	3	0	63	47	87	**200**
Horns	0	0	0	0	0	2	3	0	0	0	**5**
Jewelry	50	46	670	0	0	0	0	0	0	0	**766**
Leather Products Large	0	0	0	0	0	0	4	21	37	76	**138**
Leather Products Small	4	4	0	0	0	0	41	137	44	84	**314**
Live	0	0	0	0	3	0	0	0	0	0	**3**
Rug	15	5	11	2	5	0	0	0	0	2	**40**
Shell Product	0	0	0	0	0	0	0	0	50	0	**50**
Shoes	0	0	0	0	0	0	0	0	8	518	**526**
Skeletons	0	0	0	0	0	0	0	0	0	64	**64**
Skins	7	12	85	13	304	2	8	9	142	133	**715**
Skin Pieces	39	296	69	91	21	241	58	678	456	871	**2,820**

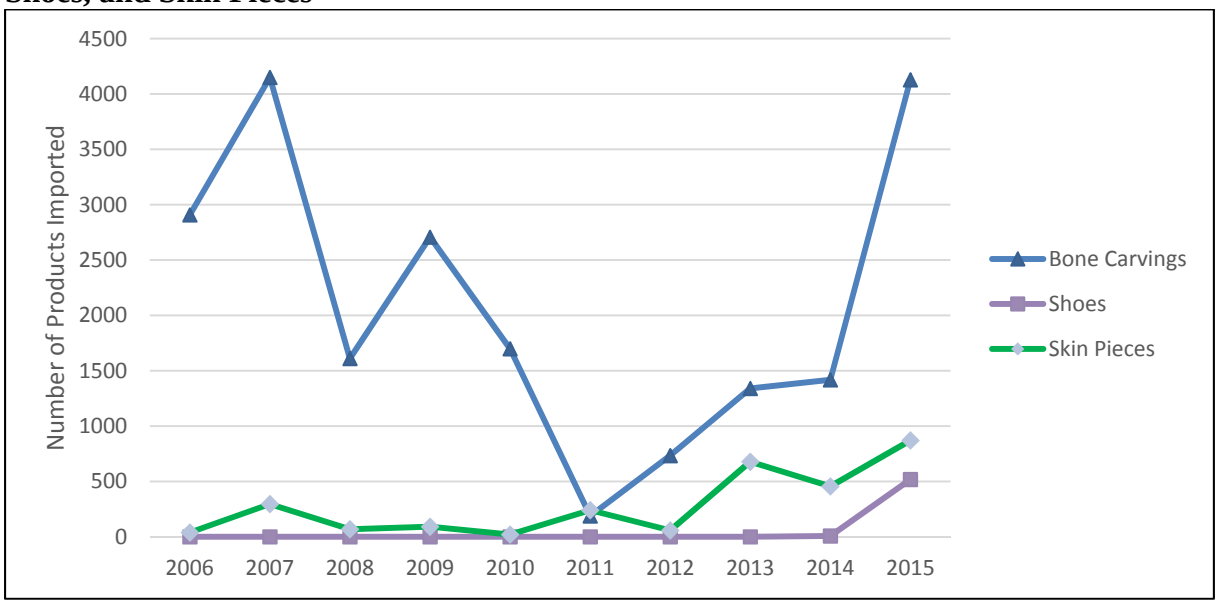
Skulls	10	0	12	11	29	26	0	3	1	17	**109**
Specimens	0	0	0	0	0	0	50	0	0	0	**50**
Tails	0	0	0	6	0	0	0	0	0	0	**6**
Teeth	0	0	0	0	1	0	0	0	0	0	**1**
Trim	0	0	0	0	0	0	0	1	0	0	**1**
Trophies	125	0	0	2	1	3	17	2	3	1	**154**
Unspecified	10	0	0	0	0	0	0	0	0	0	**10**
TOTAL	**5,388**	**4,569**	**2,983**	**3,037**	**2,135**	**1,830**	**1,313**	**2,692**	**2,502**	**6,772**	**33,221**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *for commercial purposes from all sources.*

Upon inspection of the Service's records, some giraffe products were seized by the U.S. and reported as such in the LEMIS database (Annex A, Table 11). For example, from 2006-2015, a total of 70 giraffe products imported into the U.S. for commercial purposes were seized by U.S. authorities. These include bone carvings (9), bones (4), jewelry (50), small leather products (2), and trophies (5).

According to LEMIS data, significant commercial trade in giraffes and their parts occurred between 2006 and 2008, after which trade decreased until 2010. Since 2011, however, there has been a dramatic increase in U.S. imports of giraffes and their products for commercial purposes (see Figure 1 below). The amount of bone carvings, shoes, and skin pieces imported for commercial purposes has increased markedly over the last five years (see Figure 1 below), with concurrent increases in other products such as skins, shoes, leather products, and horn (ossicone) carvings for commercial purposes (see Table 4 above).

Figure 1. U.S. Imports of Giraffes for Commercial Purposes, 2006-2015, Bone Carvings, Shoes, and Skin Pieces



Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *for commercial purposes from all sources.*

ii) U.S. Exports of Giraffes and Their Products for Commercial Purposes

For commercial purposes, the U.S. exported 1,117 giraffes and their products between 2006 and 2015 for commercial purposes, representing at least 52 individual giraffes, including 41 live animals and 11 trophies. The commercial exports represent 98.8% of the total exports of giraffes and their products during this period. Additional commercial exports of giraffe products included bone carvings (30), bone pieces (25), jewelry (700), large leather products (4), small leather products (4), shoes (134), skeletons (3), skins (150), skin pieces (11) and skulls (4) (see Table 5 below).

Table 5. Total U.S. Giraffe Exports, 2006-2015, all sources, commercial purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	0	21	0	0	0	0	0	1	7	8	**37**
Bones	0	0	0	0	0	0	0	0	0	0	**0**
Bone Pieces	0	0	0	0	0	0	0	0	0	18	**18**
Jewelry	0	0	700	0	0	0	0	0	0	0	**700**
Leather Products Large	0	0	0	0	0	0	0	0	1	3	**4**
Leather Products Small	0	0	0	0	4	0	0	0	0	0	**4**
Live	5	8	1	0	9	4	2	0	8	4	**41**
Shoes	0	0	0	0	52	8	40	12	22	0	**134**
Skeletons	0	0	1	0	2	0	0	0	0	0	**3**
Skins	2	0	0	0	0	1	1	1	122	23	**150**
Skin Pieces	0	0	0	0	0	0	0	0	11	0	**11**
Skulls	0	0	0	1	0	0	0	1	2	0	**4**
Trophies	0	1	1	1	1	6	0	0	1	0	**11**
TOTAL	**7**	**30**	**703**	**2**	**68**	**19**	**43**	**15**	**174**	**56**	**1,117**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for exports of Giraffa camelopardalis *for commercial purposes from all sources.*

Local and international trade in giraffe and giraffe products in certain countries such as Namibia pose a risk to giraffes as increased numbers of carved giraffe bones have recently been observed at local tourist markets (du Raan et al., 2016, p. 2). The data presented above show that not only does the U.S. import a significant amount of giraffes and their products for commercial purposes —representing potential or known overutilization in range States—but also that there is an ongoing increasing trend in commercial imports of giraffes and their products that, in light of population trends (Muller et al., 2016, p. 4-5), threatens to further exacerbate decline in an already vulnerable species.

b) Trade for Recreational Purposes

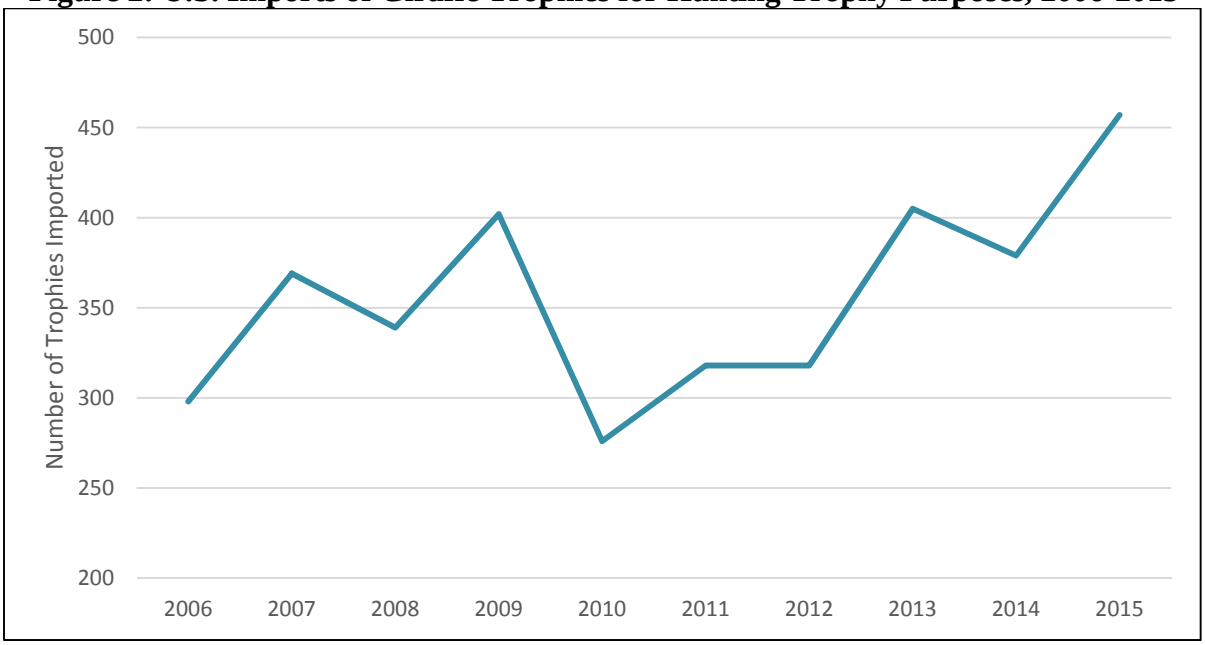
A significant number of giraffes in trade are traded for hunting trophy purposes and giraffes are clearly over-utilized for this purpose.

i) U.S. Imports of Giraffes and Their Products for Recreational Purposes

From 2006 to 2015, 5,044 giraffe specimens, representing at least 3,563 individual giraffes, were imported into the U.S. for hunting trophy purposes; including 3,561 trophies, 1 body, and 1 live animal. The most common type of specimen imported for hunting trophy purposes were "trophies" (3,561), followed by "bones" (813) and "bone carvings" (174) (Annex A, Table 12). The top exporters of giraffe specimens for hunting trophy purposes were South Africa (3,065 or 60.8%), Zimbabwe (1,346 or 26.7%), and Namibia (575 or 11.4%) (Annex A, Table 13). Together these three countries account for 98.9% of giraffe specimens imported to the U.S. for hunting trophy purposes.

Since 2010 there has been a marked increase in the number of giraffe trophies imported to the U.S., peaking in 2015, when 457 trophies were imported (see Figure 2 below). Since 2006, the U.S. has imported over 300 giraffe trophies per year, with the single exception of 2010 (when trophy imports totaled 276), indicating that the U.S. continues to be a major importer of giraffe hunting trophies in this decade.

Figure 2: U.S. Imports of Giraffe Trophies for Hunting Trophy Purposes, 2006-2015



Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015.

ii) U.S. Exports of Giraffes and Their Products for Recreational Purposes

From 2006 to 2015, 26 giraffe specimens, representing at least 11 individual giraffes, were exported for hunting trophy purposes. The most common type of specimen exported for hunting trophy purposes were "trophies" (11), followed by "feet" (5), and "bone carvings" (4) (Annex A, Table 14).

c) Trade for Scientific Purposes

From 2006 through 2015, 53 giraffe parts and products were imported into the U.S. for scientific purposes (Annex A, Table 15), including hair (6), specimens (45) and teeth (2), all of which were wild-sourced.

d) Trade for Other Purposes

From 2006 through 2015, giraffes and their parts and products were imported into the U.S. for other purposes, including:

- 1 bone for "educational"[9] purposes.
- 1,195 giraffe parts and products for "personal"[10] purposes including 29 giraffe trophies. South Africa is, by far, the country with the most number of giraffe trophies exported to the U.S. for personal purposes, with 15 exported to the US, comprising 51.7% of all such imports (Annex A, Table 16).
- 1 body, 1 foot, 1 hair, and 6 specimens for "circus or traveling exhibition"[11] purposes (Annex A, Table 17).
- 1 live giraffe for "zoo"[12] purposes.

From 2006 through 2015, giraffes and their parts and products were exported from the U.S. for other purposes, including:

- 2 giraffe trophies for "educational" purposes.
- 30 giraffe parts and products for "personal" purposes, including 17 bone carvings, 8 bone pieces, 1 skin piece, and 4 trophies. All of these exports were wild-sourced (Annex A, Table 18).
- 1 foot and 1 product containing giraffe hair for "circus or traveling exhibition" purposes.
- 24 live giraffes for "zoo" purposes (Annex A, Table 19).

e) International Trade to the U.S. from Giraffe Range States

This section provides details about the export of giraffes and their parts and products to the U.S. by giraffe range States from 2006 through 2015. The following range States did not export giraffes or their parts or products during this period: Angola, Cameroon, Central African Republic, Chad, The Democratic Republic of Congo, Mozambique, Niger, Somalia, South

[9] LEMIS purpose code E.
[10] LEMIS purpose code P.
[11] LEMIS purpose code Q.
[12] LEMIS purpose code Z.

Sudan, and Uganda. Between 2006 and 2016, eight giraffe range States exported giraffes and their parts and products to the U.S.; the seven countries that exported giraffe bodies, live animals, or trophies (which are each equal to one giraffe) are listed in Table 6 below.

Table 6. Range States Exporting Giraffe and their Products to the U.S., 2005-2016.

Country of Export	Individual Giraffes Exported (bodies, live, trophies)	% of U.S. Imports of Giraffes and their products (rounded to nearest whole percent)
South Africa	2,212	59%
Zimbabwe	971	26%
Namibia	522	14%
Botswana	21	1%
Zambia	7	<1%
Tanzania	1	<1%
Ethiopia	1	<1%
TOTAL	**3,735**	**100%**

The following section details exports to the U.S. from giraffe range States, based on U.S. import records.

i) Botswana

Botswana exported a total of 24 giraffe products, equivalent to at least 21 individuals, between 2006 and 2015, including 21 trophies (Annex A, Table 20). This amount comprises approximately 1% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (22 of 3,735). In addition, 1 skin and 2 pieces of jewelry were exported to the U.S. during this period. All of these were wild-sourced and imported into the U.S. for hunting trophy purposes.

ii) Ethiopia

Ethiopia exported 1 giraffe trophy between 2006 and 2015 (Annex A, Table 21). This amount comprises less than 1% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (1 of 3,735). This trophy was wild-sourced and imported into the U.S. for hunting trophy purposes.

iii) Kenya

Kenya exported giraffe products equivalent to less than one individual between 2006 and 2015, including 3 pieces of jewelry and 125 bone carvings (Annex A, Table 22). This amount comprises 0% of the total U.S. imports of giraffe and their products equivalent to individual animals during that period (0 of 3,735). The estimate is zero because one cannot estimate the number of individual giraffes represented from jewelry and bone carvings. All of these were wild-sourced and the pieces of jewelry were imported into the U.S. for personal purposes, while the bone carvings were imported for commercial purposes.

iv) Namibia

Namibia exported a total of 685 giraffe products, equivalent to at least 522 individuals, between 2006 and 2015, including 522 trophies (Annex A, Table 23). This amount comprises approximately 14% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (522 of 3,735). For hunting trophy purposes, 9 bone carvings, 9 bones, 14 feet, 3 genitalia, 1 leg, 12 skins, 2 skin pieces, 2 skulls, 3 tails, 1 unspecified product, and one wood product were imported into the U.S. from Namibia between 2006 and 2015. All of these were wild-sourced.

For personal purposes, 17 bone carvings, 7 bones, 4 bone pieces, 6 feet, 5 hair products, 1 small leather product, 3 skins, 2 skin pieces, and 1 skull were imported. All of these were wild-sourced. For scientific purposes, 19 specimens were imported into the U.S. from Namibia between 2006 and 2015. All of these were wild-sourced. For commercial purposes, 40 bones were imported into the U.S. from Namibia between 2006 and 2015. All of these were wild-sourced.

v) Nigeria

Nigeria exported 1 giraffe product equivalent to one individual between 2006 and 2015, consisting of 1 wild-sourced giraffe skin for personal purposes (Annex A, Table 24). This amount comprises nearly 0% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (1 of 3,735).

vi) South Africa

South Africa exported 31,245 giraffe products, equivalent to at least 2,212 individuals, between 2006 and 2015, including 2,210 trophies and 2 bodies. This amount comprises approximately 59% of the total U.S. imports of giraffes and their products equivalent to 2,212 individual animals during that period (2,212 of 3,735). South Africa exported a total of 31,245 giraffe parts to the U.S. during this period (Annex A, Table 25).

For educational purposes, 1 wild-sourced bone was exported from South Africa to the U.S. between 2006 and 2015.

For hunting trophy purposes, 3 captive-bred giraffe trophies were exported from South Africa to the U.S. between 2006 and 2015. From wild-sourced giraffes, 137 bone carvings, 1 body, 613 bones, 3 bone pieces, 1 carapace, 1 ear, 71 feet, 2 genitalia, 6 hair products, 65 large leather products, 1 small leather product, 2 plates, 3 rugs, 68 skins, 15 skin pieces, 12 skulls, 3 tails, 2 trims, 2,049 trophies, and 1 unspecified product were exported from South Africa for hunting trophy purposes to the U.S. between 2006 and 2015. In addition, 2 trophies from ranched giraffes were exported from South Africa for hunting trophy purposes to the U.S. between 2006 and 2015.

For personal purposes and from wild-sourced giraffes, 62 bone carvings, 1 body, 84 bones, 2 bone pieces, 3 carapaces, 2 eggshells, 79 feet, 1 genitalia, 1 hair, 2 hair products, 22 pieces of jewelry, 45 large leather products, 22 small leather products, 3 plates, 4 rugs, 7 skins, 41 skin

pieces, 2 skulls, 8 tails, 1 trim, 15 trophies, 2 unspecified products, and 3 wood products were exported from South Africa to the U.S. between 2006 and 2015. From captive-bred giraffes, 2 large leather products were imported from South Africa to the U.S. for personal purposes between 2006 and 2015.

For scientific purposes, 1 wild-sourced specimen was exported from South Africa to the U.S. between 2006 and 2015.

For commercial purposes and from captive-bred giraffes, 31 bone carvings, 3 bones, 2 large leather products, 3 small leather products, 4 skins and 1 trim were exported from South Africa to the U.S. between 2006 and 2015. From ranched giraffes, 1 horn carving, 1 horn and 12 bones were exported from South Africa to the U.S. between 2006 and 2015. From wild-sourced giraffes, 20,070 bone carvings, 3,677 bones, 1,844 bone pieces, 35 carapaces, 117 feet, 56 hairs, 100 hair products, 199 horn carvings, 3 horns, 46 pieces of jewelry, 49 large leather products, 146 small leather products, 40 rugs, 64 skeletons, 87 skins, 640 skin pieces, 105 skulls, 50 specimens, 50 shell products, 6 tails, 1 tooth, 141 trophies, and 10 unspecified products were exported from South Africa to the U.S. between 2006 and 2015. From unknown sources, 12 bone pieces were exported from South Africa for commercial purposes to the U.S. between 2006 and 2015.

vii) Tanzania

Tanzania exported 692 giraffe products, equivalent to at least one individual, between 2006 and 2015, including 1 wild-sourced trophy for hunting trophy purposes (Annex A, Table 26). This amount comprises <1% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (1 of 3,735).

For personal purposes, 1 hair product and 690 pieces of jewelry were exported from Tanzania to the U.S. between 2006 and 2015.

viii) Zambia

Zambia exported 41 giraffe products equivalent to at least seven individuals between 2006 and 2015, including 7 wild-sourced trophies exported for hunting trophy purposes (Annex A, Table 27). This amount comprises less than 1% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (7 of 3,735).

For personal purposes, 1 wild-sourced bone carving was exported from Zambia to the U.S. between 2006 and 2015. For scientific purposes, 6 hairs, 2 teeth, and 25 specimens from wild-sourced giraffes were exported from Zambia to the U.S. between 2006 and 2015.

ix) Zimbabwe

Zimbabwe exported 5,429 giraffes and their products, equivalent to at least 971 individuals, between 2006 and 2015, including 971 wild-sourced trophies (Annex A, Table 28). This amount comprises 26% of the total U.S. imports of giraffes and their products equivalent to individual animals during that period (971 of 3,735).

For hunting trophy purposes from wild-sourced giraffes, 28 bone carvings, 185 bones, 3 bone pieces, 9 bones, 14 feet, 2 genitalia, 7 pieces of jewelry, 12 large leather products, 16 small leather product, 3 rugs, 32 skins, 66 skin pieces, 14 skulls, 3 tails, 5 trims, and 952 trophies were exported from Zimbabwe to the U.S. between 2006 and 2015. In addition, 2 trophies from ranched giraffes were exported from South Africa for hunting trophy purposes to the U.S. between 2006 and 2015.

For personal purposes from wild-sourced giraffes, 97 bone carvings, 116 bones, 17 bone pieces, 37 feet, 5 pieces of jewelry, 61 large leather products, 12 small leather products, 3 plates, 11 rugs, 10 skins, 61 skin pieces, 6 skulls, 39 tails, 12 trims, 9 trophies, and 4 wood products were exported from Zimbabwe to the U.S. between 2006 and 2015.

Therefore, as demonstrated in this section, the African giraffe is endangered by overutilization for commercial and recreational purposes, and the U.S. plays a major role in this unsustainable international trade.

2) Online Sales of Giraffe Products

a) Methodology

Between November 30, 2016 and December 21, 2016, one researcher based in Washington, D.C., conducted an assessment of online sales of products made from giraffe parts (Annex B, Table 29). The online search was conducted in English and Russian[13] and was intended to capture a sample of products available for purchase. Due to restrictions in ability to search for products in additional languages and limited capacity, it is reasonable to assume the actual online trade in giraffe parts is far greater in volume and worth much more financially than what the research reveals.

The product search was conducted using the Google search engine and the following English and Russian language search terms: giraffe hide (жираф шкура), giraffe skin (жираф кожа), giraffe knife (жираф нож), giraffe gun (жираф ружье), giraffe bone (жираф кость), authentic giraffe hide (натуральная шкура жирафа), giraffe skin purse (жираф сумка кожа), giraffe carpet (жираф ковер), giraffe skin genuine carpet (жираф шкура настоящий ковер), giraffe skin boots (жираф кожа сапоги), giraffe hair (жираф волосы). Furthermore, tailored searches for these same terms were also conducted separately on Amazon.com, Ebay.com, and Etsy.com. From each relevant search result, the researcher recorded the following information: item description, quantity offered, cost per item, website address, manufacturer title, seller title, seller address, country, and search date.

b) Findings

A total of 1,224 items made from giraffe parts were discovered for sale online during the research period. However, it must be noted that many websites did not indicate the quantity of

[13] Russian was selected as the additional language because the individual conducting the research for this section speaks fluent Russian and therefore had the ability to analyze the findings.

items in stock, which means that the total number of items covered by the search is likely much higher. The following are the types of items found available for sale: skeleton parts (skulls, neck vertebrae, upper leg bones, lower leg bones, and shoulder blades); bone products (carvings, blocks, cylinders, earrings, rounds, scales, thumb studs, pen blanks, pistol grips); knives (bone handles); cutlery set (bone handles); hair products (bracelets, necklaces); taxidermy (bust, leg mount); skin products (hides, handbags, rugs, handgun cases, pillows, boots); and products such as tables and lamps made of other body parts.

The most common type of objects offered for sale were scales (a piece of raw bone in the shape of a rectangle that is carved into knife handles) or giraffe bones that may be used to make knife handles, with 346 such items found. The second most common were *raw bones* (neck, skull, legs, etc.), with 159 such items found. The third most common objects offered for sale were *knives* featuring giraffe bone handles, with 132 found.

The cost of these items ranged between $5 (one giraffe bone) and $7,635 (full giraffe taxidermy bust—including shoulders, neck, and head) per item. The total cost of items found is not known because total stock quantities were unavailable and, therefore, the items found represent only a small sample of all giraffe products available for sale online.

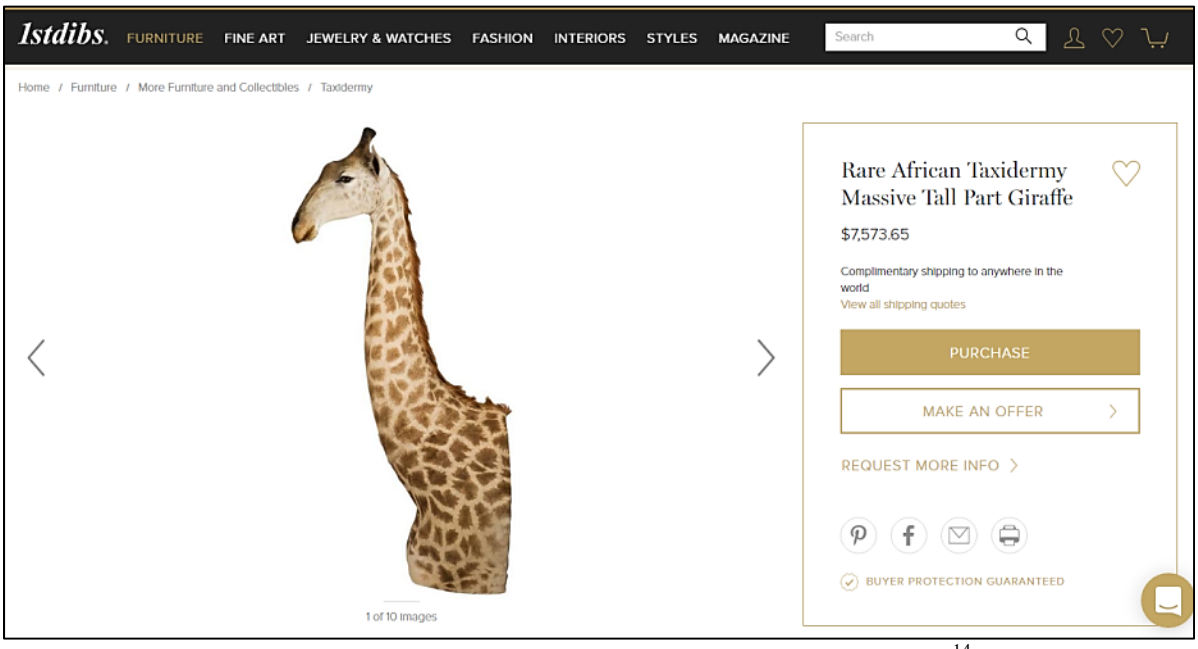
Products found were available for shipping from the U.S., South Africa, Namibia, Russia, Ukraine, India, and France. However, the scope of all countries that may offer giraffe products for sale may be limited by the language restrictions of the researcher conducting the online search and the fact the searches were limited to common search engines or point of sale websites (e.g., eBay).

The largest country from which and in which giraffe products may be purchased online, according to our research, is the U.S.. The states in which giraffe product sellers operated included Florida, Georgia, Nevada, New York, North Carolina, Oklahoma, Pennsylvania, Tennessee, Texas, and Washington.

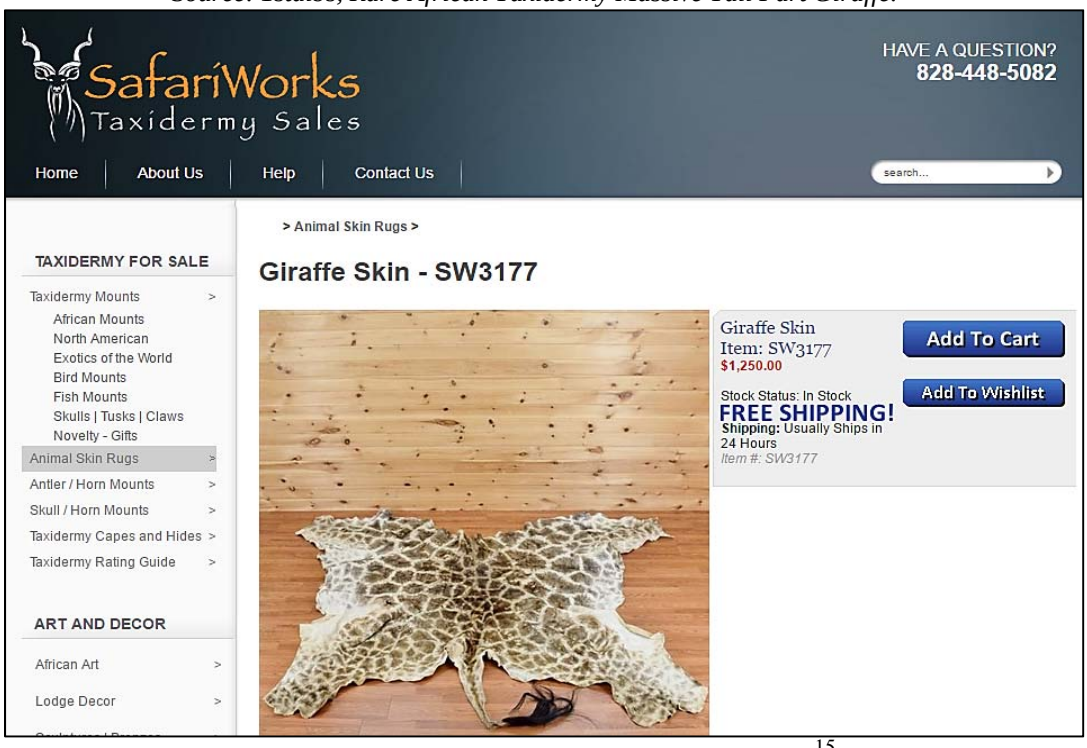
Some of the online retailers include:

- Amazon
- eBay
- Etsy
- SafariWorks Taxidermy Sale
- 1stdibs.com
- Cavender's
- Genuine Exotic Skins and Hides
- African Crafts Market
- Knife Making
- Mercorne
- Mackrill Knives
- Texas Knifemaker's Supply
- Blade Gallery
- Ever After Guide
- Knives Ship Free
- Coast Ivory
- Knife Handles
- Camel Bone Knife Handles
- Atlantic Coral Enterprise, Inc.
- Sabatier Shop
- Natural Exotics
- African Game Industries
- Caspers Taxidermy
- Kelly Larson Sales
- Culpepper & Co.
- Knife Kits
- Asian Loft
- Loft Concept
- ArtWood of Africa
- Regmarkets
- Shkury Kovry
- Rezat.ru

The following are screenshots of some of the items found:

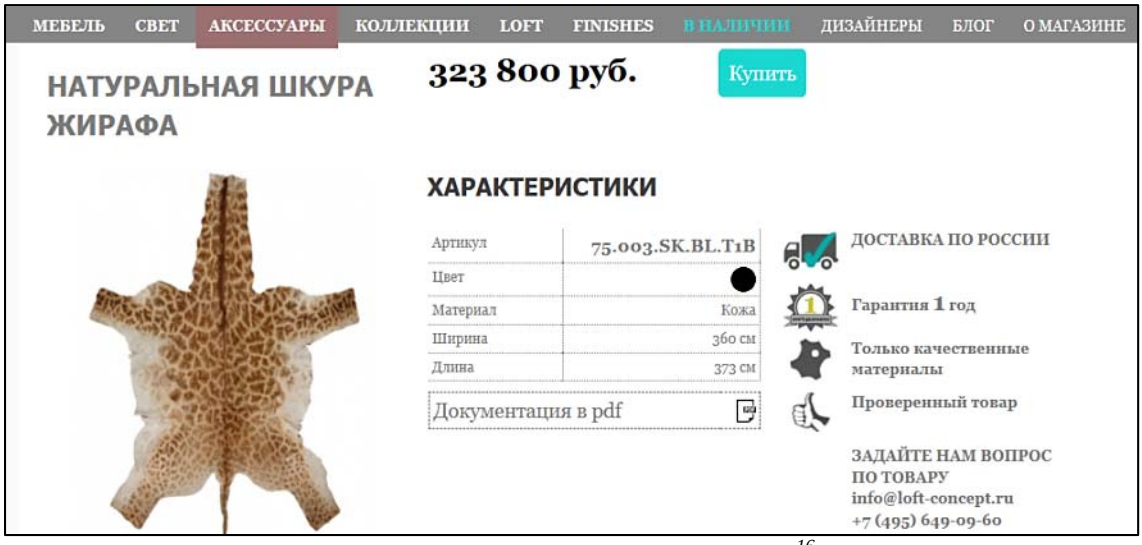


Source: 1stdibs, Rare African Taxidermy Massive Tall Part Giraffe.[14]

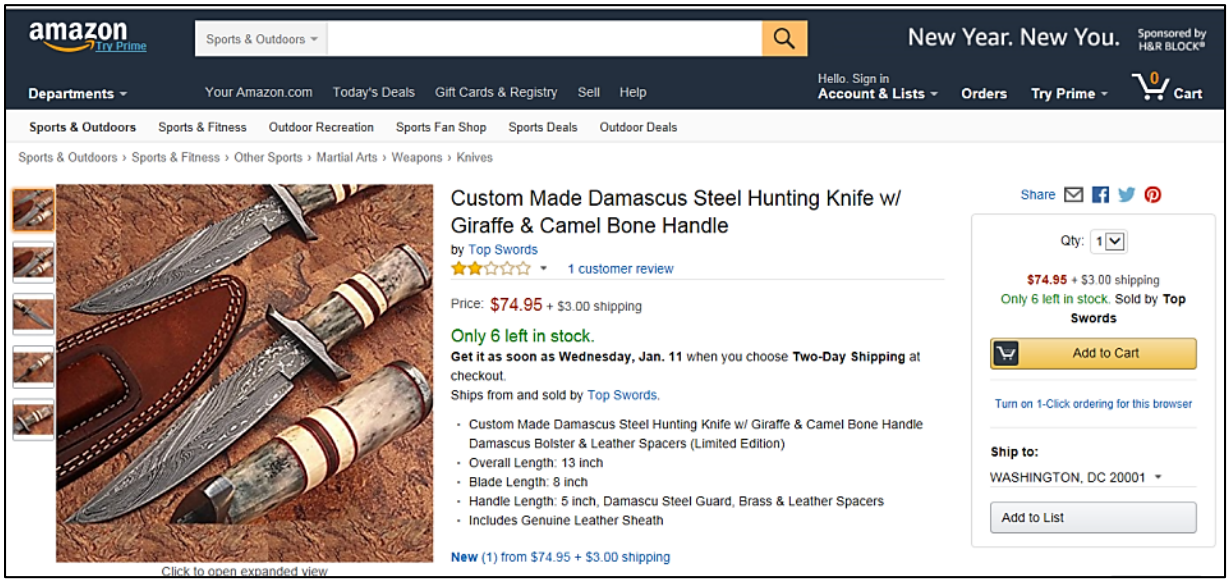


Source: SafariWorks, Taxidermy Sales, Giraffe Skin.[15]

[14] 1stdibs, Rare African Taxidermy Massive Tall Part Giraffe, *available at* https://www.1stdibs.com/furniture/more-furniture-collectibles/taxidermy/rare-african-taxidermy-massive-tall-part-giraffe/id-f_3881812/?utm_content=control&gclid=CjwKEAiAjvrBBRDxm_nRusW3q1QSJAAzRI1thSN_wmzwbUeuMnPTIDU63ut2kH24hSOgtJLTxGmwYxoCqrnw_wcB (last visited Jan. 6, 2017).



Source: Loft Concept, Natural Giraffe Skin.[16]



Source: Amazon.com, Custom Made Damascus Steel Hunting Knife w/ Giraffe & Camel Bone Handle.[17]

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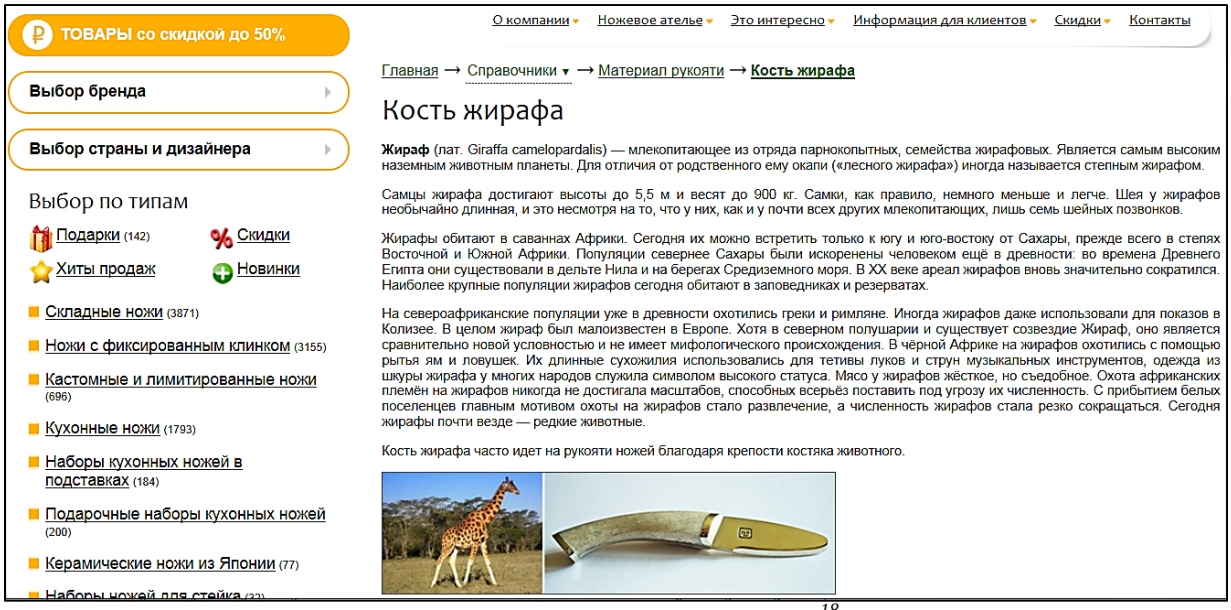
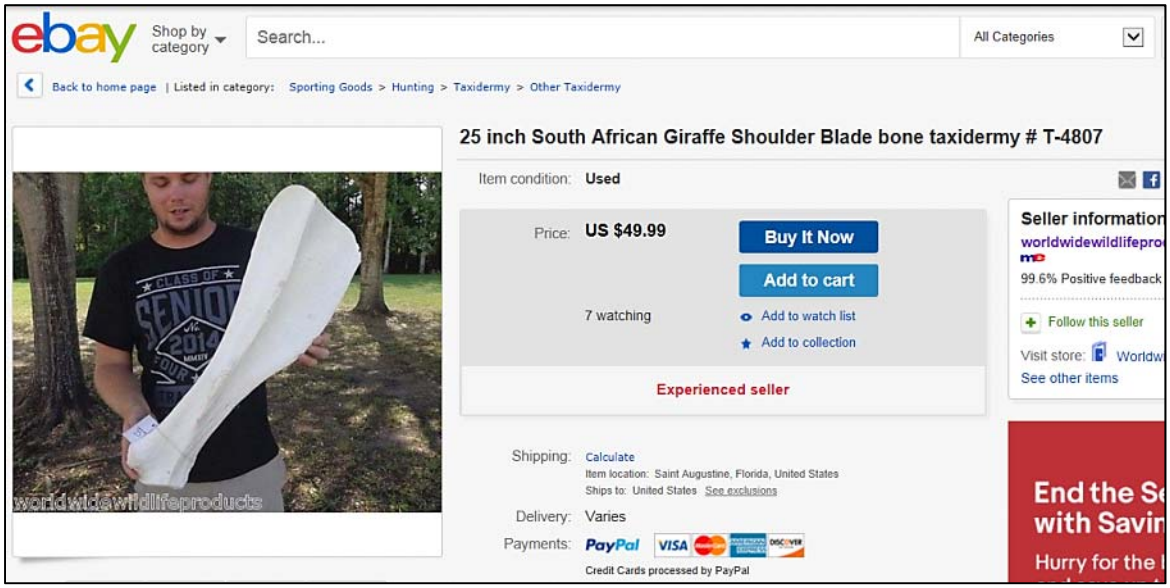
[15] SafariWorks, Taxidermy Sales, Giraffe Skin, *available at* http://www.safariworkstaxidermysales.com/Giraffe_Skin_p/sw3177.htm (last visited Jan. 6, 2017).

[16] Loft Concept, Natural Giraffe Skin, *available at* http://loft-concept.ru/catalog/hide-and-rug/naturalnaya-shkura-zhirafa/ (last visited Jan. 6, 2017).

[17] Amazon.com, Top Swords, Custom Made Damascus Steel Hunting Knife w/ Giraffe & Camel Bone Handle, *available at* https://www.amazon.com/Custom-Damascus-Hunting-Giraffe-Handle/dp/B010TR4Z2M?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=817452680-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B010TR4Z2M&linkCode=xm2&tag=shopperz_origin2-20 (last visited Jan. 6, 2017).



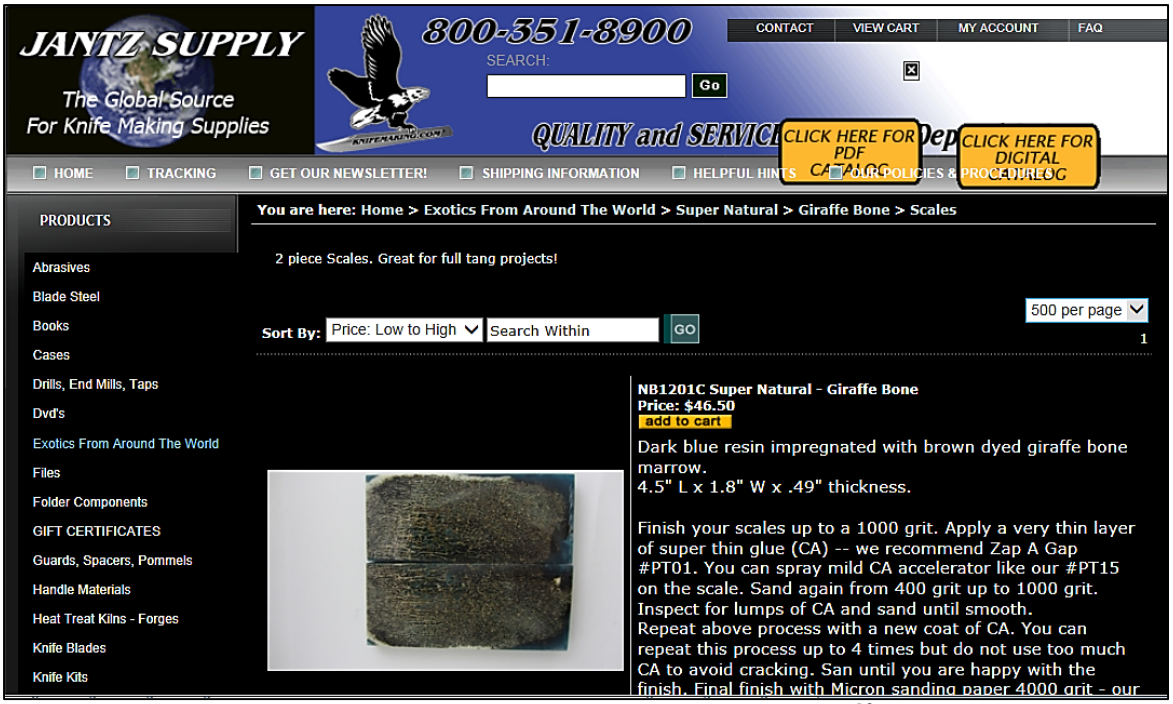
Source: Rezat.ru, Arno Bernard Knives.[18]



Source: Ebay.com, Worldwide Wildlife Products, 25 inch South African Giraffe Shoulder Blade bone taxidermy.[19]

[18] Rezat.ru, Arno Bernard Knives, *available at* http://rezat.ru/ref/rukmaterial/kost_zhirafa/ (last visited Jan. 6, 2017).

[19] Ebay.com, Worldwide Wildlife Products, 25 inch South African Giraffe Shoulder Blade bone taxidermy, *available at* http://www.ebay.com/itm/25-inch-South-African-Giraffe-Shoulder-Blade-bone-taxidermy-T-4807/371435596919?_trksid=p2047675.c100623.m-1&_trkparms=aid%3D222007%26algo%3DSIC.MBE%26ao%3D1%26asc%3D38530%26meid%3D5163f1d2bbf94d3c89486fcbca63ddd6%26pid%3D100623%26rk%3D2%26rkt%3D6%26sd%3D201493342851 (last visited Jan. 6, 2017).



Source: Jantz Supply, Super Natural - Giraffe Bone.[20]

Source: African Game Industries, Giraffe Hide Skin Pillow. [21]

[20] Jantz Supply, Super Natural - Giraffe Bone, *available at* http://www.knifemaking.com/category-s/1165.htm (last visited Jan. 6, 2017).

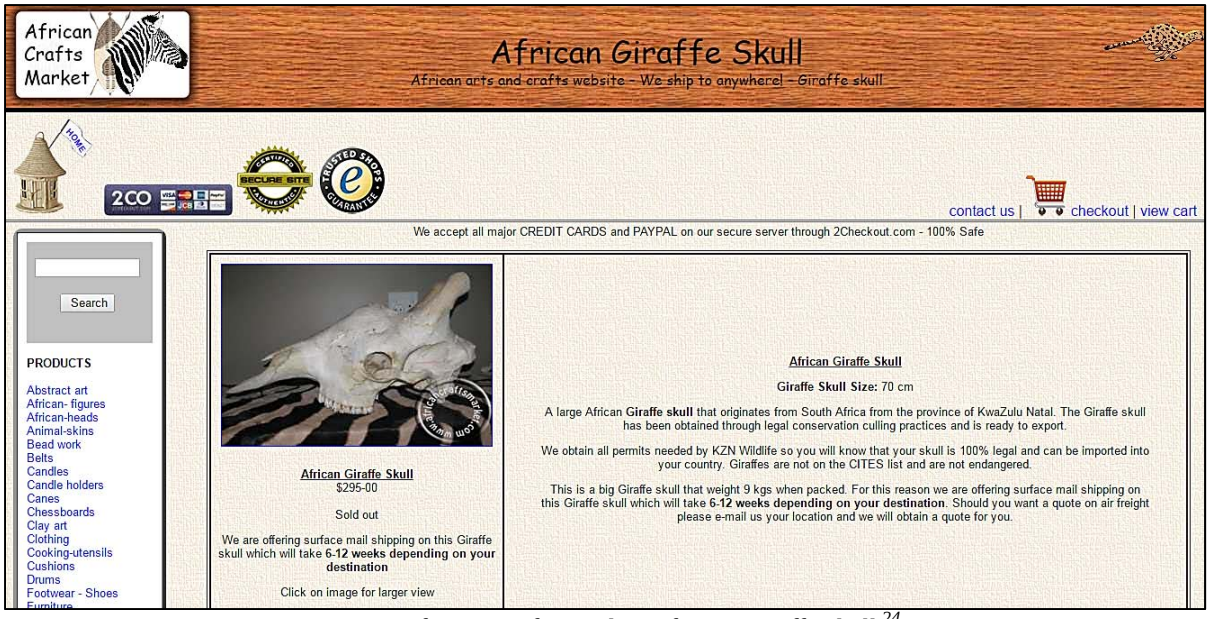
[21] African Game Industries, Giraffe Hide Skin Pillow, *available at* http://africangame.com/store/#!/Giraffe-Hide-Skin-Pillow/p/73750296 (last visited Jan. 6, 2017).

Source: African Game Industries, Giraffe & Buffalo Hide Handgun Case. [22]

Source: Atlantic Coral Enterprise, Inc., Giraffe Bones Hand Picked Pricing.[23]

[22] African Game Industries, Giraffe & Buffalo Hide Handgun Case, *available at* http://africangame.com/store/#!/Giraffe-&-Buffalo-Hide-Handgun-Case/p/73750303 (last visited Jan. 6, 2017).

[23] Atlantic Coral Enterprise, Inc., Giraffe Bones Hand Picked Pricing, *available at* http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697 (last visited Jan. 6, 2017).



Source: African Crafts Market, African Giraffe Skull.[24]

3) Survey-Based Giraffe Parts Trade Data

In 2016 a group of researchers used a questionnaire to survey giraffe experts in order to determine the types of giraffe products encountered in trade and any potential trends of trade (Khalil et al., 2016). There were 90 respondents from 18 countries in Africa and one in Europe, with most respondents located in Kenya, South Africa, Namibia, Tanzania, and Zimbabwe.

According to the results, most survey responses referred to clothing and souvenir items made from giraffe parts. These items included jewelry, bracelets, skins, mounts, carved bone, tails, and purses (Khalil et al., 2016, p. 3). Another major product category referenced by the respondents was food, including sausages, dried meat, and bushmeat (ibid.). The final category included items used for medicinal purposes such as aphrodisiacs, headache cures, and "magic potions" (Khalil et al., 2016, p. 4).

With respect to trends, most survey respondents said that trade was stable. Those who believed that the number of items available for trade decreased cited declining giraffe populations as one explanation. Those who believed that trade in giraffe parts was increasing cited "increased activity in TRAFFIC newsletters, more personal sightings, and a general increase in trade on wildlife products . . ." (Khalil et al. 2016, p. 4).

This survey-based research has been submitted for publication and is expected to be published in 2017.

[24] African Crafts Market, African Giraffe Skull, *available at* http://www.africancraftsmarket.com/Giraffe-skull.htm (last visited Jan. 6, 2017).

4) The Widespread Bushmeat Trade in Giraffes

The hunting of wildlife for food or bushmeat increasingly threatens a multitude of wildlife in Africa. Commonly thought to be a problem primarily in forested ecosystems, the bushmeat trade is now well-documented in savannah ecosystems as well (Lindsey et al., 2013, p. 13; Strauss et al., 2015, p. 506). The net result of this often-illegal practice is a significant loss of biological diversity (Topp-Jorgensen et al., 2009, p. 71; Lindsey et al., 2013, p. 13). In particular in central and western Africa, wildlife population declines and loss have been attributed to hunting for bushmeat (Topp-Jorgensen et al., 2009, p. 71; Petrozzi et al., 2016, p. 546). Similar declines and extirpations are now being documented in eastern Africa (Topp-Jorgensen et al., 2009, p. 71; Lindsey et al., 2013, p. 10).

Poaching for bushmeat is identified as one of the factors contributing to the recent decline of giraffe populations (Okello et al., 2015, p. 160). As part of the bushmeat trade, giraffes are snared or otherwise illegally hunted for their meat, bones, hides, and other parts. Giraffes are most frequently caught in head/neck snares (Strauss et al., 2015, p. 512), but occasionally leg snares are also used. While giraffes can break free from snares, many die once snared (Strauss et al., 2015, p. 512). Adult giraffes are most frequently targeted and males are most frequently snared (Strauss et al., 2015, p. 512; Suraud et al., 2012, p. 581). The level of illegal giraffe poaching is difficult to detect because carcasses may not remain in the bush due to the high demand for giraffe bones and hides (Strauss et al., 2015, p. 515). Giraffe meat is consumed locally but is also part of cross border trade in bushmeat (Okello et al., 2015, p. 170) and much larger markets may exist for giraffe parts than are currently documented (Strauss et al., 2015, p. 515).

a) Western Africa

The West African giraffe (*Giraffa camelopardalis peralta)* is the only giraffe subspecies in western Africa and this subspecies nearly went extinct in Niger after "a period of high illegal hunting" (Suraud et al., 2012, p. 581). Today, the giraffe population has increased even in unprotected areas "where large carnivores have been eliminated, illegal hunting is virtually absent, and people and giraffe coexist" (Bercovitch et al., 2015, p. 141). While Niger's giraffe population rebounded after 1996 "when poaching was controlled" (Suraud et al., 2012, p. 581), researchers observed a "female-biased sex ratio in adult and subadult giraffes" attributed to more male giraffes being poached than female giraffes (ibid., p. 580). Thus, illegal hunting of giraffes has long-reaching ramifications for poached populations even after hunting is halted or curtailed. While giraffe populations in Niger did recover, the poaching of giraffes in bordering Mali and Nigeria remains a threat to animals attempting range expansion (Suraud et al., 2012, p. 582).

b) Central and Eastern Africa

Illegal hunting remains a threat to Kordofan giraffes (*G. c. antiquorum*), Nubian giraffes (*G. c. camelopardalis*), reticulated giraffes (*G. c. reticulata*), Rothschild's giraffes (*G. c. rothschildi*), Masai giraffes (*G. c. tippelskirchi*), and Thornicroft's giraffes (*G. c. thornicrofti*). The giraffe's habitat in northern Central African Republic was under pressure from decades of "continuous uncontrolled hunting" (Bouche et al., 2012, p. 7001; Marais et al., 2012, p. 2 (CAR)). Bushmeat

trade in giraffe meat has contributed to the elimination of Kordofan giraffes in Cameroon, South Sudan, DRC, and Chad (Marais et al. 2013, p. 1 (Cameroon); Marais et al., 2013, p. 2 (DRC); Marais et al., 2013, p. 2 (South Sudan); Marais et al., 2014, p. 1 (Chad)). Wildlife populations, including giraffes, in the area collapsed due to increased poaching in the "early 1980s" and the spread of rinderpest, a disease spread from cattle (Bouche et al., 2012, p. 7004). However, the bushmeat trade remains a threat to giraffes (Marais et al., 2012, p. 1-2 (CAR)). As Bouche et al. (2012, p. 7007) explained, bushmeat hunting is the second largest threat to wildlife in CAR and is traded into Sudan and Chad.

Reticulated and Rothschild's giraffes in Kenya are threatened by the bushmeat trade where hunting of wildlife is becoming a primary threat (Lindsey et al., 2013, p. 10). Kinnarid et al. (2012, p. 12) observed "human removal of meat from giraffe" in Laikipia County, Kenya and generally classified bushmeat as a threat to reticulated giraffes. Rothschild's giraffes in Murchison Falls National Park in Uganda face increases in poaching and the bushmeat trade (Uganda Wildlife Authority website; Uganda Conservation Foundation website).

Okello et al. (2015, p. 161) determined that "[t]hroughout Kenya and Tanzania, the Maasai giraffe population is faced by numerous threats mainly bushmeat poaching and poaching for products like their tail hair and hide for use in bracelets and trinkets." Similarly, Okello et al. (2015, p. 161) document a 70% decline over 20 years in the Masai giraffe in the Maasai-Mara in Kenya due to factors including poaching.[25]

Lindsey et al. (2013, p. 10) document bushmeat hunting as the "primary threat to wildlife" in Kenya and Zambia including Thornicroft's giraffe and noted that in Zambia, "excessive bushmeat hunting" contributed to wildlife population depletions "in 70% of game management areas" (ibid., p. 13). Lindsey et al. (2011, p. 97) explain how the bushmeat trade depleted wildlife populations in protected areas in Zambia and Malawi and Marais et al. (2013, p. 2 (Malawi)) document illegal hunting in Malawi. These findings are echoed in the assessment of Thornicroft's giraffe by Giraffe Conservation Foundation (du Raan et al., 2015, p. 2 (Zambia)).

[25] There are also many place-specific accounts of increased bushmeat poaching and trade of Masai giraffe. Ogutu et al. (2011, p. 4) noted "[e]scalated illegal hunting along the western border of the northern Serengeti Park and adjoining Mara Triangle was associated with dramatic reductions in numbers of topi, waterbuck, buffalo and giraffe" and that these "drastic wildlife declines typify a more widespread pattern in Kenya and in the rest of Africa." Lindsey et al. (2011, p. 96) document that in the "Serengeti snaring has driven population declines of several resident species." Strauss et al. (2015, p. 514) discuss food supply as a concern for Seronera and poaching as the primary cause for giraffe population declines in Kirawira and Bologonja where giraffe populations experienced documented decreases in males. The authors concluded that "the Serengeti giraffe population is now most likely limited by food supply and poaching and that reducing adult mortality from poaching could enhance population growth" (Strauss et al., 2015, p. 506).[25] Kiffner et al. (2014, p. 2-3) studied Tanzania's Tarangire-Manyara ecosystem and identify a poaching hot spot in the Mto Wa Mbu game-controlled area. Masai giraffes made up 9% of the species mentioned by poachers interviewed for the study (ibid., p. 4). Marais et al. (2012, p. 1-2 (Rwanda)) document that "giraffe have been sighted with snares and other injuries, and as such illegal hunting is still considered a potential serious threat" in Rwanda to Masai giraffes.

c) Southern Africa

Du Raan et al. (2016, p. 2 (Namibia)) identify hunting among the threats that extirpated Angolan giraffes from southern Namibia and point to hunting as leading to the absence of giraffes in Namibia's eastern Kunene Region. The authors believe that hunting will increasingly threaten giraffes and that local and international trade must be reviewed given the uptick in giraffe bone carvings at local markets (ibid.). Lindsey et al. (2013, p.11) document declining populations of giraffes near human settlements close to "[h]unting concessions near Okavango, Botswana." Lindsey et al. (2011, p. 97) note that "[e]ven in parts of comparatively affluent countries such as South Africa and Botswana illegal bushmeat hunting is a significant conservation threat."[26] Marais et al. (2013, p. 1-2 (Angola)) found that Angolan giraffes were extirpated from Angola due to illegal hunting of the mammals for bushmeat.

As Lindsey et al. (2011, p. 96) explain "[t]here has been little research on the bushmeat trade in southern Africa and information on the topic is limited" but emerging research indicates that South African giraffes are increasingly threatened by hunting for bushmeat. The authors recognize that the bushmeat trade is a conservation concern in South Africa and specifically highlighted illegal hunting of wildlife for bushmeat in southeast Zimbabwe which is a severe threat to remaining populations (ibid., p. 97, 109). Additionally, South African giraffes in Mozambique historically and currently are threatened by the bushmeat trade (Marais et al., 2013, p. 2 (Mozambique)). According to Beyers et al. (2013), giraffes are one of the most threatened large mammal species in Mozambique due to habitat loss and conversion and illegal hunting (cited in Marais et al., 2013, p. 1 (Mozambique)).

5) Giraffe Hair and Tail Trade

Since ancient Egyptian times giraffe tails have been used by humans (Espinoza et al., 2008, p. 240; Muller, 2008, p. 4). Giraffe tails have many uses, serving as symbols of authority, arm bands, and fly swatters (ibid.). Likewise, giraffe hair is used to make bracelets, necklaces, and other jewelry (Muller, 2008, p. 3). Tail hair is used for bracelets or for beaded jewelry (ibid.).

Today, giraffes are still poached or hunted for their tails and hair. In particular, Masai giraffes, Nubian giraffes, reticulated giraffes, Rothschild's giraffes, and South African giraffes are all poached for their tails or tail hair for use in making jewelry (Marais et al., 2013, p. 2 (Ethiopia); Marais et al., 2016, p. 2 (Uganda); Muller, 2008, p. 3; Okello et al., 2015, p. 161; Wube, 2013, p. 3-4). Giraffe tail hair is used in necklaces in Samburu, Kenya (Ocholla et al., 2016, p. 8). Giraffe tails are a status symbol and used as fly swatters by Mondo chiefs in DRC (Marais et al., 2013, p. 2 (DRC)). Giraffe hair crafts and jewelry were also found in tourist shops in Mozambique (Muller, 2008, p. 3).

Additionally, both giraffe and elephant hair have long been used by many cultures, including those beyond Africa (Espinoza et al., 2008, p. 240). Given the similarity of giraffe and elephant

[26] Note that giraffes in northern and southern Botswana, northeastern Namibia, western Zimbabwe, and southern Zambia may be South African giraffes (Bock et al., 2014, p. 7), but are provisionally included as Angolan (Muller et al., 2016, p. 5).

hair (ibid.), there is a concern that giraffe hair can be billed as elephant hair and sold in products shipped to Asia and perhaps other destinations.

C) Disease and Predation

Giraffes are susceptible to various diseases that are thought to be impacting their populations. In particular, many giraffes have been observed with Giraffe Skin Disease (GSD), which manifests as chronic and severe scabs, encrustations, and dry or oozing blood on the legs, shoulders, and/or necks of giraffes in many countries including Tanzania, Uganda, Botswana, Namibia, Zimbabwe, Kenya, and South Africa (Lee & Bond, 2016, p. 753; Muneza et al., 2016, p. 147). In Tanzania's Ruaha National Park alone, an estimated 92% of adult giraffes were infected with GSD in 2009 (Epaphras et al., 2012, p. 62). While, thus far, no mortalities have been observed as a result of GSD, this may change as genetic diversity and habitat decrease (Bond et al., 2016, p. 1; Epaphras et al., 2012, p. 60). GSD may also be affecting giraffe populations indirectly through, for example, increased predation or poaching, as some giraffe have reduced mobility as a result of the disease (Bond et al., 2016, p. 5; Epaphras et al., 2012, p. 60, 64; Muneza et al., 2016, p. 154). GSD also increases giraffe's vulnerability to other environmental stressors such as drought and fire (Epaphras et al., 2012, p. 64), as well as to secondary infections at the site of lesions, systemic infections, and other opportunistic infections (Lee & Bond, 2016, p. 753).

As giraffes increasingly interact with livestock due to agricultural expansion, they become more vulnerable to diseases carried by such livestock. In particular, rinderpest disease from cattle has resulted in large-scale giraffe fatalities, including one in the Central African Republic in 1984 from which the country's giraffe population has still not recovered (Marais et al., 2012, p. 2 (CAR)). Anthrax has also led to giraffe deaths, with a 2011 outbreak in Kenya's Mwea National Reserve leading to a severe decline in the reserve's giraffe numbers (Kaitho et al., 2013, p. 47; Marais et al., 2013, p. 4 (Kenya)).

Giraffes also suffer from a variety of other diseases for which the population impact is unknown. For example, Giraffe Ear Disease causes wounds and lesions on the outer ear (Karimuribo et al., 2011, p. 8). Giraffes can become infected with papillomavirus-associated lesions which, while typically benign and self-limiting, occasionally become cancerous (van Dyk et al., 2011, p. 80, 83). Mange has been attributed to giraffe deaths in Kenya (Alasaad et al., 2011, p. 2). Giraffes are also susceptible to Lumpy Skin Disease, a viral disorder that affects a variety of ungulates and can lead to giraffe deaths (Hunter & Wallace, 2001, p. 69).

Natural predation also has a significant effect on giraffe populations, especially due to its impacts on giraffe calves and neonates (Lee et al., 2016, p. 8408). Lions are the primary cause of death for giraffe calves (Dagg, 1971, p. 4), which can suffer 73% mortality in their first of year of life (Foster & Dagg, 1972, p. 11; Strauss & Packer, 2013, p. 134). Lion predation is also a substantial mortality factor for subadults (Hirst, 1969, p. 217-219; Pienaar, 1969, p. 112, 114, p. 12; Strauss & Packer, 2013, p. 134). Further, the impact of lion predation on giraffes is likely to increase. The presence of migratory herds of lions' primary prey, such as wildebeest and zebras, significantly reduce lion predation on giraffe calves and neonates and increase giraffe survival (Lee et al., 2016, p. 8408). Indeed, one study in northern Tanzania's Tarangire ecosystem showed that the absence of migratory herds reduced giraffe survival by 11% and

"apparent reproduction" by 37% compared to seasons where migratory herds were present (ibid.). If populations of such ungulates are further reduced as a result of habitat fragmentation, disrupted migration, and poaching—as they likely will be—giraffe calves may face increased predation pressure from lions and other predators due to increased predator-prey ratios, which will contribute to lower survival rates and population sizes may decrease (ibid.).

D) Inadequacy of Existing Regulatory Mechanisms

1) International Law and Agreements

Currently, international conventions and agreements fail to provide adequate protections for giraffes or their habitat.

a) World Heritage Convention

The United Nations Educational, Scientific and Cultural Organization's (UNESCO) Convention Concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention) was adopted in 1972 (UNESCO, 1972) and became effective in 1975. There were one hundred and ninety-two State Parties to the Convention as of June 2016 (UNESCO, 2016a).

The World Heritage Convention establishes a World Heritage Committee, which selects World Heritage Sites nominated by State Parties (UNESCO, 1972, p. 4-6). According to the Convention, these sites may include "geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation" (ibid., p. 2). They may also include "natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty" (ibid.).

Under the Convention, each State Party that is home to a World Heritage Site must endeavor to protect that Site through a variety of means (UNESCO, 1972, p. 3-4). The State Parties also commit to assist in the protection of World Heritage Sites located in other states if such state requests assistance (ibid., p. 4). State Parties also pledge not to take "any deliberate measures which might damage directly or indirectly the cultural and natural heritage" of a World Heritage Site in another state (ibid.).

Many World Heritage Sites provide habitat for wildlife, including giraffe, and thus can contribute to giraffe conservation. For example, Botswana's Okavango Delta (UNESCO, 2014); Tanzania's Ngorongoro Conservation Area, Serengeti National Park, and Selous Game Reserve (UNESCO, 1979; UNESCO, 1980; UNESCO, 1982); and the Democratic Republic of Congo's Virunga and Garamba National Parks (UNESCO, 2015; UNESCO, 2016b) are all World Heritage Sites that provide giraffes with critical habitat (UNESCO, 2016c).

The World Heritage Convention offers many benefits. For example, it provides opportunities for State Parties in which World Heritage Sites are located to obtain funding to help protect such sites via the World Heritage Fund (UNESCO, 1972, p. 7-9). It also helps safeguard World Heritage Sites against extractive activities and destruction or misuse during wartime via the

Geneva Convention (UNESCO, 2013). However, the extent to which a World Heritage Site is protected is largely dependent on the home country's capacity and interest in conservation (UNESCO, 1972, p. 4, 6). Indeed, neither the World Heritage Committee, nor UNESCO, nor the United Nations has any power to force changes in World Heritage Site management upon governments, public agencies, or private parties in any country. Further, Selous Game Reserve, Virunga National Park, and Garamba National Park, among other World Heritage Sites that provide giraffe habitat, are on the list of "World Heritage in Danger," which includes sites that are in potential or ascertained danger, in this case because of rampant poaching and habitat degradation in those areas (UNESCO, undated). While providing important benefits for giraffe conservation, the World Heritage Convention cannot be considered adequate to protect the species or reverse its current decline.

b) The Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a trade agreement designed to ensure that international trade in animals and plants does not threaten their survival. The Convention recognizes that "wild fauna and flora in their many beautiful and varied forms are an irreplaceable part of the natural systems of the earth which must be protected for this and the generations to come." CITES, preamble (March 3, 1973). Wildlife and plants are protected under CITES by being placed on one of three appendices. Currently, giraffes are not listed on any of the CITES appendices and, thus, the Convention provides no protections for the species.

c) Convention on Migratory Species

As its name implies, the Convention on Migratory Species (CMS) is designed to protect species that migrate between nations. The Convention operates by placing species on one or both appendices. Appendix I is for endangered species or those that "are endanger of extinction throughout all or a significant portion of their range." CMS, Art. I.1.e. Appendix II is for species that "have an unfavorable conservation status and require international agreements, or would significantly benefit from international agreements." CMS, Art. IV.1. Range States are to prohibit take of endangered species and create agreements that protect habitat for Appendix II species. CMS, Art. III.5, Art. V. Giraffes are not listed on the appendices and, therefore, are not protected by this Convention.

2) Regional Agreements

a) African Union

The African Union (AU) is the organizational body created to provide an arena to discuss and develop Africa-wide resolutions and conventions. Formed in 1992 as the successor to the Organization of African Unity, which was created in 1963, the AU's member states include all but one of the 54 African states (Morocco). The AU is governed by an Executive Council that presents conventions on issues of interest to member states (AU, 2015).

The African Convention on the Conservation of Nature and Natural Resources, entered into force in 1969, is one such convention that requires contracting states to "adopt measures to ensure conservation, utilization, and development of soil, water, flora, and faunal resources in accordance with scientific principles and with due regard to the best interests of the people" (AU, 1968, p. 5). The Convention lists giraffes as a "Class B" species which, according to the Convention, "shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority" (AU, 1968, p. 8, 16-17). While 31 countries have ratified the Convention, many with giraffe populations have not, including Angola, Chad, Ethiopia, Namibia, Somalia, South Africa, South Sudan, and Zimbabwe (AU, 2016a, p. 1-2). Moreover, the Convention does not contain any enforcement mechanisms to address noncompliance and does not designate the role and frequency of meetings to update the agreement.

A revised Convention was developed in 2003 that would, among other changes, establish a secretariat to improve the Convention's executive and implementation functions (AU, 2003, p. 18-19) and update rules pertaining to protected species such as the giraffe (ibid., p. 8-9). However, it has not yet been adopted (AU, 2016b, p. 2). Thus, while the Convention has the potential to aide giraffe conservation in the future, its lack of adoption by key range states and ineffective implementation mechanisms currently make it inadequate to address the precipitous decline giraffes are experiencing throughout their range.

b) Southern Africa Development Community Protocol on Wildlife Conservation and Law Enforcement

The Southern Africa Development Community (SADC), which is an inter-governmental organization of Southern African states, developed the Protocol on Wildlife Conservation and Law Enforcement in 1999. The Protocol, which entered into force in 2003, creates guidelines to foster international cooperation to ensure the "conservation and sustainable use of wildlife resources" under the jurisdiction of each member state (SADC, 1999, p. 3). The Protocol mandates the development and enforcement of legal instruments necessary to conserve wildlife resources, as well as the development and integration of conservation programs (ibid., p. 10-13). It also allows for sanctions if a state is not implementing conservation policies (ibid., p. 17).

The Protocol, however, also promotes "sustainable use" of wildlife, which can include commercial and recreational use of species, but goes no further in determining under what parameters sustainable use can occur for giraffes and many other species. Thus, giraffe conservation has not benefited from the Protocol and it will not protect the species or aide in their recovery.

3) National Laws

a) Range Countries

The 21 giraffe range States have taken a variety of approaches to solving the problems of habitat loss, wildlife trafficking, over-exploitation, and other threats to the species. In general, however,

most stakeholder countries do not have the infrastructure, funding, expertise, or political will to deal with the many different threats giraffe face.

For example, many giraffe range countries have laws prohibiting the hunting of giraffes, including Angola (Marais et al., 2013, p. 1 (Angola)), Cameroon (Marais et al., 2013, p. 1 (Cameroon)), Central African Republic (Marais et al., 2014, p. 2 (CAR)), Chad (Marais et al., 2014, p. 1 (Chad)), DRC (Marais et al., 2013, p. 2 (DRC)), Kenya (Marais et al., 2013, p. 1 (Kenya)), Mozambique (Marais et al., 2013, p. 1 (Mozambique)), Niger (Marais et al., 2014, p. 1 (Niger)), Rwanda (Marais et al., 2012, p. 1 (Rwanda)), South Sudan (Marais et al., 2012, p. 1 (South Sudan)), Uganda (Marais et al., 2016, p. 1 (Uganda)), and Zambia (Du Raan et al., 2015, p. 1). However, most—if not all—of these countries suffer from a severe lack of enforcement capacity that has led to frequent illegal hunting of giraffe for personal consumption, the bushmeat trade, and the legal and illegal international trade in wildlife parts (e.g., tail hair, giraffe bone). The enforcement challenges are attributable to political and social conflicts in giraffe range countries. For example, Chad's strict laws prohibiting the hunting of giraffes have been insufficient in protecting Chad's wildlife against illegal hunting given the political and social conflicts the country has experienced (Marais et al., 2014, p. 2 (Chad)).

Moreover, some giraffe range countries offer only limited protections from giraffe hunting. For example, Ethiopia (Marais et al., 2013, p. 1 (Ethiopia)), Namibia (Du Raan et al., 2016, p. 1), and Swaziland (Marais et al., 2013, p. 1 (Swaziland)) only require a permit versus banning hunting entirely. And other countries like Malawi (Marais et al., 2013, p. 1 (Malawi)) and Somalia (Marais et al., 2013, p. 1 (Somalia)) fail to provide giraffes with any protections from hunting, meaning that no permits or required and the practice is not banned.

Current range countries' laws are also insufficient to prevent habitat destruction and other activities that degrade giraffe habitat. Comprehensive land use planning laws are non-existent in most countries, meaning development may occur wherever there is interest (Du Raan et al., 2015, p. 1-2; Marais et al., 2012, p. 2 (South Sudan)). The low status and capacity of ministries charged with protecting environment, forestry, and agriculture also threaten biodiversity conservation efforts (Du Raan et al., 2015, p. 1-2). Controls on wood harvesting and selling of wood products are inadequate and, as a result, high rates of deforestation are damaging wooded areas giraffes depend on for food (Du Raan et al., 2015, p. 2). Further, most countries lack laws requiring resource extraction projects (e.g., oil exploration) to undergo environmental assessment, management, or planning, enabling resource extraction in or near important giraffe habitat in many range countries (Marais et al., 2012, p. 2 (South Sudan)).

Even protected areas can no longer shelter giraffes from anthropogenic impacts. While many countries have laws creating and protecting national parks, a combination of unfortunate circumstances has led to the degradation of this once-suitable giraffe habitat. This is especially troubling given the fact that in many countries such as Chad and Swaziland, the giraffe population is confined to one or more of these "protected" areas. Many countries lack the resources, training, equipment, motivation, and people to successfully guard park borders and enforce park laws and regulations (Marais et al., 2013, p. 2 (Angola); Marais et al., 2013, p. 2 (Cameroon); Marais et al., 2013, p. 2 (Swaziland); Marais et al., 2014, p. 2 (Chad)). Parks are often managed under faulty decision-making processes (Marais et al., 2014, p. 2 (Chad)). Lack

of financial, human, and logistical resources and infrastructure, as well as authority to safeguard the parks, hinder efficient management (Marais et al., 2013, p. 2 (Angola)).

Additionally, law enforcement is often weak and corrupt, with some local officials facilitating illegal activities in parks (Marais et al., 2014, p. 2 (Niger)). These activities have resulted in the decimation of giraffe populations inside national park borders due to habitat destruction as a result of human encroachment and associated developments (e.g., agriculture, charcoal production); poaching for personal consumption, the bushmeat trade, and the international trade in wildlife parts (e.g., giraffe tails, bones); and extractive activities in and around the parks, among other activities (Marais et al., 2013, p. 2 (Angola); Marais et al., 2013, p. 2 (Cameroon); Marais et al., 2013, p. 2 (Ethiopia); Marais et al., 2013, p. 2 (Swaziland)). For example, poaching and smuggling systems have impacted the wildlife in Chad's Zakouma National Park severely in recent years (Marais et al., 2014, p. 2 (Chad)). And while national parks officially still exist in Somalia, there are no functioning protected areas (Marais et al., 2013, p. 1 (Somalia)).

b) U.S.

i) Endangered Species Act

The Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544) is one of the most comprehensive laws governing wildlife conservation in the U.S. Under Section 4 of this law, the U.S. Fish and Wildlife Service must "list" species as either "Endangered" or "Threatened," depending on the extent of the threats to their existence. 16 U.S.C. § 1533. The term "species" includes "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." *Id*. § 1532(16). Once a species is listed as Endangered, Section 9 of the ESA (*id.* § 1538(a)) bans the species' import, export, take, and interstate commerce, with limited exceptions. When a species is listed as Threatened, the Service must issue regulations to conserve the species. *Id.* § 1533(d). The Service's regulations automatically extend all Section 9 protections to a species listed as Threatened, unless the Service proactively declines such protections when it lists a species. 50 C.F.R. § 17.31(a). The ESA defines the term "conserve" as "to use all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary." *Id*. § 1532(3).

Under Section 10 of the ESA, otherwise prohibited acts can be permitted if it will "enhance the propagation or survival of the affected species" or is for scientific research consistent with the conservation purpose of the ESA. 16 U.S.C. § 1539(a)(1)(A); 50 C.F.R. §§ 17.21, 17.22. As the plain language of the statute makes clear, enhancement permits may only be issued for activities that *positively benefit* the species in the wild. *See also* USFWS Handbook for Endangered and Threatened Species Permits (1996) (making clear that an enhancement activity "must go beyond having a neutral effect and actually have a positive effect").

The giraffe is not currently listed under the ESA. Thus, the law currently does nothing to protect the giraffe.

ii) Lacey Act

The Lacey Act, passed by Congress in 1900, has three primary purposes. First, it prohibits the import, export, transport, acquisition, receipt, sale, or purchase or attempt to engage in such acts of any fish or wildlife taken, possessed, transported, or sold in violation of any U.S. law, treaty, or regulation; state wildlife law or regulation; Indian tribal law; or foreign wildlife law. 16 U.S.C. § 3372(a). Second, the Act makes it illegal to import, export, or transport in interstate commerce, any container or package containing fish or wildlife unless it has been plainly marked, labeled, or tagged in accordance with the Service's requirements. *Id.* § 3372(b). Third, the Lacey Act prohibits the falsification of information, records, or accounts regarding species that have been imported, exported, transported, sold, purchased, or received in interstate or foreign commerce. *Id.* § 3372(d). While the Act is among the most important wildlife trade laws in the U.S., its prohibition on import/export/transport, etc. does not apply to a species unless such species is protected under U.S., foreign, or international law and the specimen was imported or sold in violation of those protections. Giraffes are not protected under U.S. law, are not listed on the Appendices of CITES or CMS, and are not specifically or fully protected by the legal regimes of most foreign countries, including many giraffe range states. Thus, the Lacey Act does not benefit giraffes like it does thousands of other species protected under international and domestic law.

E) Other Natural or Manmade Factors Affecting its Continued Existence

Giraffes also experience a variety of other threats. In particular, recent climatic changes—especially the upsurge in droughts—increasingly threaten giraffe survival (Marais et al., 2014, p. 1 (Guinea); Okello et al., 2015, p. 159). Droughts primarily kill large male and juvenile giraffe, but also affect females by reducing the likelihood that fetuses will survive, and ending lactation, thereby depriving unweaned calves of critical nutrients (Mitchell et al., 2010, p. 167). Climate change may also increase bushfires and reduce food availability for giraffes (Muller et al., 2016, p. 2).

Genetic isolation of giraffe populations is another major threat to the species, especially in West and Central Africa. Indeed, as giraffe populations become smaller and more isolated, they are increasingly susceptible to threats like disease, natural catastrophes, and environmental changes that make them more vulnerable to extinction (Du Raan et al., 2015, p. 2). For example, the entire population of Thornicroft's giraffe is confined to Zambia's Luangwa Valley, rendering them particularly at risk (ibid.). Genetic isolation also reduces genetic diversity and leads to inbreeding, which can cause very high infant mortality rates—as seen in Malawi's Nyala Game Park—as well as weak and non-disease resistant offspring (Marais et al., 2013, p. 2 (Malawi)). Indeed, maintaining genetic diversity in giraffes has required a number of giraffe translocations in recent years (Muller et al., 2016, p. 7-8).

Additionally, giraffes are negatively impacted by farmers using snares and guns to protect crops from damage (Dagg, 2014, p. 15)—an increasingly frequent occurrence as the expansion of cultivated land leads to more interactions between giraffes and humans (Leroy et al., 2009, p. 2665). This is especially true in West Africa and in communities adjacent to protected areas (Marais et al., 2013, p. 3 (Kenya); Muller et al., 2016, p. 6-7). Indeed, researchers found that

87% of surveyed farmers in villages affected by giraffes in Niger viewed giraffes as a disadvantage, despite the benefits they or their relatives derived from tourism revenue from the species (Leroy et al., 2009, p. 2669). In Zambia, snaring likely aimed at other animals also poses a threat to giraffes with reports of up to five giraffes snaring incidents per year (Du Raan et al., 2015, p. 3).

Civil unrest, including ethnic violence, rebel militias, and paramilitary and military operations—particularly in East and Central Africa—present other threats to giraffes (Du Raan et al., 2015, p. 3; Muller et al., 2016, p. 6). For example, armies in many countries irresponsibly consume ecological resources like timber that giraffes and other wildlife need for sustenance (Marais et al., 2014, p. 1 (Eritrea)). Gunshots and air raids regularly set fire to woodlands, destroying habitat (ibid.), and armies shoot animals illegally for personal consumption (Marais et al., 2012, p. 2 (South Sudan)). Kordofan giraffes have experienced significant declines in Chad (Marais et al., 2014, p. 1-2 (Chad)), CAR (Marais et al., 2012, p. 2 (CAR)), Cameroon (Marais et al., 2013, p. 2 (Cameroon)), and DRC (Marais et al., 2013, p. 2 (DRC)) due to social unrest, ethnic conflicts, civil war, and guerrilla insurgents in these countries. The lengthy civil war in Sudan and the ongoing effects of displaced people and refugees have impacted giraffe habitat in South Sudan (Marais et al., 2012, p. 2 (South Sudan)).[27] Civil unrest has also contributed to decline of populations of West African giraffe in Niger (Marais et al., 2014, p. 1 (Niger)), Rothschild's giraffe in Uganda (Marais et al., 2016, p. 2 (Uganda)), reticulated giraffe in Kenya (Marais et al., 2013, p. 3 (Kenya)), Masai giraffe in Rwanda (Marais et al., 2012, p. 2 (Rwanda)), and Angolan or South African giraffe in Zambia (Du Raan et al., 2015, p. 3).

Natural resources exploitation, including diamond and gold mining and petroleum exploration, also endangers giraffe populations—particularly the Kordofan giraffe and Thornicroft's giraffe (Du Raan et al., 2015, p. 3; Marais et al., 2012, p. 2 (South Sudan); Marais et al., 2013, p. 2 (Cameroon)).

Giraffe mortalities have also occurred due to collisions with cars, especially where public roads and train rails pass through wildlife areas as in the case of Swaziland's Hilane Royal National Park (Marais et al., 2013, p. 2 (Swaziland)).

The International Union for the Conservation of Nature (IUCN) and its World Conservation Congress have also recognized the vulnerability of giraffes to extinction. The IUCN is a global authority on the status of the natural world and the measures needed to safeguard it. The World Conservation Congress is designed to "conserv[e][] the environment and harness[] the solutions nature offers to global challenges" ("World Conservation Congress." *IUCN*. IUCN, 15 Nov. 2016. Web. 25 Jan. 2017). At the last Congress in September 2016, the IUCN parties adopted a motion (#008) entitled "Giraffids: reversing the decline of Africa's iconic megafauna," which calls on the IUCN, donors, and others to raise awareness of giraffid declines and increase fundraising and capacity building for management and monitoring of giraffid range state protected areas, including developing and/or supporting an Africa-wide Giraffe Conservation Strategy and Action Plan. The motion also calls on IUCN member states, giraffid range states, and others to help restore the integrity and security of threatened protected areas. While the

[27] Giraffe in South Sudan may be Kordofan giraffes or Nubian giraffes (Marais et al., 2012, p. 4 (South Sudan)).

passage of this motion represents an important step towards increasing giraffe conservation and spreading awareness regarding the threats giraffes face, it is completely discretionary. In other words, IUCN members who do not adhere to the motion's directives will not be penalized in any way.

VI) Conclusion

This Petition demonstrates that the giraffe population is declining and the species is losing habitat, is being over-utilized, and is threatened by drought, climate change, genetic isolation, predation, and civil unrest. As such, *Giraffa camelopardalis* is currently in danger of extinction throughout all or a significant portion of its range and needs to be protected as an endangered species under the Endangered Species Act. There are inadequate regulatory mechanisms in place to address the on-going habitat loss, poaching, trade, drought, civil unrest, and other threats to this species. With fewer than 80,000 giraffes left in the wild, now is the time for immediate action.

As a conservation leader and significant importer of giraffes and giraffe parts, the U.S. is uniquely positioned to help conserve these tall, graceful and iconic animals. An Endangered listing would protect giraffes from harmful trade and allow the U.S. to take a leadership role in international giraffe conservation. Protecting giraffes under the Endangered Species Act will also raise public awareness about the plight and decline of these unique mammals. Considering the on-going threats to giraffes and their small remaining populations, now is the time for Endangered Species Act protections for this seriously and increasingly imperiled species.

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Annex A

Table 1. Total U.S. Giraffe Imports that are equivalent to individual animals (Bodies, Live, and Trophies), 2006-2015, all sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bodies	0	0	1	1	0	0	0	1	0	0	**3**
Live	0	0	0	0	3	0	0	1	0	0	**4**
Trophies	425	372	339	405	280	328	342	408	386	459	**3,744**
TOTAL	**425**	**372**	**340**	**406**	**283**	**328**	**342**	**410**	**386**	**459**	**3,751**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis.

Table 2. Total U.S. Giraffe Imports, 2006-2015, wild sources for all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bodies	0	0	1	1	0	0	0	1	0	0	**3**
Bone Carvings	2,933	4,194	1,640	2,735	1,736	207	786	1,418	1,494	4,221	**21,364**
Bones	167	65	487	345	77	1403	346	434	771	679	**4,774**
Bone Pieces	1,691	2	15	9	10	2	37	7	64	54	**1,891**
Carapaces	0	0	38	0	0	0	0	0	0	1	**39**
Ears	0	0	0	0	0	0	0	0	1	0	**1**
Eggshells	0	2	0	0	0	0	0	0	0	0	**2**
Feet	18	9	22	37	45	29	69	58	23	29	**339**
Genitalia	0	0	2	1	0	0	0	0	1	2	**6**
Hair	0	0	1	400	0	2	4	81	0	6	**494**
Hair Products	10	0	0	2	2	0	1	0	3	100	**118**
Horn Carvings	0	0	0	0	0	2	0	63	48	87	**200**
Horns	0	0	0	0	0	0	3	0	0	0	**3**
Jewelry	53	66	670	0	10	0	5	9	5	7	**825**
Leather Products Large	2	3	6	18	32	9	11	57	74	108	**320**
Leather Products	5	4	3	1	1	3	42	147	55	102	**363**

Small											
Legs	0	0	0	0	0	0	0	1	0	0	**1**
Live	0	0	0	0	0	0	0	0	0	0	**0**
Plates	0	0	0	0	0	0	0	3	2	3	**8**
Rug	15	6	14	5	6	0	2	8	1	5	**62**
Shell Product	0	0	0	0	0	0	0	0	0	0	**0**
Shoes	0	0	0	0	0	0	0	2	0	518	**520**
Skeletons	0	0	0	0	0	0	0	0	0	64	**64**
Skins	12	22	115	19	306	9	18	22	161	165	**849**
Skin Pieces	50	310	85	133	34	245	62	704	465	920	**3,008**
Skulls	13	2	14	12	32	29	6	5	4	27	**144**
Specimens	1	0	0	19	0	0	50	6	0	25	**101**
Shell Products	0	0	0	0	0	0	0	0	50	0	**50**
Tails	1	0	1	14	7	6	18	7	5	5	**64**
Teeth	0	0	0	0	1	0	0	0	0	2	**3**
Trim	0	2	3	4	0	9	0	0	0	2	**20**
Trophies	424	372	339	404	276	328	342	408	385	459	**3,737**
Unspecified	10	0	0	0	1	0	0	1	2	0	**14**
Wood Products	0	0	0	6	0	1	0	3	0	0	**10**
TOTAL	**5,405**	**5,059**	**3,456**	**4,165**	**2,576**	**2,284**	**1,802**	**3,445**	**3,614**	**7,591**	**39,397**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for wild-sourced imports of Giraffa camelopardalis.

Table 3. Total U.S. Giraffe Imports, 2006-2015, captive-bred sources for all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	0	0	0	0	0	0	0	1	0	**1**
Bones	0	0	0	0	0	0	1	0	0	0	**1**
Hair	0	0	0	0	0	1	0	0	0	0	**1**
Leather Products Large	0	0	0	0	0	2	0	0	2	0	**4**

Leather Products Small	0	0	0	0	0	0	0	0	3	0	**3**
Live	0	0	0	0	0	1	0	0	0	0	**1**
Rug	0	0	1	0	0	0	0	0	0	0	**1**
Shoes	0	0	0	0	0	0	0	0	8	0	**8**
Skins	4	0	0	0	0	0	0	0	2	0	**6**
Skulls	0	0	0	0	0	0	0	1	0	0	**1**
Trim	0	0	0	0	0	0	0	1	0	0	**1**
Trophies	1	0	0	1	0	0	0	0	1	0	**3**
TOTAL	**5**	**0**	**1**	**1**	**0**	**4**	**1**	**2**	**17**	**0**	**31**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of captive-bred Giraffa camelopardalis.

Table 4. Total U.S. Giraffe Imports, 2006-2015, captive-born sources for all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	0	0	0	0	0	0	0	0	1	**1**
Live	0	0	0	0	3	0	0	0	0	0	**3**
Trophies	0	0	0	0	1	0	0	0	0	0	**1**
TOTAL	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**5**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of captive-born Giraffa camelopardalis.

Table 5. Total U.S. Giraffe Imports, 2006-2015, ranched sources for all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	0	0	0	0	0	0	0	0	5	**5**
Bones	0	0	0	0	0	0	1	0	4	7	**12**
Hair	0	0	0	0	0	0	0	0	0	5	**5**
Horn Carvings	0	0	0	0	0	1	0	0	0	0	**1**
Horns	0	0	0	0	0	2	0	0	0	0	**2**
Trophies	0	0	0	0	3	0	0	0	0	0	**3**
TOTAL	**0**	**0**	**0**	**0**	**3**	**3**	**1**	**0**	**4**	**17**	**28**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of ranched Giraffa camelopardalis.

Table 6. Total U.S. Giraffe Imports, 2006-2015, unknown sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	0	1	0	0	0	0	0	0	0	**1**
Bone Pieces	0	0	0	0	0	0	0	0	0	12	**12**
Leather Products, Large	0	0	0	0	0	0	0	1	0	0	**1**
Unspecified	0	0	0	2	0	0	0	0	0	0	**2**
TOTAL	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**12**	**16**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *from unknown sources.*

Table 7. Total U.S. Giraffe Exports, 2006-2015, wild sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	0	21	0	0	0	0	0	1	8	21	**51**
Bones	0	0	0	1	0	0	0	0	0	0	**1**
Bone Pieces	0	0	0	0	0	0	0	8	7	18	**33**
Feet	0	0	0	4	0	1	0	0	0	1	**6**
Jewelry	0	0	700	0	0	0	0	0	0	0	**700**
Leather Products Large	0	0	0	0	0	0	0	0	1	3	**4**
Leather Products Small	0	0	0	0	4	0	0	0	0	0	**4**
Plates	0	0	0	1	0	0	0	0	0	0	**1**
Rug	0	0	0	1	0	0	0	0	0	0	**1**
Shoes	0	0	0	0	52	8	40	12	22	0	**134**
Skins	2	0	0	0	0	1	1	1	122	23	**150**
Skin Pieces	0	0	0	0	0	0	0	0	11	1	**12**
Skulls	0	0	0	2	0	0	0	1	2	1	**6**

Trophies	1	3	2	2	1	9	2	3	1	3	**27**
TOTAL	**3**	**24**	**702**	**11**	**57**	**19**	**43**	**26**	**174**	**71**	**1,130**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for wild-source exports of Giraffa camelopardalis.

Table 8. Total U.S. Giraffe Exports, 2006-2015, captive-bred sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Hair	0	0	0	0	0	0	1	0	0	0	**1**
Live	2	9	1	0	9	4	4	4	10	12	**55**
Skeletons	0	0	1	0	2	0	0	0	0	0	**3**
TOTAL	**2**	**9**	**2**	**0**	**11**	**4**	**5**	**4**	**10**	**12**	**59**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for exports of captive-bred Giraffa camelopardalis.

Table 9. Total U.S. Giraffe Exports, 2006-2015, captive-born sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Hair	0	0	0	0	0	0	1	0	0	0	**1**
Live	2	9	1	0	9	4	4	4	10	12	**55**
Skeletons	0	0	1	0	2	0	0	0	0	0	**3**
TOTAL	**2**	**9**	**2**	**0**	**11**	**4**	**5**	**4**	**10**	**12**	**59**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for exports of captive-born Giraffa camelopardalis.

Table 10. Total U.S. Giraffe Exports, 2006-2015, ranched sources and all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Live	0	0	0	0	0	0	0	0	3	0	**3**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for exports of ranched Giraffa camelopardalis.

Table 11. Total U.S. Giraffe Imports, 2006-2015, all sources, commercial purposes, seized parts and products.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone	3	0	0	3	0	0	2	0	1	0	**9**

Carvings											
Bones	0	0	0	4	0	0	0	0	0	0	**4**
Jewelry	50	0	0	0	0	0	0	0	0	0	**50**
Leather Products Small	2	0	0	0	0	0	0	0	0	0	**2**
Trophies	0	0	0	0	0	0	5	0	0	0	**5**
TOTAL	**55**	**0**	**0**	**7**	**0**	**0**	**7**	**0**	**1**	**0**	**70**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of seized Giraffa camelopardalis *parts or products imported for commercial purposes.*

Table 12. Total U.S. Giraffe Imports, 2006-2015, all sources, hunting trophy purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	12	41	16	9	9	3	14	3	29	38	**174**
Bodies	0	0	1	0	0	0	0	0	0	0	**1**
Bones	25	11	7	149	22	10	8	38	505	38	**813**
Bone Pieces	1	0	5	0	0	2	0	1	3	0	**12**
Carapaces	0	0	0	0	0	0	0	0	0	1	**1**
Ears	0	0	0	0	0	0	0	0	1	0	**1**
Feet	18	8	0	0	12	1	6	13	12	29	**99**
Genitalia	0	0	2	1	0	0	0	0	0	2	**5**
Hair	4	0	0	0	0	0	0	0	2	0	**6**
Hair Products	4	0	0	0	0	0	0	0	2	0	**6**
Jewelry	0	0	0	0	0	0	0	0	2	7	**9**
Leather Products Large	2	3	0	6	23	1	1	7	8	28	**79**
Leather Products Small	0	0	0	0	0	0	0	0	0	17	**17**
Legs	0	0	0	0	0	0	0	1	0	0	**1**
Live	0	0	0	0	0	0	0	1	0	0	**1**
Plates	0	0	0	0	0	0	0	1	0	1	**2**

Rug	0	1	0	1	0	0	2	0	1	2	**7**
Skins	6	9	24	3	1	5	5	10	21	31	**115**
Skin Pieces	11	14	8	4	1	3	1	5	1	36	**84**
Skulls	5	2	0	1	3	3	3	2	2	9	**30**
Tails	0	0	0	0	0	3	0	0	1	5	**9**
Trim	0	2	0	0	0	4	0	0	0	1	**7**
Trophies	298	369	339	402	276	318	318	405	379	457	**3,561**
Unspecified	0	0	0	0	0	0	0	0	2	0	**2**
Wood Products	0	0	0	2	0	0	0	0	0	0	**2**
TOTAL	**386**	**460**	**402**	**578**	**347**	**353**	**358**	**487**	**971**	**702**	**5,044**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported for hunting trophy purposes.*

Table 13. Top Five Countries of Export of Giraffe Hunting Trophies to the U.S., 2006-2015, all sources, hunting trophy purposes.

Country	TOTAL
South Africa	**3,065**
Zimbabwe	**1,346**
Namibia	**575**
Botswana	**24**
Zambia	**7**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported for hunting trophy purposes.*

Table 14. Total U.S. Giraffe Exports, 2006-2015, all sources, hunting trophy purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	0	0	0	0	0	0	0	0	0	4	**4**
Bones	0	0	0	1	0	0	0	0	0	0	**1**
Feet	0	0	0	4	0	0	0	0	0	1	**5**
Plates	0	0	0	1	0	0	0	0	0	0	**1**

Rug	0	0	0	1	0	0	0	0	0	0	**1**
Skulls	0	0	0	2	0	0	0	0	0	1	**3**
Trophies	0	2	1	1	0	3	1	0	0	3	**11**
TOTAL	**0**	**2**	**1**	**10**	**0**	**3**	**1**	**0**	**0**	**9**	**26**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products exported for hunting trophy purposes.*

Table 15. Total U.S. Giraffe Imports, 2006-2015, all sources, scientific purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Hair	0	0	0	0	0	0	0	0	0	6	**6**
Specimens	1	0	0	19	0	0	0	0	0	25	**45**
Teeth	0	0	0	0	0	0	0	0	0	2	**2**
TOTAL	**1**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**33**	**53**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products exported for scientific purposes.*

Table 16. Total U.S. Giraffe Imports, 2006-2015, all sources, personal purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bone Carvings	13	3	14	19	28	41	42	75	48	60	**343**
Bodies	0	0	0	1	0	0	0	0	0	0	**1**
Bones	0	0	6	25	17	34	19	48	47	12	**208**
Bone Pieces	12	2	10	4	1	0	2	3	0	0	**34**
Carapaces	0	0	3	0	0	0	0	0	0	0	**3**
Eggshells	0	2	0	0	0	0	0	0	0	0	**2**
Feet	0	1	10	8	8	22	23	39	11	0	**122**
Genitalia	0	0	0	0	0	0	0	0	1	0	**1**
Hair	0	0	1	1	0	0	0	0	0	5	**7**
Hair Products	6	0	0	2	2	0	1	0	1	0	**12**
Horn Carvings	0	0	0	0	0	0	0	0	1	0	**1**
Jewelry	3	20	0	0	10	0	5	9	3	0	**50**

Leather Products Large	0	0	6	12	9	10	6	30	31	4	**108**
Leather Products Small	1	0	3	1	1	3	1	10	14	1	**35**
Plates	0	0	0	0	0	0	0	2	2	2	**6**
Rug	0	0	4	2	1	0	0	8	0	1	**16**
Shoes	0	0	0	0	0	0	0	2	0	0	**2**
Skins	3	1	6	2	2	2	5	3	0	1	**25**
Skin Pieces	0	0	8	38	12	1	3	21	8	13	**104**
Skulls	3	0	2	0	0	0	3	1	1	1	**11**
Tails	1	0	1	9	7	3	18	7	4	0	**50**
Trim	0	0	3	4	0	5	0	0	0	1	**13**
Trophies	2	3	0	1	3	7	7	1	4	1	**29**
Unspecified	0	0	0	2	1	0	0	1	0	0	**4**
Wood Products	0	0	0	4	0	1	0	3	0	0	**8**
TOTAL	**44**	**32**	**77**	**135**	**102**	**129**	**135**	**263**	**176**	**102**	**1,195**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported for personal purposes.*

Table 17. Total U.S. Giraffe Imports, 2006-2015, all sources, circus or traveling exhibition purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Bodies	0	0	0	0	0	0	0	1	0	0	**1**
Feet	0	0	0	0	0	1	0	0	0	0	**1**
Hair	0	0	0	0	0	1	0	0	0	0	**1**
Specimens	0	0	0	0	0	0	0	6	0	0	**6**
TOTAL	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**7**	**0**	**0**	**9**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products exported for circus or traveling exhibition purposes.*

Table 18. Total U.S. Giraffe Exports, 2006-2015, all sources, personal purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL

Bone Carvings	0	0	0	0	0	0	0	0	8	9	**17**
Bone Pieces	0	0	0	0	0	0	0	8	0	0	**8**
Skin Pieces	0	0	0	0	0	0	0	0	0	1	**1**
Trophies	0	0	0	0	0	0	1	3	0	0	**4**
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	**8**	**10**	**30**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products exported for personal purposes.*

Table 19. Total U.S. Giraffe Exports, 2006-2015, all sources, zoo purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTAL
Live	4	1	0	0	0	0	2	4	5	8	**24**
TOTAL	**4**	**1**	**0**	**0**	**0**	**0**	**2**	**4**	**5**	**8**	**24**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products exported for zoo purposes.*

Table 20. Total U.S. Giraffe Imports from Botswana, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Jewelry	0	0	0	0	0	0	0	0	2	0	**2**
Skins	0	0	0	0	0	0	0	1	0	0	**1**
Trophies	0	1	1	2	1	1	2	4	5	4	**21**
TOTAL	**0**	**1**	**1**	**2**	**1**	**1**	**2**	**5**	**7**	**4**	**24**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Botswana.*

Table 21. Total U.S. Giraffe Imports from Ethiopia, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Trophies	0	0	1	0	0	0	0	0	0	0	**1**
TOTAL	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Ethiopia.*

Table 22. Total U.S. Giraffe Imports from Kenya, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	125	0	0	0	0	0	0	0	0	**125**
Jewelry	3	0	0	0	0	0	0	0	0	0	**3**
TOTAL	**3**	**125**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**128**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Kenya.*

Table 23. Total U.S. Giraffe Imports from Namibia, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	0	0	0	2	2	2	17	2	1	0	**26**
Bones	0	40	1	4	0	0	2	0	4	5	**56**
Bone Pieces	0	0	2	0	0	0	2	0	0	0	**4**
Feet	4	0	0	0	0	5	0	7	4	0	**20**
Genitalia	0	0	0	1	0	0	0	0	0	2	**3**
Hair Products	5	0	0	0	0	0	0	0	0	0	**5**
Leather Products Small	0	0	0	0	0	0	0	1	0	0	**1**
Legs	0	0	0	0	0	0	0	1	0	0	**1**
Skins	2	2	0	1	0	1	1	4	3	1	**15**
Skin Pieces	1	0	0	0	0	0	0	3	0	0	**4**
Skulls	1	0	0	0	1	1	0	0	0	0	**3**
Specimens	0	0	0	19	0	0	0	0	0	0	**19**
Shell Products	0	0	0	0	0	0	0	0	0	0	**0**
Tails	0	0	0	0	0	3	0	0	0	0	**3**
Trophies	37	72	48	54	53	52	56	41	53	56	**522**
Unspecified	0	0	0	0	0	0	0	0	1	0	**1**
Wood Products	0	0	0	2	0	0	0	0	0	0	**2**
TOTAL	**50**	**114**	**51**	**83**	**56**	**64**	**78**	**59**	**66**	**64**	**685**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Namibia.*

Table 24. Total U.S. Giraffe Imports from Nigeria, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Skins	0	0	0	1	0	0	0	0	0	0	**1**
TOTAL	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Nigeria.*

Table 25. Total U.S. Giraffe Imports from South Africa, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bodies	0	0	1	1	0	0	0	0	0	0	**2**
Bone Carvings	2,922	4,044	1,230	2,524	1,715	219	749	1,383	1,463	4,202	**20,451**
Bones	161	21	454	176	56	1385	333	383	757	664	**4,390**
Bone Pieces	1,679	1	1	6	8	0	35	4	73	54	**1,861**
Carapaces	0	0	38	0	0	0	0	0	0	1	**39**
Ears	0	0	0	0	0	0	0	0	1	0	**1**
Eggshells	0	2	0	0	0	0	0	0	0	0	**2**
Feet	8	5	14	29	42	21	63	37	19	29	**267**
Genitalia	0	0	2	0	0	0	0	0	1	0	**3**
Hair	0	0	1	0	0	2	4	50	0	0	**57**
Hair Products	4	0	0	2	0	0	1	0	3	100	**110**
Horn Carvings	0	0	0	0	0	3	0	63	48	87	**201**
Horns	0	0	0	0	0	2	3	0	0	0	**5**
Jewelry	0	46	0	0	5	0	5	9	3	0	**68**
Leather Products Large	2	0	1	8	23	8	3	46	41	33	**165**
Leather Products Small	0	0	3	1	1	1	0	66	14	86	**172**
Plates	0	0	0	0	0	0	0	1	1	3	**5**
Rug	15	6	11	2	5	0	2	3	1	3	**48**
Skeletons	0	0	0	0	0	0	0	0	0	64	**64**
Skins	7	16	42	8	2	5	13	15	27	31	**166**
Skin Pieces	37	296	22	8	23	3	5	164	30	109	**697**

Skulls	11	1	11	10	30	27	3	4	2	21	**120**
Specimens	1	0	0	0	0	0	50	0	0	0	**51**
Shell Products	0	0	0	0	0	0	0	0	50	0	**50**
Tails	0	0	0	7	2	1	0	4	1	3	**18**
Teeth	0	0	0	0	1	0	0	0	0	0	**1**
Trim	0	0	0	0	0	1	0	1	0	2	**4**
Trophies	276	200	189	206	149	204	200	224	251	311	**2,210**
Unspecified	10	0	0	0	1	0	0	1	1	0	**13**
Wood Products	0	0	0	0	0	1	0	3	0	0	**4**
TOTAL	**5,133**	**4,638**	**2,020**	**2,988**	**2,063**	**1,883**	**1,469**	**2,461**	**2,787**	**5,803**	**31,245**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from South Africa.*

Table 26. Total U.S. Giraffe Imports from Tanzania, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Hair Products	1	0	0	0	0	0	0	0	0	0	**1**
Jewelry	0	20	670	0	0	0	0	0	0	0	**690**
Trophies	0	0	0	0	0	0	0	0	0	1	**1**
TOTAL	**1**	**20**	**670**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**692**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Tanzania.*

Table 27. Total U.S. Giraffe Imports from Zambia, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	1	0	0	0	0	0	0	0	0	0	**1**
Hair	0	0	0	0	0	0	0	0	0	6	**6**
Specimens	0	0	0	0	0	0	0	0	0	25	**25**
Teeth	0	0	0	0	0	0	0	0	0	2	**2**
Trophies	1	0	2	0	0	1	0	0	1	2	**7**
TOTAL	**2**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**35**	**41**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Zambia.*

Table 28. Total U.S. Giraffe Imports from Zimbabwe, 2006-2015, all sources, all purposes.

Wildlife Description	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	TOTALS
Bone Carvings	10	25	10	4	16	14	20	24	30	19	**172**
Bones	1	4	31	165	21	18	15	50	10	17	**332**
Bone Pieces	1	1	12	3	1	2	0	3	3	0	**26**
Feet	6	4	8	8	3	2	6	14	0	0	**51**
Hair	0	0	0	400	0	0	0	0	0	0	**400**
Jewelry	50	0	0	0	5	0	0	0	0	7	**62**
Leather Products Large	0	3	5	10	9	3	8	11	35	75	**159**
Leather Products Small	5	4	0	0	0	2	42	80	43	16	**192**
Plates	0	0	0	0	0	0	0	2	1	0	**3**
Rug	0	0	3	3	1	0	0	5	0	2	**14**
Skins	3	4	73	9	302	3	4	2	131	131	**662**
Skin Pieces	7	14	61	125	11	242	57	537	435	811	**2,300**
Skulls	2	1	2	2	1	1	3	2	2	6	**22**
Tails	0	0	1	7	5	2	18	3	4	2	**42**
Trim	0	2	3	4	0	8	0	0	0	0	**17**
Trophies	109	99	96	142	76	70	83	137	75	84	**971**
Wood Products	0	0	0	4	0	0	0	0	0	0	**4**
TOTAL	**194**	**161**	**305**	**886**	**451**	**367**	**256**	**870**	**769**	**1,170**	**5,429**

Source: LEMIS data obtained from United States Fish and Wildlife Service through FOIA requests between 2006 and 2015, filtered for imports of Giraffa camelopardalis *parts or products imported from Zimbabwe.*

Annex B

Table 29. Giraffe ESA Petition - Sample Giraffe Products Available for Sale Online (December 2016).

Item Description	Quantity Offered	Cost (USD)/ Item	Total Cost	Website	Manufacturer Title	Seller Title	Seller Address	Country	Search Date
Bag	N/A	400	400	https://www.1stdibs.com/furniture/decorative-objects/bowls-baskets/decorative-bowls/primitive-kenyan-giraffe-hide-bag/id-f_3273082/?utm_content=test&gclid=CjwKEAiAjvrBBRDxm_nRusW3q1QSJAAzRI1t-j9ubvdcee5UdBGjZT3oOr9DNm4W9KK3DExLyKg6ExoCnh_w_wcB	Kenyan Tribe	1stdibs.com	51 Astor Place 3rd Floor New York, NY 10003`	USA	30.11.2016
Bone	10	28.2	282	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	9	5.2	46.8	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	8	30.3		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	5	94	570	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	5	33.42		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	5	92.9		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	4	10.4	41.6	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016

Bone	4	23		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	2	33.4	66.8	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	2	24		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone	1	39.69		http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone Block	33	46.5	1534.5	http://www.knifemaking.com/category-s/1171.htm	N/A	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Bone Cylinder	1	17.76	17.76	http://www.mercorne.fr/EN/HOME.aspx	N/A	Mercorne	Llozère	France	14.12.2016
Bone Earrings	N/A	10	10	http://www.africancraftsmarket.com/Bone-ear-ring_details.htm	N/A	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016

Bone Earrings	N/A	10	10	http://www.africancraftsmarket.com/Bone-ear-ring_details.htm	N/A	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016
Bone Round	N/A	22	22	http://www.knifemaking.com/category-s/1033.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Boots	N/A	379.99	379.99	https://www.cavenders.com/western/cowboy-boots/mens-boots-shoes/western-square-toe-boots/AB5325L?cm_mmc=Google-_-Cowboy+Boots%257CMen%2527s+Boots+%2526+Shoes%257CWestern+Square+Toe+Boots-_-CSE-_-Anderson+Bean+Men%2527s+Rust+Safari+Giraffe+With+Emerald+Top+Square+T&gclid=CjwKEAiAjvrBBRDxm_nRusW3q1QSJAAzRI1tRHLUIeM0fqu7X7Q63Yrz5aTCmh2OXVvzEOGTrDtSVRoCBe_w_wcB	Anderson Bean Boot Company	Cavender's	1750 E Expy 83, Mercedes, TX 78570	USA	30.11.2016

Boots	1	325	325	http://www.ebay.com/itm/Natural-Justin-TREE-BARK-GIRAFFE-SKIN-Exotic-Boots-Men-Size-10-1-2D-MADE-IN-USA-/262576641743?hash=item3d22c996cf:g:phQAAOSwaB5Xr4Ql	Pair of Aces	Ebay	N/A	USA	19.12.2016
Boots	1	299	299	http://www.ebay.com/sch/pair.of.aces/m.html?_nkw=&_armrs=1&_ipg=&_from=	Pair of Aces	Ebay	N/A	USA	19.12.2016
Boots	1	299	299	http://www.ebay.com/sch/pair.of.aces/m.html?_nkw=&_armrs=1&_ipg=&_from=	Pair of Aces	Ebay	N/A	USA	19.12.2016
Boots	1	235	235	http://www.ebay.com/sch/pair.of.aces/m.html?_nkw=&_armrs=1&_ipg=&_from=	Pair of Aces	Ebay	N/A	USA	19.12.2016
Bust	N/A	7635.8	7635.8	https://www.1stdibs.com/furniture/more-furniture-collectibles/taxidermy/rare-african-taxidermy-massive-tall-part-giraffe/id-f_3881812/?utm_content=control&gclid=CjwKEAiAjvrBBRDxm_nRusW3q1QSJAAzRI1thSN_wmzwbUeuMnPTIDU63ut2kH24hSOgtJLTxGmwYxoCqrnw_wcB	N/A	1stdibs.com	51 Astor Place 3rd Floor New York, NY 10003`	USA	30.11.2016

Carved Bone	1	N/A	N/A	http://www.asianloft.com/images/PDF_catalogs/US-2016-11.pdf	N/A	Asian Loft	Market Square 305 W. High Avenue – Suite 190 HIGH POINT, NC 27260	USA	19.12.2016
Cutlery Set	1	N/A	N/A	http://www.mackrillknives.com/other-cutlery-1.shtml	Mackrill Knives	Mackrill Knives		South Africa	15.12.2016
Hair Bracelet	N/A	20	20	http://www.africancraftsmarket.com/Giraffe-hair-bracelets_details.htm	N/A	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016
Hair Bracelet	10	N/A	N/A	http://www.caspers-taxidermy.com/curios-0#	Caspers Taxidermy	Caspers Taxidermy	Grootfontein	Namibia	19.12.2016
Handgun Case	45	55	2475	http://africangame.com/store/#!/Giraffe-&-Buffalo-Hide-Handgun-Case/p/73750303	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Handgun Case	44	65	2860	http://africangame.com/store/#!/Giraffe-Hide-Handgun-Case/p/73750301	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016

Handgun Case	44	55	2420	http://africangame.com/store/#!/Giraffe-Hide-Handgun-Case/p/73750301	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Handgun Case	44	45	1980	http://africangame.com/store/#!/Giraffe-Hide-Handgun-Case/p/73750301	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Handgun Case	44	40	1760	http://africangame.com/store/#!/Giraffe-Hide-Handgun-Case/p/73750301	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Handgun Case	44	35	1540	http://africangame.com/store/#!/Giraffe-Hide-Handgun-Case/p/73750301	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Hide	N/A	N/A	N/A	http://www.kellylarsonsales.com/products/leather/giraffe.htm	Kelly Larson Sales	Kelly Larson Sales	1812 Reliance Parkway Suite G. Bedford, TX 76021	USA	19.12.2016
Hide	N/A	N/A	N/A	http://www.africanwood.ru/foto_shkur.htm	N/A	ArtWood of Africa	N/A	Russia	20.12.2016
Hide	N/A	1250	1250	http://www.safariworkstaxidermysales.com/Giraffe_Skin_p/sw3177.htm	N/A	SafariWorks Taxidermy Sale	Safariworks LLC 1994 Denton Ave. Morganton NC 28655	USA	30.11.2016

Hide	N/A	1950	1950	http://www.africancraftsmarket.com/Giraffe-skin.htm	KZN Wildlife	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016
Hide	N/A	290	290	http://www.allexoticleather.com/product-p/fs101.htm	N/A	Genuine Exotic Skins and Hides	N/A	USA	30.11.2016
Hide	N/A	260	260	http://www.allexoticleather.com/product-p/fs104.htm	N/A	Genuine Exotic Skins and Hides	N/A	USA	30.11.2016
Hide	N/A	200	200	http://www.allexoticleather.com/product-p/fs105.htm	N/A	Genuine Exotic Skins and Hides	N/A	USA	30.11.2016
Hide	N/A	180	180	http://www.allexoticleather.com/product-p/fs10.htm	N/A	Genuine Exotic Skins and Hides	N/A	USA	30.11.2016
Hide	1	N/A	N/A	http://spb.regmarkets.ru/shkury-naturalnye-53993/210258-shkura-zhirafa-x-naturalnaya/	KwaZulu Natal Parks Board	Regmarkets	N/A	Russia	20.12.2016

Hide	1	N/A	N/A	http://shkury-kovry.com.ua/p118980607-shkura-nastoyaschego-afrikanskogo.html	N/A	Shkury Kovry	Днепрул. Нижнеднепровская 17, ТРЦ «Караван Мебель»	Ukraine	20.12.2016
Hide	1	5269	5269	http://loft-concept.ru/catalog/hide-and-rug/naturalnaya-shkura-zhirafa/	N/A	Loft Concept	N/A	Russia	20.12.2016
Knife	24	290	6960	https://www.knivesshipfree.com/arno-bernard-knives/	Arno Bernard	Knives Ship Free		South Africa	15.12.2016
Knife	20	N/A	N/A	http://www.mackrillknives.com/index.shtml	Mackrill Knives	Mackrill Knives		South Africa	15.12.2016
Knife	13	330	4290	https://www.knivesshipfree.com/arno-bernard-knives/	Arno Bernard	Knives Ship Free		South Africa	15.12.2016
Knife	12	221.42	2657	http://www.sabatier-shop.com/pocket-knives_196_cognet---douk-douk_le-thiers-custom_le-thiers-stabilized-giraffe-bone__20123.html	Cognet	Sabatier Shop	Bellevue, 63300 Thiers	France	16.12.2016
Knife	8	553	4424	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016

Knife	6	74.95	450	https://www.amazon.com/Custom-Damascus-Hunting-Giraffe-Handle/dp/B010TR4Z2M?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=817452680-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B010TR4Z2M&linkCode=xm2&tag=shopperz_origin2-20	Top Swords	Amazon	785 Seaboard Dr #107, Dallas, GA 30132	USA	19.12. 2016
Knife	5	758	3790	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	5	643	3215	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	5	442	2210	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	3	74.95	225	https://www.amazon.com/Custom-Damascus-Hunting-Giraffe-Handle/dp/B010TQZVQC?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=465285100-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B010TQZVQC&linkCode=xm2&tag=shopperz_origin2-20	Top Swords	Amazon	785 Seaboard Dr #107, Dallas, GA 30132	USA	19.12. 2016

Knife	3	74.95	225	https://www.amazon.com/Custom-Damascus-Deluxe-Hunting-Giraffe/dp/B010TR9LE4?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=197775336-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B010TR9LE4&linkCode=xm2&tag=shopperz_origin2-20	Top Swords	Amazon	785 Seaboard Dr #107, Dallas, GA 30132	USA	19.12. 2016
Knife	2	1428	2856	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	2	1428	2856	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	2	484	968	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016
Knife	2	400	800	https://www.knivesshipfree.com/arno-bernard-knives/	Arno Bernard	Knives Ship Free		South Africa	15.12. 2016
Knife	2	257	514	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12. 2016

Knife	2	135	270	https://www.amazon.com/Arno-Bernard-Knives-Squirrel-Giraffe/dp/B01BXSCSB6?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=514265912-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B01BXSCSB6&linkCode=xm2&tag=shopperz_origin2-20	Dull Knife Terminator	Amazon	128 E Neshannock Ave New Wilmington, PA 16142	USA	19.12.2016
Knife	2	74.95	150	https://www.amazon.com/Damascus-Folding-Guthook-Giraffe-Engraved/dp/B01MXTUM1L?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=935417886-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B01MXTUM1L&linkCode=xm2&tag=shopperz_origin2-20	Top Swords	Amazon	785 Seaboard Dr #107, Dallas, GA 30132	USA	19.12.2016
Knife	1	2,300	2,300	http://bladegallery.com/shopexd.asp?id=95211	Kevin Harvey, M.S.	Blade Gallery	107 Central Way Kirkland, WA 98033	USA	15.12.2016
Knife	1	1109	1109	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016

Knife	1	1109	1109	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016
Knife	1	852	852	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016
Knife	1	643	643	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016
Knife	1	565	565	http://rezat.ru/ref/rukmaterial/kost_zhirafa/	Arno Bernard Knives	Rezat.ru	N/A	Russia	21.12.2016
Knife	1	528	528	http://www.sabatier-shop.com/3417-1515-pvd-ceramic-treatment---manu-laplace-1515-giraffe-bone.html	Manu Laplace	Sabatier Shop	Thiers	France	19.12.2016
Knife	1	350	350	https://www.amazon.com/Arno-Bernard-Knives-Giraffe-Handle/dp/B00T6HL4XA?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=476040865-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B00T6HL4XA&linkCode=xm2&tag=shopperz_origin2-20	Dull Knife Terminator	Amazon	128 E Neshannock Ave New Wilmington, PA 16142	USA	19.12.2016

Knife	1	250	250	https://www.amazon.com/Arno-Bernard-Giraffe-Handles-Scavenger/dp/B01MCVFOHC?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=638007186-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B01MCVFOHC&linkCode=xm2&tag=shopperz_origin2-20	Dull Knife Terminator	Amazon	128 E Neshannock Ave New Wilmington, PA 16142	USA	19.12.2016
Knife	1	250	250	https://www.amazon.com/Arno-Bernard-Vulture-Giraffe-Handles/dp/B00IDTHDZU?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=538721399-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B00IDTHDZU&linkCode=xm2&tag=shopperz_origin2-20	Dull Knife Terminator	Amazon	128 E Neshannock Ave New Wilmington, PA 16142	USA	19.12.2016
Knife	1	249	249	https://www.everafterguide.com/arno-bernard-knives-wild-dog-knife-giraffe-bone-handles-bohler-n690-blade-4402-5ba0443b190d343e.html	Arno Bernard	Ever After Guide		South Africa	15.12.2016

Knife	1	150	150	http://www.texasknife.com/vcom/advanced_search_result.php?search_in_description=1&keywords=giraffe&x=13&y=12	Texas Knifemaker's Supply	Texas Knifemaker's Supply	Texas Knifemaker's Supply 10649 Haddington # 180 Houston, Texas 77043	USA	15.12.2016
Knife	1	150	150	https://www.knivesshipfree.com/arno-bernard-knives/	Arno Bernard	Knives Ship Free		South Africa	15.12.2016
Knife	1	135	135	https://www.amazon.com/Arno-Bernard-Porcupine-Giraffe-Handles/dp/B01BXT5HTA?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=31019928 1-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B01BXT5HTA&linkCode=xm2&tag=shopperz_origin2-20	Dull Knife Terminator	Amazon	128 E Neshannock Ave New Wilmington, PA 16142	USA	19.12.2016
Knife Case	N/A	25	N/A	http://africangame.com/store/#!/Giraffe-Hide-Knife-Case/p/73750305	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Knife Case	N/A	50	N/A	http://africangame.com/store/#!/Giraffe-Hide-Knife-Case/p/73750305	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016

Knife Case	N/A	60	N/A	http://africangame.com/store/#!/Giraffe-Hide-Knife-Case/p/73750305	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Knife Case	N/A	70	N/A	http://africangame.com/store/#!/Giraffe-Hide-Knife-Case/p/73750305	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Lamp	1	N/A	N/A	http://www.caspers-taxidermy.com/curios-0#	Caspers Taxidermy	Caspers Taxidermy	Grootfontein	Namibia	19.12.2016
Leg bone	10	59.99	599.9	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Leg Bone	7	90	630	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Leg Bone	5	50	250	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	5	40	200	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	5	38	190	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	5	30	150	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Leg Bone	4	100	400	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	4	39.99	159.96	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Leg Bone	3	49.99	149.97	http://www.ebay.com/itm/12-1-2-inch-South-African-Giraffe-leg-bone-piece-for-carving-17917-/141894752507?hash=item21099618fb:g:XBQAAOSwvUlWsmYk	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Leg Bone	3	29.99	89.97	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016

Leg Bone	2	210	420	http://www.naturalexotics.com/store/c/1051-Leg-Bones.aspx?Attribs=256	N/A	Natural Exotics			19.12.2016
Leg Bone	2	100	200	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	110	110	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	110	110	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Leg Bone	1	90	90	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	90	90	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	90	90	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	85	85	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Leg Bone	1	80	80	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Bone	1	79.99	79.99	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Leg Bone	1	70	70	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Leg Mount	6	79.99	479.94	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016

Neck Bones	1	300	300	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Neck Vertebra	1	60	60	http://www.ebay.com/itm/like/201577293965?vectorid=229466&lgeo=1&item=201577293965&rmvSB=true	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Neck Vertebra	1	60	60	http://www.ebay.com/itm/like/201577117265?vectorid=229466&lgeo=1&item=201577117265&rmvSB=true	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Neck Vertebra	1	60	60	http://www.ebay.com/itm/like/201536951374?vectorid=229466&lgeo=1&item=201536951374&rmvSB=true	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Neck Vertebra	1	49.99	49.99	http://www.ebay.com/itm/9-inch-Single-South-African-Giraffe-Neck-Vertebra-real-bone-taxidermy-GUN5638-/201754505305?hash=item2ef9817059:g:dAMAAOSwB09YRGvW	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016

Neck Vertebra	8	59.99	479.92	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Neck Vertebra	1	49.99	49.99	http://www.ebay.com/itm/11-inch-Single-South-African-Giraffe-Neck-Vertebra-real-bone-taxidermy-GUN5639-/371818620997?hash=item56921de845:g:A3AAAOSw44BYRGs0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Neck Vertebrae	2	299.99	599.98	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Necklace	N/A	29	29	http://www.africancraftsmarket.com/Giraffe-hair-necklace.htm	N/A	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016

Pen Blanks	15	17.5	262.5	http://www.knifemaking.com/category-s/1268.htm	N/A	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Pillow	50	215	10750	http://africangame.com/store/#!/Giraffe-Hide-Skin-Pillow/p/73750296	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Pillow	50	185	9250	http://africangame.com/store/#!/Giraffe-Hide-Skin-Pillow/p/73750296	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Pillow	50	180	9000	http://africangame.com/store/#!/Giraffe-Hide-Skin-Pillow-20-x-10/p/73750298	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Pillow	50	180	9000	http://africangame.com/store/#!/Giraffe-Hide-&-Leather-Pillow-20-x-10/p/73750299	N/A	African Game Industries	1000 Kennedy Ln #112, Saginaw, TX 76131	USA	19.12.2016
Pistol Grips	2	215	430	https://www.etsy.com/shop/MDGrips?ref=l2-shopheader-name	MDGrips	Etsy	Springfield, Tennessee	USA	16.12.2016

Pistol Grips	1	275	275	https://www.etsy.com/listing/490770145/ruger-bisley-giraffe-bone-pistol-grips?utm_source=google&utm_medium=cpc&utm_campaign=shopping_us_a-art_and_collectibles-other&utm_custom1=f1b0544f-f80f-4587-86da-a656f23e3f69&gclid=CjwKEAiAvs7CBRC24rao6bGCoiASJABaCt5DtCF8stb6yaOP9zX_s84V8lZJ10i6laRZidXTWbmz-BoCVJ_w_wcB	MDGrips	Etsy	Springfield, Tennessee	USA	16.12.2016
Pistol Grips	1	250	250	https://www.etsy.com/listing/490768051/ruger-new-vaquero-ruger-montado-giraffe?utm_source=google&utm_medium=cpc&utm_campaign=shopping_us_a-art_and_collectibles-other&utm_custom1=f1b0544f-f80f-4587-86da-a656f23e3f69&gclid=CjwKEAiAvs7CBRC24rao6bGCoiASJABaCt5DE9brXgrZRFpkTNGnCZ7DnDg5GpSfErtlE_UBccDTfxoCd3jw_wcB	MDGrips	Etsy	Springfield, Tennessee	USA	16.12.2016

Pistol Grips	1	200	200	https://www.etsy.com/listing/468385302/1911-custom-handmade-giraffe-bone-pistol?utm_source=google&utm_medium=cpc&utm_campaign=shopping_us_a-art_and_collectibles-other&utm_custom1=f1b0544f-f80f-4587-86da-a656f23e3f69&gclid=CjwKEAiAvs7CBRC24rao6bGCoiASJABaCt5DOK23NT1WkmG3zyQb0sa9S44KH5DObrI8RYCi3_FDIBoC1bjw_wcB	MDGrips	Etsy	Springfield, Tennessee	USA	16.12.2016
Pistol Grips	1	125	125	https://www.amazon.com/1911-Pistol-Grips-Full-Giraffe/dp/B00IZL8SQ4?SubscriptionId=AKIAJO7E5OLQ67NVPFZA&ascsubtag=178336231-26-123607149.1481923733&camp=2025&creative=165953&creativeASIN=B00IZL8SQ4&linkCode=xm2&tag=shopperz_origin2-20	Grips By Larry	Amazon	P.O. Box 355 Beatty, Nevada 89003	USA	19.12.2016
Pistol Grips	1	65	65	http://www.ebay.com/itm/Compact-1911-Giraffe-Bone-grips-/112241465935?hash=item1a221cda4f:g:V2oAAOSwiONYMbUr	John C.	Ebay	N/A	USA	

Rug	1	1,650	1,650	http://www.ebay.com/itm/TAXIDERMY-BEAUTIFUL-GIRAFFE-SKIN-RUG-EXCELLENT-HIDE-AFRICA-SAFARI-HUNTING-DECOR-/371368236010?hash=item56774593ea:g:kKgAAOSwLVZVkroz	Mills Hide and Fur	Ebay	3143 Deerwood Ln Signal Mountain, Tennessee	USA	19.12.2016
Rug	1	1,450	1,450	http://www.ebay.com/itm/TAXIDERMY-TANNED-GIRAFFE-SKIN-RUG-EXCELLENT-FUR-HIDE-AFRICA-SAFARI-HUNTING-DECOR-/371325258141?hash=item5674b5c99d:g:0bsAAOSwmrlUt9a0	Mills Hide and Fur	Ebay	3143 Deerwood Ln Signal Mountain, Tennessee	USA	19.12.2016
Scales	64	46.5	2976	http://www.knifemaking.com/category-s/1165.htm	N/A	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	52	61.25	3185	http://www.knifemaking.com/category-s/1188.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016

Scales	45	35	1575	http://www.knifemaking.com/category-s/1185.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	41	43.75	1793.75	http://www.knifemaking.com/category-s/1186.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	39	52.5	2047.5	http://www.knifemaking.com/category-s/1187.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	22	26.25	577.5	http://www.knifemaking.com/category-s/1184.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	21	17.75	372.75	http://www.knifemaking.com/category-s/1183.htm	www.giraffebone.com	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Scales	16	N/A	N/A	http://www.camelboneknifehandles.com/Giraffe-Bone-Look-Scales.html#thumb	Camel Bone Knife Handles	Camel Bone Knife Handles		India	16.12.2016
Scales	7	64.95	454.65	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3	Knife Kits	Knife Kits	Peachtree City, Georgia.	USA	19.12.2016

Scales	5	54.95	274.75	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3	Knife Kits	Knife Kits	Peachtree City, Georgia.	USA	19.12.2016
Scales	4	60	240	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	4	44.95	179.8	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3					
Scales	4	40	160	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	4	24.95	100	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3	Knife Kits	Knife Kits	Peachtree City, Georgia.	USA	19.12.2016
Scales	3	25	75	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	2	74.95	150	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3	Knife Kits	Knife Kits	Peachtree City, Georgia.	USA	19.12.2016
Scales	2	55	110	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	2	18	32	http://www.knifehandles.com/smooth-jigged-bone/giraffe-bone		Knife Handles	8285 Georgia Road - Otto, NC 28763	USA	16.12.2016
Scales	2	14.95	30	http://www.knifekits.com/vcom/index.php?cPath=40_490&osCsid=3lulq36caikr43hpvdsg77cpe3	Knife Kits	Knife Kits	Peachtree City, Georgia.	USA	19.12.2016

Scales	2	18	18	http://www.knifehandles.com/black-giraffe-bone-2-15-16-x-15-16-x-178-15.html`	N/A	Culpepper & Co.	8285 Georgia Road - Otto, NC 28763	USA	19.12.2016
Scales	1	50	50	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	1	35	35	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	1	30	30	http://www.coastivory.com/mammoth1.htm	N/A	Coast Ivory		USA	16.12.2016
Scales	1	16	16	http://www.knifehandles.com/smooth-jigged-bone/giraffe-bone		Knife Handles	8285 Georgia Road - Otto, NC 28763	USA	16.12.2016
Scales	1	16	16	http://www.knifehandles.com/black-giraffe-bone-2-3-4-x-11-16-x-140-10.html	N/A	Culpepper & Co.	8285 Georgia Road - Otto, NC 28763	USA	19.12.2016
Shoulder Blade	9	49.99	449.91	http://www.ebay.com/itm/23-inch-South-African-Giraffe-Shoulder-Blade-bone-taxidermy-17269-/201493342851?hash=item2ee9f06a83:g:h3IAAOSwUdlWgqkT	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Shoulder Blade	4	50	200	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Shoulder Blade	3	40	120	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Shoulder Blade	2	42.99	85.98	http://www.ebay.com/sch/m.html?_odkw=&_ssn=worldwidewildlifeproducts&_armrs=1&_osacat=0&_from=R40&_trksid=p2046732.m570.l1311.R1.TR12.TRC2.A0.H0.Xgiraffe.TRS0&_nkw=giraffe&_sacat=0	Worldwide Wildlife Products	Ebay	Saint Augustine, Florida, United States	USA	19.12.2016
Skull	N/A	825	825	http://www.knifemaking.com/product-p/nb1801a.htm	N/A	Jantz Supply	Jantz Supply 309 W Main Davis, OK 73030	USA	14.12.2016
Skull	N/A	295	295	http://www.africancraftsmarket.com/Giraffe-skull.htm	KZN Wildlife	African Crafts Market	Richard Stead African Crafts Market PO Box 10123 Meerensee 3901 KwaZulu Natal South Africa.	South Africa	30.11.2016
Table	2	N/A	N/A	http://www.caspers-taxidermy.com/curios-0#	Caspers Taxidermy	Caspers Taxidermy	Grootfontein	Namibia	19.12.2016

Thumbstud	1	23	23	http://www.texasknife.com/vcom/advanced_search_result.php?search_in_description=1&keywords=giraffe&x=13&y=12	Texas Knifemaker's Supply	Texas Knifemaker's Supply	Texas Knifemaker's Supply 10649 Haddington # 180 Houston, Texas 77043	USA	15.12.2016
Upper leg	13	60	780	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Vetebrae Bone	4	50	200	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016
Vetebrae Bone	2	50	100	http://www.atlanticcoralenterprise.com/ProductCart/pc/viewCategories.asp?idCategory=697	N/A	Atlantic Coral Enterprise, Inc.	Atlantic Coral Enterprise, Inc. 5000 Crescent Technical Court St. Augustine, FL 32086	USA	16.12.2016

Source: Link to each website from which information was sourced is included in the table.

Annex XXI

Testimony of Iris Ho
Senior Specialist, Wildlife Programs and Policy, Humane Society International
Before the House Subcommittee on Water, Oceans and Wildlife
H.R. 2245 Conserving Ecosystems by Ceasing the Importation of Large Animal Trophies Act

July 18, 2019

Petition to the Department of the Interior

Petition to the Secretary of the Interior to List All *Panthera pardus* as Endangered and to Immediately Restrict Leopard Trophy Imports; July 25, 2016 (206 pages)

Attached below.

BEFORE THE UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

THE HUMANE SOCIETY OF THE UNITED STATES,

HUMANE SOCIETY INTERNATIONAL,

CENTER FOR BIOLOGICAL DIVERSITY,

INTERNATIONAL FUND FOR ANIMAL WELFARE, AND

THE FUND FOR ANIMALS

– PETITIONERS –

PETITION TO LIST ALL *PANTHERA PARDUS* AS ENDANGERED AND TO IMMEDIATELY RESTRICT LEOPARD TROPHY IMPORTS

July 25, 2016

Drafted by:

Anna Frostic (D.C. Bar No. 977732)
Senior Attorney, Wildlife Litigation
The Humane Society of the United States

Teresa Telecky, Ph.D. & Adam Peyman
Wildlife Department
Humane Society International

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NOTICE OF PETITION

Honorable Sally Jewell, Secretary
U.S. Department of the Interior
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Washington, DC 20240

Daniel M. Ashe, Director
Fish and Wildlife Service
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Brian Arroyo, Assistant Director
International Affairs
Fish and Wildlife Service
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Gary Frazer, Assistant Director
Ecological Services
Fish and Wildlife Service
1849 C Street NW
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Dear Secretary Jewell, Director Ashe, Assistant Director Arroyo, and Assistant Director Frazer:

Pursuant to Section 4(b) of the Endangered Species Act ("ESA"), 16 U.S.C. § 1533(b), Section 553(e) of the Administrative Procedure Act ("APA"), 5 U.S.C. § 553(e), and 50 C.F.R. § 424.14, Petitioners (The Humane Society of the United States, Humane Society International, Center for Biological Diversity, International Fund for Animal Welfare, and The Fund for Animals), hereby petition the Secretary of the Interior and the Director of the Fish and Wildlife Service ("FWS" or "the Service") to list all leopards (*Panthera pardus*) as Endangered.

Additionally, pursuant to the First Amendment of the United States Constitution[1] and the APA (5 U.S.C. § 553(e)), Petitioners hereby petition the Service to take immediate action to restrict imports of African leopards, by (1) suspending the issuance of CITES import permits for *Panthera pardus* trophies until the FWS non-detriment advice memorandum is reevaluated for each range country where trophy hunting occurs; and (2) rescinding the special rule pertaining to leopards from "southern Africa" (50 C.F.R. § 17.40(f)) to require ESA permits for all otherwise prohibited activities, consistent with 50 C.F.R. § 17.31(a).

[1] "Congress shall make no law ... abridging ... the right of the people ... to petition Government for a redress of grievances." U.S. CONST., amend. I. The Supreme Court has recognized that the right to petition is logically implicit in, and fundamental to, the very idea of a republican form of government. *United States v. Cruikshank*, 92 U.S. 542, 552 (1875); *United Mine Workers of America, Dist. 12 v. Illinois State Bar Ass'n*, 389 U.S. 217, 222 (1967); *Thomas v. Collins*, 323 U.S. 516, 530 (1945).

This petition presents substantial scientific and commercial information that leopards in Africa "south of and including…Gabon, Congo, Zaire, Uganda, Kenya" should be included in an Endangered listing for all *Panthera pardus*. 50 C.F.R. § 17.11 (listing leopards as Endangered in Asia and North and West Africa, but listing as Threatened leopards in Central, East, and Southern Africa).[2] *See also* 50 C.F.R. § 424.14(b)(1) ("substantial information" is "that amount of information that would lead a reasonable person to believe that the measure proposed in the Petition may be warranted"); 16 U.S.C. §1533(b)(3)(A) (The Secretary must make an initial finding on the petition "[t]o the maximum extent practicable, within 90 days after receiving the Petition"); *HSUS v. Pritzker*, 2014 WL 6946022 (D.D.C. 2014) (holding that conclusive evidence is not required to make a positive 90-day finding). Petitioners are confident that a status review of the species, as required by 16 U.S.C. § 1533(b)-(c), will support a finding that listing all *Panthera pardus* as Endangered is in fact warranted.

Further, as demonstrated herein, the Service must take immediate action to restrict the import of leopard hunting trophies to ensure that its regulations and practice comply with the ESA's statutory mandate to provide for the conservation of Endangered and Threatened species. *See* 16 U.S.C. § 1531(b), (c) (providing that federal agencies "shall utilize their authorities in furtherance of" the conservation purpose of the ESA); *Sierra Club v. Clark*, 755 F.2d 608 (8th Cir. 1985) (special rules must be designed and implemented to actually promote the conservation of the Threatened species).

This Petition is supported by expert declarations from renowned wildlife experts Dr. Jane Goodall and Dereck Joubert, and enclosed is a disc of the scientific references cited.

Respectfully submitted by:

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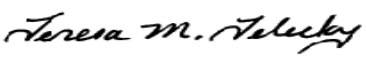
[2] This listing does not account for the fact that Zaire became the Democratic Republic of the Congo in 1997.



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EXECUTIVE SUMMARY

This Petition – submitted by The Humane Society of the United States, Humane Society International, Center for Biological Diversity, International Fund for Animal Welfare, and The Fund for Animals and supported by expert declarations from Dr. Jane Goodall and Dereck Joubert – demonstrates that the leopard (*Panthera pardus*) meets the statutory criteria for an Endangered listing under the ESA across its geographic range and requests reclassification for leopard populations listed as Threatened in 1982.

The ESA considers a species (including subspecies or distinct population segment) to be "Endangered" when it "is in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). The ESA requires the Service to list a species as either "Endangered" or "Threatened" based on the following five factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) "other natural or manmade factors affecting its continued existence." *Id.* § 1533(a)(1)(A-E). The ESA requires the Secretary to determine within 90 days of receiving the Petition whether the Petition "presents substantial scientific or commercial information indicating that the petitioned action may be warranted." *Id.* § 1533(b)(3)(A). Such determination must be made solely on the basis of the "best scientific and commercial data available." *Id.* § 1533(b)(1)(A).

When a foreign species is listed as Endangered, protection under the ESA occurs by, *inter alia*, prohibiting imports unless they enhance the propagation or survival of the species or are for scientific purposes. *Id.* § 1533(b)(1)(A). Furthermore, Section 8 of the ESA provides for "International Cooperation" in the conservation of foreign, listed species, and listing a foreign species heightens global awareness about the importance of conserving the species.

This Petition seeks to increase protection for leopards in southern Africa, while maintaining the Endangered listing for leopards in all other areas of the species' range. Thus, this Petition describes the natural history and biology of the African leopard (*Panthera pardus pardus*) and the current status and distribution of this subspecies; it clearly shows that its range is in alarming and precipitous decline, including in southern Africa where leopards are currently listed as Threatened. The Petition reviews the threats to the continued existence of the African leopard, including loss of habitat and prey, excessive and unsustainable offtake for recreational purposes, high levels of poaching for commercial purposes, indiscriminant killing such as through snaring, and retaliatory killing by poison or firearms due to a perceived or actual treat to livestock and people. The Petition also demonstrates how Americans engaging in unsustainable trophy hunting and international trade of African leopards and their parts for hunting purposes are significantly and negatively impacting the conservation status of the African leopard. It then explains how existing laws and regulations are inadequate to address the numerous and interacting threats to the African leopard today.

The Petition requests that as FWS considers an uplisting of Threatened leopards to Endangered, the agency immediately take action to strictly scrutinize the import of leopard trophies by (1) suspending the issuance of CITES import permits for *Panthera pardus* trophies until the FWS non-detriment advice memorandum is reevaluated for each range country where trophy hunting occurs; and (2) rescinding the

special rule pertaining to leopards from southern Africa (50 C.F.R. § 17.40(f)) to require ESA permits for all otherwise prohibited activities, consistent with 50 C.F.R. § 17.31(a).

Status and Distribution

The IUCN Red List status of the leopard demonstrates the precipitous deterioration of the status of the leopard over the past 15 years: in 2002, the species was considered Least Concern; in 2008, Near Threatened; and in 2016, Vulnerable (Stein et al. 2016). The most recent IUCN Red List assessment lists persecution, habitat fragmentation, an increase in illegal wildlife trade, excessive take for ceremonial use of skins, prey base declines, and poorly managed trophy hunting as major threats to the survival of the species (Stein et al. 2016). Regarding African leopard populations specifically, the subpopulation of North Africa (which is currently listed as Endangered under the ESA) potentially qualifies as Critically Endangered due to very small and declining number of mature individuals; since the previous IUCN assessment in 2008, leopards likely have become extinct in Morocco and Algeria (Stein et al. 2016). In sub-Saharan Africa, the leopard population has declined by >30% in the past three generations, potentially qualifying the sub-Saharan population of the subspecies as Vulnerable (Stein et al. 2016); this decline was caused by a 21% loss of leopard habitat in sub-Saharan Africa over the past 25 years, and 59% decline in prey loss in protected areas. At the regional level within sub-Saharan Africa, Stein et al. (2016) infer a >50% loss of leopard populations in East and West Africa, due to leopard prey reduction by 52% and 85% in those regions, respectively. In southern Africa, populations in Angola, Zambia, Mozambique, Zimbabwe and South Africa appear to be decreasing (Stein et al. 2016). In addition to habitat loss and loss of prey base, Stein et al. (2016) recognize two other major threats to leopards in sub-Saharan Africa: conflict with farmers over actual or potential killing of domesticated livestock or farmed wild animals (game farming or game ranching); and poorly managed trophy hunting, especially when it is concentrated geographically and when it targets individuals in their prime, who are territorial and reproductively active.

Regarding the total population size for the African leopard subspecies across its range, according to the 2008 IUCN assessment (Henschel et al.), "there are no reliable continent-wide estimates of population size in Africa, and the most commonly cited estimate of over 700,000 leopards in Africa (Martin and de Meulenaer 1988) *is flawed*" (emphasis added). The most recent publication on leopard status and distribution (Jacobson et al. 2016) stated, "Earlier Africa-wide assessments of population size (Myers, 1976; Eaton, 1977; Martin & De Meulenaer, 1988; Shoemaker, 1993) employed questionable population models based on scant field data and were widely criticized as being unrealistic (Hamilton, 1981; Jackson, 1989; Norton,1990; Bailey, 1993)" (p. 2). The current ESA Threatened listing – which dates to 1982 – is based on outdated information and must be reviewed in light of the substantial evidence indicating a significant decline in populations over the last three decades.

Present and Threatened Destruction, Modification, Curtailment of Habitat or Range

African populations of the leopard have experienced significant and ongoing loss of habitat. The most recently published scientific assessment of the status and distribution of the species (Jacobson et al. 2016a) found that *P. pardus pardus*, the African leopard, has lost 48-67% of its historical range. In North Africa, *P. pardus pardus* has lost 93.9-99% of its historic range; in West Africa, the range loss is 86-95%;

in Central Africa, the range loss is 45-66%; in East Africa, the range loss is 40-60%; and in Southern Africa, the range loss is 28-51% (Jacobson et al. 2016a). Jacobson et al. (2016a) state, "even for this relatively widespread subspecies, there is still substantial cause for concern across large portions of its range." The subspecies existed historically in 47 range States, but exists in only 38 today, and thus has been extirpated from nine countries: Mauritania, Togo, and Tunisia; Gambia, Lesotho, and Morocco (possibly extinct); and Algeria, Burundi, and Mali (possibly present) (Jacobson et al. 2016a).

The most recent IUCN assessment of the leopard (Stein et al. 2016) agrees largely with the findings of Jacobson et al. (2016a) with regard to range loss over the past three leopard generations (22.3 years); they estimated a 61% range loss for the species across its range (from 21,953,435 km^2 in the 2008 IUCN assessment to 8,515,935 km^2 in the 2016 assessment); a 21% range loss in sub-Saharan Africa; a 97% range loss in North Africa; a "dramatically reduced" range in West Africa; "substantial range declines" in West, Central, and East Africa; and a 21% range loss in southern Africa. Stein et al. (2016) attributes the range declines in West, Central, and East Africa to habitat loss and fragmentation which threaten the survival of leopards because they "require large, contiguous habitats with low human impacts to reproduce successfully" (Stein et al. 2016). Other factors contributing to range loss in Africa are prey reductions due to the illegal and unsustainable bushmeat trade, illegal harvest of skins, and human-leopard conflict and retaliation for livestock depredation.

Overutilization for Commercial, Recreational, or Scientific Purposes

The original analysis presented in this petition shows that between 2005 and 2014 (the most recent years for which complete data are available), 35,421 leopard specimens (leopards, dead or alive, and their parts and derivatives, the equivalent of at least 12,791 leopards), were traded internationally. Of these 12,791 leopards traded internationally, 10,191 of these specimens were hunting trophies.

The U.S. is the top importer of leopard specimens sourced from the wild (accounting for 45% of the total trade), and the vast majority of leopard specimens imported to the U.S. are hunting trophies. From 2005-2014, Americans imported African leopards and their products equivalent to 5,575 individuals, including bodies (14), live specimens (26), skins (741), and trophies (4,794). This amount is equivalent to approximately 44% of the global imports in leopards during this period.

Most leopards imported into the U.S. were exported from Zimbabwe (1,745 total: 1,489 trophies and 256 skins, 31% of total imports) and the United Republic of Tanzania (1,270 total: 1,118 trophies and 152 skins, 23% of total imports), with South Africa (900 total: 729 trophies, 163 skins and 8 bodies, 16% of total imports), Namibia (654 total: 646 trophies, 5 skins, 3 bodies, 12% of total imports), Zambia (468 total: 466 trophies and two skins, 8% of total imports), Mozambique (238 total: 133 trophies and 105 skins, 4% of total imports), and Botswana (196 total: 191 trophies and 5 skins, 4% of total imports) also playing major roles in exports.

Since the 1982 Threatened listing was put in place relaxing requirements for leopard trophy imports from southern Africa, there has been a dramatic increase in the number of leopard trophies imported, with numbers steadily rising throughout the 1990's and peaking in 2009, when 657 trophies were imported. The number of leopard trophy imports has remained over 300 per year since 1999, despite prior commitments from FWS to only allow "very few" leopard trophies into the country.

Poorly managed trophy hunting is considered a major threat to the survival of leopards in sub-Saharan Africa, especially when it is geographically concentrated and targets individuals in their prime, who are territorial and reproductively active (Stein et al. 2016). Recent studies have demonstrated that trophy hunting caused leopard population declines in South Africa (Balme et al. 2009, Pitman et al. 2015), Mozambique (Jorge 2012), Tanzania (Packer et al. 2009), and Zambia (Packer et al. 2010). Concern about unsustainable leopard trophy hunting has resulted in South Africa banning the export of leopard trophies in 2016; Botswana banning all trophy hunting, including of leopard, beginning in 2014; and Zambia banning leopard hunting in 2013 (Stein et al. 2016).

Leopards also continue to be poached for commercial trade, and a trend can be seen in China exporting for commercial purposes an average of 413 leopard "derivatives" to the U.S. each year during 2006-2010, which abruptly ceased in 2011, and then the trend reappeared under a different but similar wildlife term: "medicine"; an average of 110 "medicine" products derived from leopards being exported for commercial purposes from China (2012-2013) and then Hong Kong (2014).

There is a large-scale illegal trade in leopard skins for "cultural regalia" in southern Africa, with an estimated 4,500-7,000 leopards killed annually to fulfill demand for skins by followers of one church alone (the Nazareth Baptist (Shembe) Church) (Stein et al. 2016, citing to Balme unpublished data).

Inadequacy of Existing Regulatory Mechanisms

Pursuant to Fish and Wildlife Service regulations, *Panthera pardus* is currently listed as Endangered across its range, with the exception of 18 countries in southern Africa where the species is listed as Threatened. 50 C.F.R. § 17.11. This differential geographic listing does not comport with FWS policy or statutory mandate, and the best available science – presented in this Petition – demonstrates that leopards in southern Africa, like leopards in Asia and northern Africa, are "in danger of extinction" in this significant portion of the species' range. 16 U.S.C. § 1532(6).

All leopards were originally listed as Endangered, initially to restrict the leopard fur trade (with over 17,000 leopard hides imported into the United States from 1968-1969). 45 Fed. Reg. 19007 (March 24, 1980). But in 1980, at the urging of trophy hunters, FWS proposed to reduce protections for leopards in most of Africa (even though the agency did not explain whether or why it thought that leopards in southern Africa were both "distinct" and "significant" such that the region constitutes a listable distinct population segment). *See* 61 Fed. Reg. 4722 (Feb. 7, 1996); 16 U.S.C. § 1532(16). And today, FWS still has not conducted an analysis of whether leopards in southern Africa can lawfully be listed as a distinct population segment. Similarly, since 1982 when it finalized the Threatened listing for African leopards, FWS has not conducted the mandatory five-year review for such listing, resulting in an antiquated listing that is not based on the best available science.

In addition to the lack of scientific support for the original listing, the implementation of this listing is woefully inadequate to promote leopard conservation, endangering the survival of leopards in southern Africa. Currently, leopard trophies can be imported into the U.S. without an ESA permit, provided that the requirements of the Convention on International Trade in Endangered Species (CITES) are met.

Currently, CITES has established export quotas for twelve African countries for leopard skins traded for personal and hunting trophy purposes, totalling 2,648 leopards per year. These quotas have dramatically

increased over time, with the number of leopards rising five-fold – from 460 in 1983 to 2,648 in 2016 – and the number of countries with export quotas rose from seven in 1983 to twelve in 2016.

These quotas have no scientific basis and are not routinely reviewed to ensure that are not detrimental to the survival of the species. Indeed, the basis for the original and subsequent CITES export quotas for leopards is a model by Martin and de Meulenar (1988) that has been dismissed by modern leopard scientists as over-simplified as it was based on a correlation between rainfall and leopard numbers in savannah habitats of East Africa and used to predict leopard numbers across their entire sub-Saharan Africa range (Braczkowski et al. 2015b).

Other Natural or Manmade Factors Affecting the Survival of the African Leopard in the Wild

African leopards are also in danger of extinction due to other manmade factors. Leopard population densities are directly related to biomass of medium and large-sized wild herbivores, the main leopard prey (Stein et al. 2016). However, populations of such herbivores have been severely depleted by the unsustainable bushmeat trade which is considered to be a major threat to the survival of the African leopard (Stein et al. 2016). According to Stein et al. (2016), Craigie et al. (2010) found an estimated 59% average decline in leopard prey populations in 78 protected areas in West, East, and Southern Africa between 1970 and 2005 due to commercialized bushmeat trade. Bushmeat hunting in the Congo Basin for local and commercial use has reduced the wild prey base, resulting in lower leopard densities and even the disappearance of leopards from some places (Henschel 2008, 2009). Leopard range is largely reduced in human-populated areas in the Democratic Republic of the Congo due illegal hunting and bushmeat trade (Stein et al. 2016). Bushmeat poaching in Mozambique and Zambia has severely reduced leopard prey inside and outside of protected areas (Stein et al. 2016).

Conflict with farmers who own domestic or wild game (game ranching) is a major threat to the survival of the African leopard (Ray et al. 2005, Henschel 2008, Stein et al. 2016). About 60-70% of Africa's human population relies on agriculture and livestock for their livelihoods, and the human population of Africa is expected to more than double by 2050 (Stein et al. 2016); thus, the future will likely see increasing numbers of people using increasing amounts of land in conflict with decreasing numbers of leopards. Currently, many sub-Saharan African countries allow farmers to kill predators considered to be a threat to life or property without first obtaining a permit; it is likely that a large number of leopards are killed but not reported; and the total number of leopards killed due to conflict is unknown (Stein et al. 2016). And indiscriminate killing, such as the poisoning of carcasses aimed at attracting and killing carnivores of any and all types, and the use of snares to kill other species, is also a threat to the survival of leopards (Henschel 2008, Jorge 2012).

Conclusion

This Petition demonstrates that leopards in southern Africa are in danger of extinction and must be listed as Endangered along with leopards across the remainder of the species' range. Given the precarious plight of the African leopard, and due to the legal deficiencies in existing law, the Petition also asks FWS to take immediate action to restrict the import of African leopard hunting trophies to the U.S.

I. Introduction

Pursuant to Fish and Wildlife Service ("FWS" or "the Service") regulations, *Panthera pardus* is currently listed as Endangered across its range, with the exception of 18 countries in southern Africa where the species is listed as Threatened. 50 C.F.R. § 17.11. This differential geographic listing does not comport with FWS policy or the Endangered Species Act's (ESA) statutory mandate, and the best available science – presented in this Petition – demonstrates that leopards in southern Africa are "in danger of extinction" in this significant portion of the species' range. 16 U.S.C. § 1532(6).

Leopards in Asia and northern Africa are in danger of extinction and clearly meet the statutory definition of Endangered, as acknowledged by FWS; however, the Service's decades old regulation listing leopards in southern Africa as a Threatened species is not supported by science – indeed, such listing and the management decisions flowing therefrom are based almost entirely on unpublished reports from biased sources that have been discredited by the scientific community (as detailed in Section IV(D), *infra*). *See* 50 C.F.R. § 17.11.

This Petition describes the natural history and biology of the African leopard (*Panthera pardus pardus*) and the current status and distribution of this subspecies (with a particular focus on the sub-Saharan African countries where leopards are currently listed as Threatened).[3] The evidence clearly shows that leopards in this part of the species' range are in alarming and precipitous decline. The Petition evaluates the threats to the continued existence of the African leopard, including loss of habitat and prey, excessive and unsustainable offtake for recreational purposes, high levels of poaching and illegal trade for commercial and ceremonial purposes, indiscriminant killing such as through snaring, and retaliatory killing by poison or firearms due to a perceived or actual treat to livestock and people. The Petition also demonstrates how Americans engaging in unsustainable trophy hunting and international trade of African leopards and their parts for hunting trophies are significantly and negatively impacting the conservation status of the African leopard. It then explains how existing laws and regulations are inadequate to address the numerous and interacting threats to the African leopard today, all of which requires FWS to expand the Endangered listing of *Panthera pardus* to include all animals throughout the entirety of the species' range.

The Petition also requests that as the Service evaluates an uplisting of Threatened leopards, the Service immediately take action to restrict the import of leopard specimens by (1) suspending the issuance of CITES import permits for *Panthera pardus* trophies until the FWS non-detriment advice memorandum is reevaluated for each range country where trophy hunting occurs; and (2) rescinding the special rule pertaining to leopards from southern Africa (50 C.F.R. § 17.40(f)) to require ESA permits for all otherwise prohibited activities, consistent with 50 C.F.R. § 17.31(a).

[3] Notably, because the boundary line that FWS drew "south of and including…Gabon, Congo, Zaire, Uganda, Kenya" does not have any biological basis, much of the published literature refers to the African leopard subspecies as a whole or to specific countries within the subspecies' continental range. To the extent possible, this Petition focuses on the science pertaining to leopards in the range countries where the Threatened listing applies (which encompass the vast majority of the species' range on the African continent).

II. Status and Distribution

The leopard is the most wide-ranging species of wild cats. The species' historic range extended from the Cape of Good Hope in South Africa through the Middle East and Southeast Asia to the Amur Peninsula in Russia (Nowell and Jackson 1996). According to the International Union for Conservation of Nature (IUCN), there are nine extant leopard subspecies, though the species' taxonomy is currently under review by the IUCN SSC Cat Specialist Group: *Panthera pardus pardus* (Africa), *Panthera pardus nimr* (Arabia), *Panthera pardus saxicolor* (Central Asia), *Panthera pardus melas* (Java), *Panthera pardus kotiya* (Sri Lanka), *Panthera pardus fusca* (Indian sub-continent), *Panthera pardus delacourii* (southeast Asia into southern China), *Panthera pardus japonensis* (northern China), and *Panthera pardus orientalis* (Russian Far East, Korean peninsula and north-eastern China).

A new IUCN status review of *Panthera pardus* was just released (Stein et al. 2016) and classifies the species as Vulnerable (demonstrating that the species is more imperilled than it was in 2008, when the last IUCN assessment classified the species as Near Threatened, Henschel et al. 2008). The 2016 status review also continues to recognize that three Asian subspecies of leopards are Critically Endangered (*P. p. orientalis, P. p. nimr*, and *P. p. melas*), and two subspecies are Endangered (*P. p. kotiya* and *P. p. saxicolor*).

The IUCN Red List status of the leopard demonstrates the precipitous deterioration of the status of the leopard over the past 15 years: in 2002, the species was considered Least Concern; in 2008, Near Threatened; and in 2016, Vulnerable (Stein et al. 2016). The most recent IUCN Red List assessment lists persecution, habitat fragmentation, an increase in illegal wildlife trade, excessive take for ceremonial use of skins, prey base declines, and poorly managed trophy hunting as major threats to the survival of the species (Stein et al. 2016).

Regarding African leopard populations specifically, the subpopulation of North Africa potentially qualifies as Critically Endangered due to very small and declining number of mature individuals; since the previous IUCN assessment in 2008, leopards likely have become extinct in Morocco and Algeria (Stein et al. 2016). In sub-Saharan Africa, the leopard population has declined by >30% in the past three generations, potentially qualifying the sub-Saharan population of the subspecies as Vulnerable (Stein et al. 2016); this decline was caused by a 21% loss of leopard habitat in sub-Saharan Africa over the past 25 years, and 59% decline in prey loss in protected areas. At the regional level within sub-Saharan Africa, Stein et al. (2016) infer a >50% loss of leopard populations in East and West Africa, due to leopard prey reduction by 52% and 85% in those regions, respectively. In southern Africa, populations in Angola, Zambia, Mozambique, Zimbabwe, and South Africa appear to be decreasing (Stein et al. 2016). In addition to habitat loss and loss of prey base, Stein et al. (2016) recognize two other major threats to leopards in sub-Saharan Africa: conflict with farmers over real or potential killing of domesticated livestock or farmed wild animals (game farming or game ranching); and poorly managed trophy hunting especially when it is concentrated geographically and when it targets individuals in their prime, who are territorial and reproductively active.

Regarding the total population size for the African leopard subspecies, according to the 2008 IUCN assessment (Henschel et al. 2008), "there are no reliable continent-wide estimates of population size in

Africa, and the most commonly cited estimate of over 700,000 leopards in Africa (Martin and de Meulenaer 1988) *is flawed*" (emphasis added). Similarly, the 2016 IUCN assessment states that "reliable data on Leopard population trends are missing from large portions of their range" but that "Leopards are declining throughout most of their range" and "populations have become reduced and isolated, and they are now extirpated from large portions of their historic range." (Stein et al. 2016).

The most recent scientific publication on leopard status and distribution (Jacobson et al. 2016a) stated, "Earlier Africa-wide assessments of population size (Myers, 1976; Eaton, 1977; Martin & De Meulenaer, 1988; Shoemaker, 1993) employed questionable population models based on scant field data and were widely criticized as being unrealistic (Hamilton, 1981; Jackson, 1989; Norton,1990; Bailey, 1993)" (p. 2). Jacobson et al. (2016a) did not provide an African leopard population size estimate saying, "Lack of empirical field data on distribution status and population size has prevented a range-wide population estimate" (p. 2).

However, recent estimates and trends are available (**Table 1**) for some of the 18 range countries where leopards are currently listed as Threatened, an area that encompasses the vast majority of the species' current range on the African continent (**Figure 1**).

Table 1. Recent estimates of leopard population sizes and trends in countries where the population is listed as ESA Threatened.

Country	Recent Estimated Leopard Population Size, Status and/or Trend
Angola	Stein et al. (2016) state that Angola has declining but healthy leopard populations outside of areas with increased human development and intensive conflict with humans. However, Jacobson et al. (2016b) state that there are no recent publications regarding the presence of leopards in Angola and, while there are likely many leopards, there are no scientific data.
Botswana	Botswana's 2003 Predator Strategy estimated between 4,404 and 6,830 leopards existed in the country (Jacobson et al. 2016b) where there is a continuous leopard population in the North and West" (Stein et al. 2016).
Burundi	Jacobson et al. (2016b) consider the leopard to be "possibly present" in Burundi but much of the country is converted to agriculture with high human population densities and low wild prey densities.
Republic of the Congo	Leopards are present in many protected areas but they are threatened by the illegal leopard skin trade which is supplied by specialized leopard hunters, particularly in northeast Congo (Jacobson et al. 2016b).
Democratic Republic of the Congo	The leopard is "likely still widespread" in the Democratic Republic of the Congo but there is little recent information on leopards and densities are unknown (Jacobson et al. 2016b). A large and growing human population has diminished leopard prey populations through excessive and unsustainable bushmeat harvesting practices (Jacobson et al. 2016b). Stein et al. (2016) state that leopard range has already been reduced due to bushmeat hunting.
Gabon	Henschel (2010) estimated Gabon's leopard population to be 5,910 animals. Leopards are "found throughout the country with small absent pockets in the southeast and southwest" (Stein et al. 2016). Jacobson et al. (2016b) said that the country likely still supports significant leopard populations, with populations in virtually all protected areas; however, intensive bushmeat hunting has caused leopards to disappear from some areas (Jacobson et al. 2016b).

Country	Recent Estimated Leopard Population Size, Status and/or Trend
Kenya	Jacobson et al. (2016b) consider the leopard to be widely distributed in Kenya, but threats include poisoning by local herders near Amboseli, human-wildlife conflict near Hell's Gate and Ruma, and some isolated cases of "trophy poaching." Stein et al. (2016) considers the distribution of leopards in East Africa, including Kenya, to have been reduced; however, leopards are found throughout the west, central and southern portions of Kenya (Stein et al. 2016).
Lesotho	Jacobson et al. (2016b) and Stein et al. (2016) consider the leopard in Lesotho to be "possibly extinct."
Malawi	Jacobson et al. (2016b) consider the leopard in Malawi to be present in some areas; however, no recent scientific publications on the size and trend of the population are available.
Mozambique	Stein et al. (2016) state that Mozambique has a declining but healthy leopard populations outside of areas with increased human development and intensive human-leopard conflict. Jacobson et al. (2016b) note that the Mozambican Civil War (1977 to 1992) depleted wildlife around the country; however, while leopards are found in many places, their populations are poorly monitored and largely unknown. Jorge (2012) studied the leopard population of Niassa National Reserve and found leopard densities there were comparable with those in Central and Southern Africa; however, trophy hunting offtake combined with illegal offtake was unsustainable.
Namibia	Stein et al. (2016) stated that leopards inhabit most of the country with the exception of the highly populated northern region, the arid southeast farmlands and the desert coast. According to Jacobson et al. (2016b), the Ministry of Environment and Tourism updated their Large Carnivore Atlas in 2010 with the results indicating that leopards are the most widely distributed large carnivore in Namibia, although absent from 30% of their historic range in the country, with a population size of 14,154 (range of 13,356 - 22,706) (according to Stein et al. 2011), which is an increase of 110% from 2004 when the previous Atlas was conducted. Leopard-human conflict and poorly managed trophy hunting are threats to the species in Namibia (Jacobson et al. 2016b).
Rwanda	Jacobson et al. (2016b) state that there are no recent publications regarding the status or presence of leopards in Rwanda and that a lot of the country has been converted to agriculture and has high human population densities.
South Africa	Leopards are found on borders with Namibia, Botswana, Zimbabwe and Mozambique, with dense populations in the Limpopo region, and they are also found in the Cape provinces (Stein et al. 2016). The population is decreasing from previous estimates especially in areas with human development and intensive human-leopard conflict (Stein et al. 2016). Swanepoel et al. (2014) estimated that there were 4,476 leopards in South Africa. According to Jacobson et al. (2016b), there is no national monitoring program for leopards and current trade and trophy hunting quotas may lead to population decline and possible extinction in certain areas. Indeed, recently Pitman et al. (2015) studied leopard offtake in Limpopo Province and found it to exceed that which is considered sustainable. South Africa banned export of leopards for 2016 as they did not have enough information to make a finding of non-detriment required under CITES for leopard exports.
Swaziland	There are no recent publications on the size or trend of the leopard population in Swaziland (Jacobson et al. 2016b).
Tanzania	Leopards remain widely distributed in Tanzania although only a few studies have established scientifically-based leopard densities or population trends (Jacobson et al. 2016b). The leopard population is declining and has been reduced in Tanzania

Country	Recent Estimated Leopard Population Size, Status and/or Trend
	(Jacobson et al. 2016b, Stein et al. 2016) driven, in part, by excessive offtake for trophy hunting (Packer et al. 2009, Jacobson et al. 2016b).
Uganda	Although apparently present in many areas (Jacobson et al. 2016b, Stein et al. 2016), the Uganda Wildlife Authority reported in 2010 that leopards are 'likely to have declined even more drastically [relative to other species of concern] because of their widespread presence outside protected areas' and estimated that the population may be lower than 150-200 individuals (Jacobson et al. 2016b).
Zambia	Zambia's leopard population has declined with leopards disappearing from areas with increased human development and in areas with high human-leopard conflict (Stein et al. 2016). Leopards are present in some National Parks and game management areas, but absent in others (Jacobson et al. 2016b). Zambia banned leopard hunting in 2013 and 2014, but reinstated it in 2015 and 2016 (Jacobson et al. 2016, supplemental document 1, country profiles).
Zimbabwe	Leopards exist in many conservation areas but no assessment of the national population exists (Jacobson et al. 2016b). Populations are declining and leopards are disappearing in areas with high human impact and human-leopard conflict (Stein et al. 2016). Williams et al. (2016b) extrapolated the results of a study of the impact of government land reform policies on the leopard population of Save Valley Conservancy to the remainder of the country, estimating Zimbabwe's leopard population size to be 626 at minimum and 6,716 at maximum in 2008, a decrease of 69% and 58%, respectively, compared to minimum and maximum population estimates from 2000.

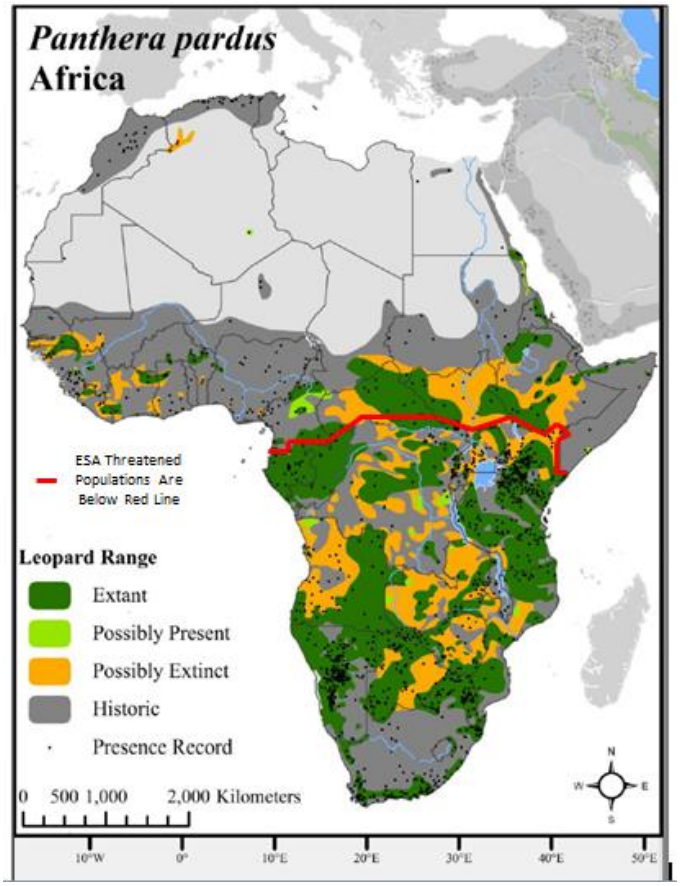
The most recently published scientific paper containing an assessment of the status and distribution of the species (Jacobson et al. 2016a) found that *P. pardus pardus*, the African leopard, has lost 48-67% of its range, from a historical range of 19,751,400 km^2 to between 6,613,000-10,219,200 km^2 today (Jacobson et al. 2016b) (**Figure 1**). Jacobson et al. (2016a) state, "even for this relatively widespread subspecies, there is still substantial cause for concern across large portions of its range." The African leopard subspecies existed historically in 47 range States, but exists in only 38 today, and thus has been extirpated from nine countries (Jacobson et al. 2016c): Mauritania, Togo, and Tunisia; Gambia, Lesotho, and Morocco (possibly extinct); and Algeria, Burundi, and Mali (possibly present) (Jacobson et al. 2016c). Regarding *Panthera pardus* as a whole, Jacobson et al. (2016a) state, "Contrary to the pervasive impression of the leopard as being one of the most widespread, adaptable and resilient carnivores, our calculated range loss of 63–75% exceeds the average range loss documented for the world's largest carnivores (53% for 17 species; Ripple et al., 2014)."

See also Declaration of Dr. Jane Goodall, ¶ 8 ("It is absolutely clear that leopards – like most wildlife in Africa – are at greater risk of extinction today than they were in 1982 when the U.S. Fish and Wildlife Service listed southern African leopards as Threatened. In the nearly six decades during which I have learned a great deal about wildlife in Tanzania and other African countries, the human population has more than doubled, resulting in rapidly vanishing wildlife habitat, wiping out forests and grasslands essential to sustain leopards and their prey. Large mammals – like leopards and chimpanzees – play essential roles in their ecosystems, and in order to preserve these magnificent animals in perpetuity it will require all nations to exercise their full power to promote the conservation of imperiled species."); Declaration of Dereck Joubert, ¶ 9 ("There is no reason to believe that the population trend for leopards is significantly different to those of other big cats in Africa, all of which indicate a 95% decline over the

past 50 years. Our own findings coincide with that hypothesis and in many areas I have surveyed, in particular where there is hunting, leopard have declined significantly. Territories have been disrupted and breeding has been suppressed. It is unlikely that there are more than 50,000 leopards in Africa today. Indeed, based on my experience over the last 30 years working with leopards, the population has significantly decreased in that time.").

The most recent IUCN assessment of the leopard (Stein et al. 2016) agrees largely with the findings of Jacobson et al. (2016a) with regard to range loss over the past three leopard generations (22.3 years); they estimated a 61% range loss for the species across its range (from 21,953,435 km^2 in the 2008 IUCN assessment to 8,515,935 km^2 in the 2016 assessment); a 21% range loss in sub-Saharan Africa; a 97% range loss in North Africa; a "dramatically reduced" range in West Africa; "substantial range declines" in West, Central, and East Africa; and a 21% range loss in southern Africa. Stein et al. (2016) attributes the range declines in West, Central, and East Africa to habitat loss and fragmentation which threaten the survival of leopards because they "require large, contiguous habitats with low human impacts to reproduce successfully" (Stein et al. 2016). Other factors contributing to range loss in Africa are prey reductions due to the illegal and unsustainable bushmeat trade, illegal harvest of skins, and human-leopard conflict and retaliation for livestock depredation.

Figure 1. Historic and present distribution of the leopard in Africa with red line demarcation between ESA Endangered and ESA Threatened populations.



Source: Jacobson et al. 2016d (ESA demarcation added).

III. Natural History and Biology

A. Species Description

The following account of the species is sourced from Stein and Hayssen (2013). The leopard is the smallest of the large cats in the genus *Panthera*, though there are variations in sizes of leopards across their range. Males are generally larger than females – for example, mean length of head and body for males in Namibia is 132 cm, and females 106.5 cm (based on two samples of each sex); weight of 47 males from India, Ivory Coast, Namibia and South Africa was 30.9-62.6 kg, and for 34 females 21.2-54.0 kg. Fur color varies from yellow to black and is soft and thick and leopards living in colder climates have longer hair. Spots occur on the muzzle and forehead and the whisker spots can be used to identify individuals. The spots become a rosette pattern from the neck and shoulders to the rump and tail. Irregular spots are found from the elbow and knee to the feet and along the ventral side of the torso. Eye color varies from yellow to blue. Leopards have well-developed musculature on the neck, forelimbs and chest and can drag a carcass more than double the leopard's body weight up a tree. They have five toes on the front feet and four on the back, with the first toe on the inside of the front used only for bringing down prey. Leopards can reach a maximum speed of 60 km per hour, make horizontal leaps of 6 m, and vertical leaps of 3 m.

B. Reproduction and Mortality

Leopards have a polygynous mating system; both sexes are territorial; males have a territory that includes territories of several females; both sexes defend their territories against individuals of the same sex although there is some overlap (Balme and Hunter 2013).

According to Stein and Hayssen (2013)'s description of *Panthera pardus* across its entire range, some populations have a distinctive mating season (e.g. November-December in Nepal) but leopards mate year-round in South Africa. Females attract males through scent marks and vocalizations. When mating, males associate with females for 1-4 days. Mean length of estrus is 5-13 days, gestation is 88-112 days, lactation occurs for 114-130 days, den emergence happens in 42 days, independence occurs at 13 months. The interbirth interval is 3.5-45 months, with most intervals 8-12 months. Females have four mammae and litter size is 1-6 with a mode of 2. Females first mate at 23-32 months, first births occur at 27-52 months, and males can first sire young at 1.5 years. Infanticide can occur when territorial males that likely sired the young are removed before cubs reach independence. Juveniles remain with their mothers for 12-18 months. Female young take over a portion of their mother's range, while young males disperse.

Lindsey and Chikerema-Mandisodza (2012) describes the reproduction of African leopard specifically (*Panthera pardus pardus*). The African leopard has a low reproductive rate and is long-lived. They reach sexual maturity at 3-4 years, have on average two cubs per litter, have a mean lifetime reproduction of 4.1 cubs/female, have an inter-birth interval of 25 months for successful litters, have a lifespan of 19 years for females and 14 years for males, have a generation time of 7 years, and have an adult sex ratio of 1.6 females/males. There is a 63% mortality of cubs prior to independence.

As described Braczkowski et al. (2015a), the African leopard subspecies (*Panthera pardus pardus*) is considered to be a solitary species (except for mothers and their cubs and males and females when

mating), but they live in a social system that is highly dependent on long-term relationships. When individuals are removed from a population and new immigrants enter the population this destabilizes the social system and leads to fighting and infanticide by new males. In populations where fathers remain present, cub survival and reproductive output of the population are higher than in populations where this is not the case. In addition, in stable populations female leopards give birth at a younger age, spend more time with dependent young, and produce more litters.

Longevity is 10-15 years in the wild; annual adult mortality averaged 19% in Kruger National Park of which 30% were old males, 17% old females, 17% prime males, 10% prime females; 64% died of starvation (Nowell and Jackson 1996).

C. Hunting and Feeding

According to Stein and Hayssen (2013), *Panthera pardus* consume a wide variety of animals of all types and sizes, from beetles to large antelopes. Preferred prey are 10-40 kg but they can feed on larger prey (>150 kg). In Africa, leopards prey on impala, springbok, duiker, nyala, and warthogs, and rodents. Females and cubs tend to prey on smaller animals. Leopards attack prey by stalking and pouncing – smaller prey are killed by a bite on the head or nape of the neck; larger prey by a bite on the throat. Once prey animals are killed, they are eaten on the spot, or dragged to trees, bushes or caves where they are cached. Leopards can be active at night or during the day (*i.e.*, in Kenya and South Africa, 66% of activity is nocturnal). Generally, leopard home range size varies according to prey availability with larger home ranges where prey availability is low. Females have smaller home range sizes than males (*e.g.*, in Tai National Park, Ivory Coast, males had a home range size of 32-46 km^2 and females 14-26 km^2).

IV. *Panthera pardus* is Endangered Across its Range Pursuant to the ESA Listing Criteria

The main threats to the survival of leopards across their range are habitat loss and fragmentation, conflict with humans, loss of prey, killing for the illegal trade in skins and parts and, for *P. pardus pardus*, unsustainable trophy hunting (Jacobson et al. 2016a). *See also* Stein et al. 2016 ("Evidence suggests that Leopard populations have been dramatically reduced due to continued persecution with increased human populations (Thorn et al. 2013, Selvan et al. 2014), habitat fragmentation (UN 2014), increased illegal wildlife trade (Datta et al. 2008), excessive harvesting for ceremonial use of skins (G. Balme pers. comm. 2015), prey base declines (Hatton et al. 2001, du Toit 2004, Fusari and Carpaneto 2006, Datta et al. 2008, Lindsey et al. 2014, Selvan et al. 2014) and poorly managed trophy hunting (Balme et al. 2009)"). Based on these threats, leopards in southern Africa must be included in the Endangered listing for *Panthera pardus*.

Notably, the IUCN concludes that "[m]ost of the factors driving Lion population declines (e.g., habitat loss and fragmentation, retaliatory killing due to conflict, poorly managed trophy hunting) also affect Leopards." (Stein et al. 2016). Just as the Service has recently taken action to prohibit the import of African lion trophies unless the ESA's enhancement standard is met (50 C.F.R. § 17.40(r)), the Service must take action to address the impact that Americans are having on the decline of the leopard.

A. Present or Threatened Destruction, Modification, or Curtailment of Habitat

African populations of the leopard have experienced significant and ongoing curtailment of range. As noted above, the most recently published assessment of the status and distribution of the species (Jacobson et al. 2016a) found that *P. pardus pardus*, the African leopard, has lost 48-67% of its range, from a historical range of 19,751,400 km^2 to between 6,613,000-10,219,200 km^2 today (Jacobson et al. 2016b) (**Figure 1**). In North Africa, *P. pardus pardus* has lost 93.9-99% of its historic range (from 605,300 km^2 historically to 5,800-37,000 km^2 today); in West Africa, the range loss is 86-95% (3,505,000 km^2 to 196,000-483,100 km^2); in Central Africa, the range loss is 45-66% (6,101,100 km^2 to 2,081,900-3,379,700 km^2); in East Africa, the range loss is 40-60% (3,626,300 km^2 to 1,457,200-2,003,300 km^2); and in Southern Africa, the range loss is 28-51% (5,913,800 km^2 to 2,872,200-4,270,800 km^2) (Jacobson et al. 2016b). Jacobson et al. (2016a) state, "even for this relatively widespread subspecies, there is still substantial cause for concern across large portions of its range." The subspecies existed historically in 47 range States, but exists in only 38 today, and thus has been extirpated from nine countries (Jacobson et al. 2016c): Mauritania, Togo, and Tunisia; Gambia, Lesotho, and Morocco (possibly extinct); and Algeria, Burundi, and Mali (possibly present) (Jacobson et al. 2016c).

The most recent IUCN assessment of the leopard (Stein et al. 2016) agrees largely with the findings of Jacobson et al. (2016) with regard to range loss over the past three leopard generations (22.3 years); they estimated a 61% range loss for the species across its range (from 21,953,435 km^2 in the 2008 IUCN assessment to 8,515,935 km^2 in the 2016 assessment); a 21% range loss in sub-Saharan Africa; a 97% range loss in North Africa; a "dramatically reduced" range in West Africa; "substantial range declines" in West, Central, and East Africa; and a 21% range loss in southern Africa. Stein et al. (2016) attributes the range declines in West, Central, and East Africa to habitat loss and fragmentation which threaten the survival of leopards because they "require large, contiguous habitats with low human impacts to reproduce successfully" (Stein et al. 2016). Other factors contributing to range loss in Africa are prey reductions due to the illegal and unsustainable bushmeat trade, illegal harvest of skins, and human-leopard conflict and retaliation for livestock depredation.

Contributing to this immense and ongoing loss of range is the collapse in prey species' populations due to commercial bushmeat harvest of herbivores which, in addition to outright habitat destruction, destroys the suitability of habitats for leopards whose density is dependent on the availability of prey (Stein et al. 2016). Thus, the African leopard is in danger of extinction due to habitat loss.

B. Overutilization for Commercial, Recreational, or Scientific Purposes

A valuable source of information on the utilization of leopards for commercial, recreational or scientific purposes is the Convention on International Trade in Endangered Species (CITES) Trade Database. The 182 CITES Parties are required to file annual reports with the CITES Secretariat on the import, export, re-export, and introduction from the sea of CITES-listed species. These reports are compiled into an electronic, searchable trade database, known as the CITES Trade Database, which is available to the public on the CITES website (www.cites.org).

This database can be used to determine the level of currently-legal international trade as well as the types and sources of leopards and their parts that are involved. In the context of CITES, international trade includes commercial trade as well as trade associated with breeding, circus or travelling exhibition, education, enforcement, trophy hunting, medicinal, personal use, reintroduction, scientific research, and for zoological exhibition. By examining the documented purposes of trade, the CITES trade database can be used to evaluate the reasons behind the movement of leopards and their parts across international borders by humans. The database also includes the source of African leopards and their parts in international trade, whether captive-bred, captive-born, illegal, pre-Convention, ranch-raised, or wild. While the CITES trade database is the principal source of information on international trade in leopards and their parts, it does not contain information on domestic use of leopards or their parts for commercial, recreational, or scientific purposes; nor does it account for poaching and illegal trade, except where illicit international trade has resulted in a seizure.

The leopard is clearly over-utilized for commercial and recreational purposes and must be listed as Endangered based on this criterion. The original analysis presented in this petition shows that between 2005 and 2014 (the most recent years for which complete data are available), 35,421 leopard specimens (leopards, dead or alive, and their parts and derivatives, the equivalent of at least 12,791 leopards), were traded internationally for all purposes (Annex 4, Table 1). This figure was derived by adding the figures for four types of specimens that likely represent one leopard each: bodies, skins, live, and trophies. Skulls and bones were not included in this calculation because after leopards are hunted, their skin is usually removed, leaving the skull and other bones and body parts; in this analysis, the skin or trophy is used to represent a leopard, not the skull or bones. The most commonly-traded items were derivatives (13,968), trophies (10,211), specimens (4,352), skulls (2,045) and skins (1,928) (Annex 4, Table 1). Other leopard specimens in trade include live animals (550), medicine (538), bones (405), claws (381), small leather products (287), and hair (238), as well as smaller numbers of bodies, bone pieces, carvings, cloth, feet, garments, hair products, large leather products, plates, skeletons, skin pieces, tails, and teeth (Annex 4, Table 1).

Global gross imports of African leopards reported as bodies, trophies, skins and live for the period of 2005 to 2014 total 12,791, including imports of 134 bodies, 549 live leopards, 1,916 skins, and 10,191 trophies (see **Table 2**).

Table 2. Gross Imports of *Panthera pardus* Bodies, Live, Skins, And Trophies, All Purposes, All Sources, 2005-2014.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Totals
Bodies	7	0	9	10	22	19	24	24	9	11	**135**
Live	37	44	45	42	48	75	79	68	67	44	**549**
Skins	73	162	61	75	234	236	353	467	226	29	**1,916**
Trophies	1235	1134	1064	1291	1405	993	769	984	718	598	**10,191**
Totals	**1,352**	**1,340**	**1,179**	**1,418**	**1,709**	**1,323**	**1,225**	**1,543**	**1,020**	**682**	**12,791**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus*, all countries, all sources, all purposes, on 03/23/2016.

Of this trade from all sources, 19,909 leopard specimens, reported as being from a wild source – the equivalent of at least 11,959 leopards (adding bodies, live, skins, trophies) – were traded internationally for all purposes (Annex 4, Table 2). Wild sourced specimens accounted for 56.2% of specimens in trade (19,909 of 35,421) and 93.5% of leopards in trade (11,959 of 12,791). Of this trade, the U.S. imported 8,553 wild leopard specimens, the equivalent of at least 5,382 leopards (Annex 4, Table 3), which is 45% of wild leopards traded during the period. Indeed, the U.S. is the top importer of wild leopard specimens with other leading importers being France (1188 specimens representing at least 1,055 leopards), South Africa (1,224 specimens representing at least 839 leopards), Spain (823 specimens representing at least 614 leopards) and Germany (3,411 specimens representing at least 527 leopards) (Annex 4, Table 3). The top countries export of wild leopards and their parts were Zimbabwe (3,568 specimens representing at least 2,898 leopards), Tanzania (3,355 specimens representing at least 2,877 leopards), Namibia (4,308 specimens representing at least 1,796 leopards), and South Africa (2,805 specimens representing at least 1,601 leopards) (Annex 4, Table 5).

From 2005 through 2014, leopards and their parts from the following additional sources were traded internationally:

- 1,064 captive-bred[4] leopards and their parts, the equivalent of at least 510 leopards, including 8 bodies, 473 live, 18 skins, 554 specimens, and 11 trophies (Annex 4, Tables 6 and 7).
- 32 captive-born[5] leopards and their parts, the equivalent of at least 31 leopards, including 25 live, 1 skull, and 6 trophies (Annex 4, Table 8).
- 217 pre-convention[6] leopards and their parts, the equivalent of at least 127 leopards, including 101 skins, 13 skin pieces, 5 bodies, and 21 trophies (Annex 4, Table 9).
- 16 ranched[7] leopards and their parts, the equivalent of at least 10 leopards, including 8 live, 1 skin and 1 trophy (Annex 4, Table 10).
- 14,169.5 confiscated/seized[8] leopards and their parts, the equivalent of at least 219 leopards, including 180 trophies, 38 skins, 74 skin pieces, 28 teeth, 538 medicines, 12,906.5 derivatives, 269 small leather products, 14 claws, and 50 bones (Annex 4, Table 11).
- 91 unknown source[9] leopards and their parts, the equivalent of at least 15 leopards, including 25 derivatives, 35 specimens, 1 body, 6 live, and 18 skins (Annex 4, Table 12).

1. Trade for Commercial Purposes

Panthera pardus is listed on CITES Appendix I and international trade for primarily commercial purposes is not allowed under the treaty. Nonetheless, from 2005 to 2014, 3,522 African leopard specimens, the equivalent of at least 135 individual leopards, were traded internationally for commercial purposes (Annex 4, Table 13); this equates to 9.9% of the leopard specimens traded over this period (3,522 of 35,421) and 1% of leopards (135 of 12,791). The vast majority of these specimens were derivatives (2,683); others included medicine (331), and small leather products (266); but bodies (11),

[4] CITES source code C; none were traded under source code D. Information on the CITES Source Codes is in CoP16 Conf. 12.3 § I(i) (2002), *available at* https://cites.org/eng/res/12/12-03R16.php.
[5] CITES source code F.
[6] CITES source code O.
[7] CITES source code R.
[8] CITES source code I.
[9] CITES source code U.

skins (72), live specimens (39), trophies (13) and also skin pieces (69), feet (29), garments (14), teeth (14), skulls (8), carvings (7), claws (7), specimens (2), large leather products (1), and cloth (1) were also reported in trade (Annex 4, Table 13).

Of the leopard specimens internationally traded for commercial purposes, 3,358 (95%) were imported by the U.S (Annex 4, Table 14). However, upon closer inspection of FWS records, many of these were seized by the U.S. and reported in their annual report to the CITES Secretariat which is why they appear in the CITES Trade Database (Annex 4, Table 15). For example, from 2005-2014, a total of 2,482 leopard derivatives (2,151 or 80% of the total exported to the U.S. for commercial purposes) and medicine (331 or 100% of the total exported to the U.S. for commercial purposes) products were seized upon import into the U.S. These data further show that China exported, on average, 413 leopard "derivatives" to the U.S. each year during 2006-2010 for commercial purposes. This trade abruptly ceased in 2011, and then the trend reappeared under a different but similar wildlife term: "medicine"; an average of 110 "medicine" products derived from leopards being exported for commercial purposes from China (2012-2013) and then Hong Kong (2014) (Annex 4, Table 16).

However, substantial trade in leopard specimens for commercial purposes did not result in confiscations or seizures. For example, while 72 skins were internationally traded 2005-2014 (Annex 4, Table 13), only 9 were confiscated or seized as illegal imports during this period (Annex 4, Table 15). Similarly, of 8 bodies and 7 carvings so traded, none were seized; of 14 garments, 5 were seized; of 8 skulls, 1 was seized; of 14 teeth, 4 were seized; and of 13 trophies, none were seized.

Most leopard specimens traded internationally for commercial purposes and confiscated or seized globally, originated in China (Annex 4, Table 17). China is, by far, the country that exported the most leopard specimens for commercial purposes 2005-2014 (Annex 4, Table 18); as noted previously, most of these were derivatives and medicines that were imported by the U.S. and confiscated or seized.

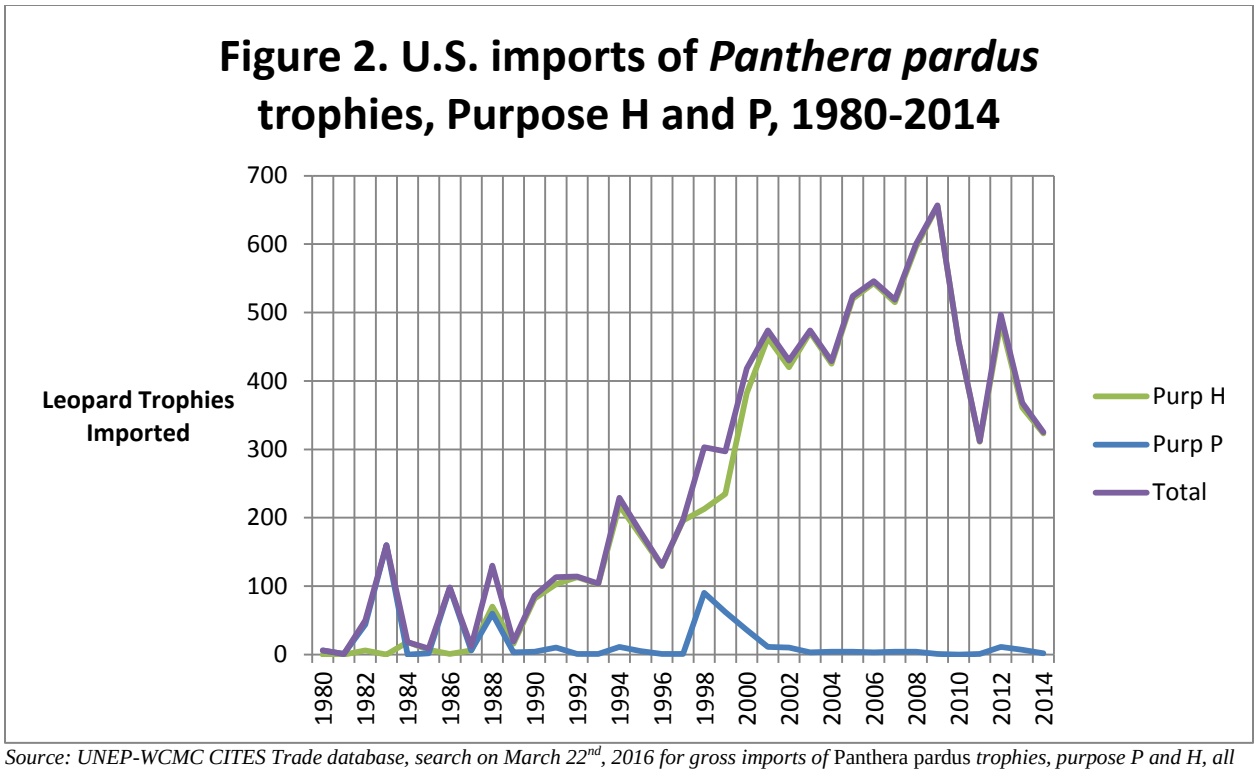
Leopards continue to be poached for commercial trade. Both skins and canine teeth are widely traded domestically in some Central and West African countries, and these are sold openly in villages and cities (Henschel 2008). Chapman and Balme (2010) found that leopard poaching occurs in the Zululand Rhino Reserve in northern KwaZulu-Natal province of South Africa and is increasing. They said, "There is evidence that targeted poaching for leopards is increasing in the region; the skins of 58 individuals were seized in the nearby Mkhuze district in 2004 and a further 91 skins were seized in the same area in 2009 (Hunter et al., in press)." (p. 119). According to Stein et al. (2016, citing to Balme unpublished data), "preliminary data suggest that the illegal trade in Leopard skins for cultural regalia is rampant in southern Africa. It is suggested that 4,500-7,000 Leopards area harvested annually to fuel the demand for Leopards skins by followers of the Nazareth Babtist (Shembe) Church only." Jorge (2012) found that the illegal off-take of leopards in Niassa National Reserve, Mozambique, was unsustainable and, when combined with off-take for trophy hunting, was negatively affecting leopard populations; skins are illegally traded locally for USD 83, an amount equivalent to one month's salary; poaching is driven by economic value of skins rather than human-leopard conflict which is low in the area; poachers killed an estimated 6-22% of the adult female population which may also have resulted in the death of cubs; poaching is a serious threat to conservation of leopards in the Reserve.

2. Trade for Recreational Purposes

Most leopards in trade are traded for hunting trophy purposes and leopards are clearly over-utilized for this purpose. From 2005 to 2014, 13,721 leopard specimens, representing at least 11,145 individual leopards, were traded for hunting trophy purposes (Annex 4, Table 19); this equates to 38.7% of the leopard specimens traded over this period (13,721 of 35,421) and 87.1% of individual leopards (11,145 of 12,791). The most common type of specimen traded for hunting trophy purposes was "trophies" (9,495) followed by "skulls" (1,974) and "skins" (1,564) (Annex 4, Table 19). Most leopard specimens traded internationally for hunting trophy purposes were imported by the U.S. (6,695 or 48.8%); no other country comes near to being as large an importer as the U.S.; the next nearest country is South Africa (1,113 or 8.1%) (Annex 4, Table 20). The top countries of export of leopard specimens for hunting trophy purposes were Zimbabwe (3,535 or 25.8%), Tanzania (3,088 or 22.5%), South Africa (2,291 or 16.7%), Namibia (1,917 or 14%) and Mozambique (1,009 or 7.4%) (Annex 4, Table 21); together these five countries export 60.5% of leopard specimens for hunting trophy purposes.

Leopard trophies are also traded internationally for personal purposes with 773 so traded from 2005 through 2014 (Annex 4, Table 22). France is, by far, the largest importer of leopard trophies for personal purposes, having imported 458 or 59.2%. Tanzania is, by far, the largest exporter of leopard trophies for personal purposes, having exported 303 or 39.1% (Annex 4, Table 23).

Regarding leopard trophy imports to the U.S., since 1982 there has been a dramatic increase in the number of leopard trophies imported, with numbers steadily rising throughout the 1990's and peaking in 2009, when 657 trophies were imported according to data from CITES trade database (see **Figure 2** below). The number of leopard trophy imports has remained over 300 per year since 1999, indicating the continuing trend of the U.S. being a major importer of leopard hunting trophies in this decade.



Source: UNEP-WCMC CITES Trade database, search on March 22nd, 2016 for gross imports of Panthera pardus *trophies, purpose P and H, all sources, between 1980 and 2014.*

Leopard trophy hunting has increased exponentially over the past thirty years (Palazy et al. 2011). African leopards are highly sought after by trophy hunters (Braczkowski et al 2015b). Trophy hunting organizations, such as Safari Club International, offer awards to members who kill leopards, such as the Africa Big Five Grand Slam award, the Dangerous Game of Africa Grand Slam award, or the Cats of the World Grand Slam award (Shield Political Research et al. 2015). Trophy hunters routinely target the biggest and strongest males, but removing these animals from the breeding pool unnaturally selects for smaller and weaker animals (Allendorf and Hard 2009). Further, a new study demonstrates that when trophy hunting is sanctioned, poaching activity increases, likely due to the perception that species authorized for hunting are of diminished value and the perception that legal killing increases the acceptability of poaching (Chapron and Treves 2016).

Generally, trophy hunting poses a threat to carnivores because their populations are difficult to monitor and for some species, like the African leopard, infanticide is exacerbated by removing males (Packer et al. 2009). Simulation models predict population declines from moderate levels of trophy hunting of infanticidal species (Packer et al. 2009), such as leopards. Balme et al. (2010) demonstrated the impact of trophy hunting on infanticide in a population of leopards in South Africa; high trophy hunting offtake resulted in particularly high male leopard mortality and high levels of male turnover; females cannot successfully raise cubs because of immigration into the population of new males; the consequences were low cub survival rates, delayed age at first parturition, reduced conception rates, and low annual litter production; the combined impact of high mortality and low reproductive output led to a negative population growth rate.

Trophy hunting of leopards contributes to substantial declines in populations across southern African range states, and therefore puts the African leopard in danger of extinction. Indeed, the 2016 IUCN

assessment specifically notes that "concern about unsustainable trophy hunting has lately increased" and cites studies concretely demonstrating that "trophy hunting was a key driver of Leopard population decline" (Stein et al. 2016).

a. Biological factors render leopards sensitive to over-harvesting

High male leopard turnover causes high rates of infanticide which are already naturally high in leopard populations (Braczkowski et al. 2015b). This, in turn, can cause rapid population declines (Balme et al. 2009, Braczkowski et al. 2015a). A review of eighteen studies of leopards in southern Africa found that adult and subadult leopards outside of protected areas experienced significantly lower survival rates (55% on average) than those in protected areas (88% on average) (Swanepoel et al. 2015). In protected areas, adult males had a 94% survival rate, compared to 59% outside of protected areas; for adult females, 86% versus 57%; for subadult males, 80% vs 48%; and subadult females 93% vs 18% (Swanepoel et al. 2015). The main causes of mortality outside of protected areas were trophy hunting, problem animal control and poaching for leopard skins (Swanepoel et al. 2015). Even in protected areas, juveniles 12 months old and younger had a significantly lower survival rate (39%) than adults and 52% of mortalities were due to infanticide (Swanepoel et al. 2015). Swanepoel et al. (2015) stated that sustainability of leopard populations in southern Africa is of concern because mortality rates exceeding 30% for solitary carnivores, like leopards, could lead to population declines. Furthermore, the high female mortality rates outside of protected areas, where a large proportion of suitable leopard habitat exists, may have severe demographic effects (Swanepoel et al. 2015).

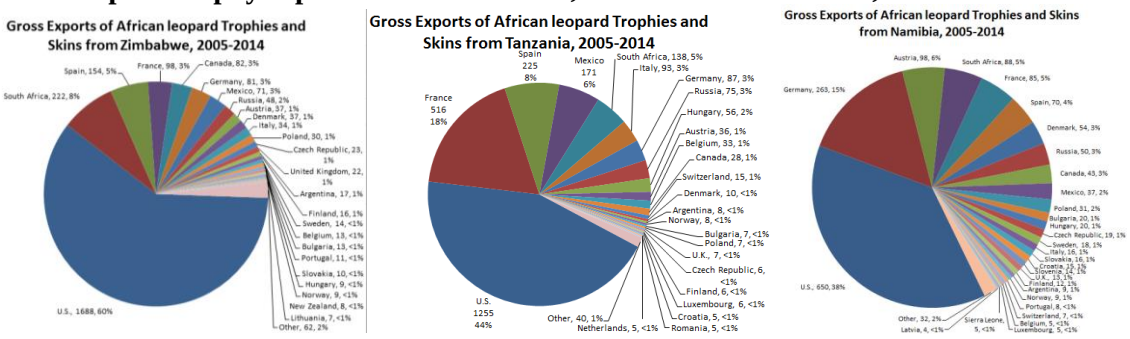
b. Lack of a scientific basis for export and hunting quotas

Leopard trophy hunting quotas have never been based on rigorous quantitative analysis in any African range country (Packer et al. 2010). Management of leopard hunting is hampered by lack of reliable population data and leopard hunting quotas are set arbitrarily and not based on science, which has led to population declines (Braczkowski et al. 2015b). Poorly managed trophy hunting is a significant cause of mortality in leopard populations (Braczkowski et al. 2015a).

While South Africa took action to protect leopards from export by trophy hunters in 2016, it is the only country with a CITES-established export quota that has issued a negative non-detriment finding assessment for the African leopard to date. Moreover, South Africa is not the main exporter of leopard trophies; Zimbabwe, Tanzania and Namibia are the top exporters. During 2005-2014, the U.S. imported 60% of gross leopard trophy exports from Zimbabwe, 44% of Tanzania's exports, and 38% of Namibia's exports (**Figure 3**).[10] Therefore, the U.S. has an important role to play in ensuring that international trade is not detrimental to the survival of *Panthera pardus*, in accordance with CITES.

[10] CITES, Trade Database,, *available at* http://trade.cites.org/ (gross export of leopard trophies for hunting trophy and personal purposes, and trophies for personal purpose).

Figure 3. Leopard trophy exports from Zimbabwe, Tanzania and Namibia, 2005-2014.



Given the fact that leopard trophy hunting quotas have never been based on rigorous quantitative analysis in any country (Packer et al. 2010), these and other leopard exporting countries cannot be said to be enhancing the survival of leopards through trophy hunting – indeed, in Tanzania (Packer et al. 2009), Mozambique (Jorge 2012) Zambia (Packer et al. 2010) and South Africa (Balme et al. 2009, Pitman et al. 2015), there are clear indications that leopard trophy hunting is unsustainable.

c. Female leopards are hunted

One of the most egregious practices associated with leopard trophy hunting – perhaps due to a relative lack in sexual dimorphism in the species – is the killing of female leopards. Killing of females is highly problematic as they are the key reproductive unit; also, killing of females with cubs means that those cubs will not reach adulthood. Trophy hunters may prefer male leopards because they are up to 60% larger than female leopards (Braczkowski et al. 2015b). Nonetheless, one study found that 87% of trophy hunters surveyed said they were willing to shoot females in order to get a trophy even though hunting females is illegal in most countries (Braczkowski et al. 2015b). For example, until this year, South Africa had no restrictions on leopard hunting by sex, age or size and was the only country allocated a CITES export quota that allows hunting of females; this is particularly concerning as a population viability analysis conducted for the South African leopard population demonstrated that the risk of extinction almost doubled when females were hunted (South Africa Department of Environmental Affairs 2015). Another study found that 28.6% of leopard trophies taken in the United Republic of Tanzania were females, even though only males could be legally hunted there and quotas are based on the assumption that only males are hunted (Spong et al. 2000). Since females most commonly die from starvation or due to old age or injuries, and when females are killed their cubs will die, offtake of females by trophy hunters is additive and more likely to adversely affect the population (Spong et al. 2000). Researchers have recommended that trophy hunting should be allowed only for males and that this should be strictly enforced (Braczkowski et al. 2015b). But even where such practice is prohibited, the prevalence of trophy hunting has led to illegal trophy hunting of females, such as in Mozambique (Jorge 2012).

d. Young males are removed from the population

Researchers have further recommended that trophy hunting should only be allowed for males over the age of seven as to allow them to reproduce successfully at least once and contribute their genes to the population (Braczkowski et al. 2015b). However, a study of photos on trophy hunting outfitters websites revealed a high frequency of animals killed between two and six years of age, who have territorial tenure and thus whose removal is likely to have cascading impacts (Braczkowski et al. 2015a). This is below the

recommended age minimum of seven years (Packer et al 2009), and it is likely that many younger animals or even females are killed each year (Braczkowski et al. 2015a). Jorge (2012) found that a high percentage of leopards killed for trophies in Niassa National Reserve, Mozambique, were under the recommended age of seven. Given that trophy hunters are highly motivated to obtain a kill, it is unreasonable to expect that an age limit will routinely be honored in the field.

e. Other factors making leopard hunting unsustainable

A study in Mozambique found that trophy hunting takes place in areas where leopard poaching also occurs and that the offtake from both combined were unsustainable and caused a decrease in leopard population density (Jorge 2012). Furthermore, in some areas of South Africa, especially in areas where leopard density is low, more leopards are killed by illegal retaliatory killing than by trophy hunting and offtake for this purpose should therefore be included in setting trophy hunting quotas (Swanepoel et al. 2015). Pitman et al. (2015) found that legal offtake for trophy hunting and legal offtake for problem animal control added together exceeded a sustainable level of offtake of the leopard population in Limpopo Province, South Africa, the most important habitat for leopard conservation in the country; although offtake for problem animal control exceed offtake for trophy hunting, the authorities do not take the former into account when issuing trophy hunting permits; in addition, illegal offtake is considered to be higher than these forms of legal offtake.

The use of dogs to hunt leopards in Zimbabwe, and a declining number of leopards killed by trophy hunters in Zimbabwe and Zambia (suggesting less availability in spite of insatiable demand), also raise concerns about management of trophy hunting (Packer et al. 2010). Hunting leopards with dogs masks continued population declines because the dogs increase the ability of the hunter to locate and kill leopards (Packer et al. 2009).

Therefore, leopard trophy hunting is a serious threat to the existence of the species in Africa, necessitating an uplisting to Endangered status of leopards in southern Africa (where the vast majority of leopard trophy hunting occurs). *See also* Declaration of Dr. Jane Goodall, ¶ 9-11 ("Given the precipitous decline of African leopards in recent decades, and because the threats to the continued existence of *Panthera pardus* and its habitat are significant, the United States must ensure that it is not contributing to the imperilment of this species and do all it can to promote the conservation of leopards in Africa. Trophy hunters sometimes defend this malicious slaughter by claiming that the money they pay for the pleasure of killing is what enables impoverished countries to pay for conservation of wildlife, but this argument has many flaws. The money paid to hunt a leopard or other trophy animal is often counted as profit by a hunting outfitter and does not usually end up in a conservation program. And as the founder of an organization that has worked for decades on community-based conservation in Africa, I can say confidently that putting a bounty on the heads of individual animals is counter-productive to promoting their protection."); Declaration of Dereck Joubert, ¶ 12-20 ("In my expert opinion, trophy hunting is a dire threat to the continued survival of the African leopard…. the activity undermines conservation, fuels corruption at the local levels in particular and often higher up, and causes the loss of the healthiest animals in the populations, animals that are key for reproduction and social cohesion of those species…. Each leopard that is shot as a trophy cannot be considered in isolation but as just the tip of the iceberg in a trickle down effect of destruction to the family and society of leopards he influences….[L]eopards across their African range are in danger of extinction and the U.S. Fish and Wildlife Service should strictly

regulate the import of hunting trophies and other leopard parts in order to not continue to contribute to the decline of this endangered species.").

3. Trade for Scientific Purposes

From 2005 through 2014, 4,813 leopard specimens (including bones, derivatives, hair, specimens and teeth), the equivalent of at least 12 leopards (bodies, live and skins), were traded internationally for scientific purposes (Annex 4, Table 24). In addition, several types of leopard specimens were traded for scientific purposes in units including weight, fluid volume and "flasks" (Annex 4, Table 24). Germany, U.K., U.S., and South Africa were major importers (Annex 4, Table 25) and Namibia and Russia were major exporters (Annex 4, Table 26) of leopard specimens for scientific purposes.

4. Trade for Other Purposes

From 2005 through 2014, leopards and their parts and products were traded internationally for other purposes including:

- 43 live leopards for "breeding in captivity"[11] (Annex 4, Table 26); South Africa (8), United Arab Emirates (7), Belgium (6), and Yemen (6) were the main exporters. The main importing countries were United Arab Emirates (16), Armenia (6), and Saudi Arabia (4) (Annex 4, Table 27).
- 712 leopards and their parts for "educational"[12] purposes (Annex 4, Table 27).
- 12 leopard parts for "law enforcement/judicial/forensic"[13] purposes (Annex 4, Table 28).
- 29 specimens for "medical"[14] purposes (Annex 4, Table 29).
- 14 live leopards for "reintroduction or introduction into the wild"[15] purposes (Annex 4, Table 30).
- 9,920.5 leopards and their parts, totaling at least 997 leopards, plus 2,435 g and 28.4082 kg of leopards and their parts, for "personal"[16] purposes including 773 trophies, 191 skins, 207 medicines, 26 bodies, 50 bones, and 8476 derivatives (Annex 4, Table 31). Export of trophies for personal purposes was discussed in Subsection 2) above. Most skins were exported by South Africa, Namibia and Zimbabwe; medicines were exported from China and Hong Kong; most derivatives were exported by China, Hong Kong, Cambodia, Malaysia, Singapore and Viet Nam; most bones were exported by China (Annex 4, Table 32). Most skins were imported by Austria, the U.S., and Australia; most medicines were imported by U.S. (and seized as noted earlier); most derivatives were imported to the U.S. (and seized as noted earlier) and New Zealand (Annex 4, Table 33).
- 168 leopards and their parts, totaling at least 129 leopards, for "circus and travelling exhibition" purposes including six bodies, 113 live, nine skins and one trophy; Russia (28) and Mexico (23) exported the largest number of live leopards for this purpose (Annex 4, Table 34).

[11] CITES Purpose Code B.
[12] CITES Purpose Code E.
[13] CITES Purpose Code L.
[14] CITES Purpose Code M.
[15] CITES Purpose Code N.
[16] CITES Purpose Code P.

- 181 live leopards and one trophy for "zoo" purposes; South Africa (18), France (15), Czech Republic (12) and Namibia (12) exported the largest numbers of live leopards for this purpose (Annex 4, Table 35).

5. International Trade from Sub-Saharan Africa Leopard Range States

This section provides details about the export of leopards and their parts and products by sub-Saharan Africa range States from 2005 through 2014 (including the 18 range states where leopards are listed as Threatened). The following sub-Saharan Africa leopard range States did not export leopards or their parts or products during this period:[17] **Angola**, Burkina Faso, Benin, Chad, Gambia, Guinea, Guinea-Bissau, Niger, **Rwanda**, and Somalia. Between 2005 and 2014, 25 sub-Saharan African countries exported leopards and their parts and products; the top ten countries of export are in **Table 3** – notably, only two countries where leopards are listed as Endangered are on this list (Central African Republic (CAR) and Ethiopia). Thus, given the major role that the U.S. plays as an importer of leopard parts, it is clear that the Threatened listing is facilitating trade in leopards from southern Africa, without appropriate scrutiny.

Table 3. Top Ten Countries of Export of *Panthera pardus*, 2005-2014.

Country of Export	Individual Leopards Exported (bodies, live, skins, trophies)	% of Global Exports (rounded to nearest whole percent)
Zimbabwe	2,947	23
Tanzania	2,923	23
Namibia	1,785	14
South Africa	1,579	12
Zambia	866	7
Mozambique	770	6
Botswana	394	3
CAR	330	3
Ethiopia	24	<1
DRC and Swaziland (tied)	12	<1

a. Botswana

Botswana exported African leopards and their products equivalent to 394 individuals between 2005 and 2014, including bodies (1), live (4), skins (16), and trophies (373) (Annex 4, Table 36). This amount is equivalent to 3% of the global exports in leopards during this period (394 of 12,791). All of these skins and the vast majority of the trophies (334 of 373) were wild-sourced and exported for hunting trophy purposes, 5 of the hunting trophy purpose trophies were reported as having been seized by the U.S. upon import, one of which originated in Mozambique. More than half (191 of 373) of the trophies and 5 of the skins were exported to the U.S. One trophy was reported as having been exported to South Africa for trophy hunting purposes but the source was reported as ranched. The remainder of the hunting trophies (33) were reported as wild-sourced and exported for personal purposes. Botswana also exported 4 live

[17] CITES Trade Database searched on 23 March 2016. As indicated in bold in the text, only two countries where leopards are listed as Threatened – Angola and Rwanda – did not export leopards or their parts from 2005-2014.

leopards that were reported as having been captive-bred to South Africa in 2010 for "circus and travelling exhibitions" purposes.

b. Cameroon

Cameroon exported one African leopard skin between 2005 and 2014, the equivalent of one individual (Annex 4, Table 37). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skin was wild-sourced and exported to Germany for personal purposes.

c. Central African Republic

Central African Republic exported African leopards and their products equivalent to 330 individuals between 2005 and 2014, including skins (4), and trophies (326) (Annex 4, Table 38). This amount is equivalent to approximately 3% of the global exports in leopards during this period (330 of 12,791). All of these skins and the vast majority of the trophies (284 of 326) were wild-sourced and exported for hunting trophy purposes, with the remainder of the trophies (42) being wild-sourced but imported for personal purposes. 60% of the trophy exports (196) went to France, while two of the trophies were exported to the U.S.

d. Congo

Congo exported two African leopard skins between 2005 and 2014, the equivalent of two individuals (Annex 4, Table 39). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skins were seized upon import to the U.K. and there was no purpose recorded.

e. Côte d'Ivoire

Côte d'Ivoire exported two African leopard skins between 2005 and 2014, the equivalent of two individuals (Annex 4, Table 40). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skins were marked as being pre-convention and imported into France for personal purposes.

f. Democratic Republic of the Congo

The Democratic Republic of the Congo exported twelve leopard skins between 2005 and 2014, the equivalent of twelve individuals (Annex 4, Table 41). This amount is equivalent to less than 1% of the global exports in leopards during this period. Ten of the skins were reported as having been exported for personal purposes, with all except one of those wild-sourced. The remaining skin exported for personal purposes was seized upon import to the U.S. Another skin exported for commercial purposes to the U.S. was seized upon import to the U.S., while another skin was exported to an unknown country and no purpose or source was recorded.

g. Ethiopia

Ethiopia exported African leopards and their products equivalent to 24 individuals between 2005 and 2014, including skins (6), trophies (18), as well as skulls (4) (Annex 4, Table 42). This amount is equivalent to less than 1% of the global exports in leopards during this period. Five of the skins and 12 of the trophies were wild-sourced and exported for hunting trophy purposes, while another two trophies

were wild-sourced but one was exported for personal purposes and the other for commercial purposes. The remaining skin was seized upon import to Norway in 2014, and no purpose was recorded. The four remaining trophies were exported for personal purposes but were seized upon import into the United Arab Emirates (2) and Bahrain (2) in 2006. The four skulls were all wild-sourced and exported to Canada (3) and South Africa (1) for hunting trophy purposes.

h. Gabon

Gabon exported African leopards and their products equivalent to 10 individuals between 2005 and 2014, including live specimens (8) and skins (2) (Annex 4, Table 43). This amount is equivalent to less than 1% of the global exports in leopards during this period. The two skins were seized upon import to Hungary and had no purpose data, while the 8 live specimens were reported as having been captive-bred and imported into Tunisia for zoo purposes.

i. Ghana

Ghana exported one African leopard skin between 2005 and 2014, the equivalent of one individual (Annex 4, Table 44). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skin was exported for personal purposes in 2005 but seized upon import to the U.S., with the origin of the specimen marked as unknown.

j. Kenya

Kenya exported African leopards and their products equivalent to 6 individuals between 2005 and 2014, including skins (4) and trophies (2) (Annex 4, Table 45). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skins and trophies were all wild-sourced and exported for personal purposes, with one skin and two trophies exported to Australia, one skin exported to the U.K., and two skins exported to an unknown country.

k. Liberia

Liberia exported African leopards and their products equivalent to one individual between 2005 and 2014, as one skin (Annex 4, Table 46). This amount is equivalent to less than 1% of the global exports in leopards during this period.

l. Malawi

Malawi exported three African leopard skins between 2005 and 2014, the equivalent of three individuals (Annex 4, Table 47). This amount is equivalent to less than 1% of the global exports in leopards during this period. The skins were all wild-sourced and exported for personal purposes, with two skins exported to Sri Lanka, and one to the Netherlands.

m. Mali

Mali exported two live leopards and one skin between 2005 and 2014, the equivalent of three individuals (Annex 4, Table 48). This amount is equivalent to less than 1% of the global exports in leopards during this period.

n. Mozambique

Mozambique exported African leopards and their products equivalent to 770 individuals between 2005 and 2014, including bodies (1), skins (257), and trophies (512) (Annex 4, Table 49). This amount is equivalent to approximately 6% (770 of 12,791) of the global exports in leopards during this period. The one body as well as the vast majority of the skins (245) and trophies (461) were wild-sourced and exported for hunting trophy purposes. Major export destinations for trophies included the U.S. (133), South Africa (119), Spain (59), Portugal (43), and France (41). Major export destination countries for skins included the U.S. (105), South Africa (62), Spain (13), France (12), and Zimbabwe (11). Eight of the trophies exported for hunting trophy purposes were seized upon import into the U.S. between 2007 and 2012. Further, one skin with no purpose reported was seized upon import to Portugal. Six skins and 38 trophies, all wild-sourced, were exported for personal purposes, while two skins were marked as captive-bred and were exported for personal purposes. One skin and two trophies, all wild-sourced, were exported for commercial purposes; the skin was imported into the U.S. in 2013 and the trophies into South Africa and Zimbabwe.

o. Namibia

Namibia exported African leopards and their products equivalent to 1,785 individuals between 2005 and 2014, including bodies (25), live specimens (12), skins (83), and trophies (1,810) (Annex 4, Table 50). This amount is equivalent to approximately 14% of the global exports in leopards during this period (1,810 of 12,791). Major trophy export destination countries included the U.S. (645), Germany (259), Austria (92), France (84), South Africa (79), Spain (68), Russia (47), and Mexico (41). Twenty-three of the bodies, 58 of the skins, and 1,600 of the trophies exported were wild-sourced for hunting trophy purposes. One trophy exported for hunting trophy purposes to the U.S. was captive-bred, while another trophy exported for personal purposes to Germany was marked as pre-convention. Two of the bodies, 24 of the skins, and 94 of the trophies exported were wild-sourced for personal purposes. 645 (~39%) of the total number of trophies were exported to the U.S., 622 for hunting trophy purposes and wild-sourced and 23 that were seized upon import. In addition, one wild-sourced trophy was exported for commercial purposes to the U.S., while one skin exported for commercial purposes was seized upon import to the U.S. and another with no purpose recorded was seized upon import to the U.K. The 12 live specimens were wild-sourced leopards exported to Cuba for zoo purposes.

p. Nigeria

Nigeria exported 6 leopard skins between 2005 and 2014, the equivalent of six individuals (Annex 4, Table 51). This amount is equivalent to less than 1% of the global exports in leopards during this period. All of the skins exported were for personal purposes, and all of the exports were seized upon import to the U.S. (5) and Hungary (1).

q. Senegal

Senegal exported 18 specimens between 2005 and 2014 (Annex 4, Table 52).

r. Sierra Leone

Sierra Leone exported five derivatives between 2005 and 2014 (Annex 4, Table 53).

s. South Africa

South Africa exported African leopards and their products equivalent to 1,579 individuals between 2005 and 2014, including bodies (44), live specimens (56), skins (290), and trophies (1,189) (Annex 4, Table 54). This amount is equivalent to approximately 12% of the global exports in leopards during this period (1,579 of 12,791). Major trophy export destination countries included the U.S. (729), Spain (63), Mexico (53), Philippines (46), Russia (45), and France (35). Major skin export destination countries included the U.S. (163), Spain (29), and Canada (19). Major bodies export destination countries included Canada (11) and the U.S. (8), while major live specimen export destination countries included Egypt (12), Malawi (12), Gabon (10), and the United Arab Emirates (8). In total, the U.S. imported more than half (900) of the total African leopards and their products that are equivalent to individual animals exported from South Africa during the period examined.

South Africa exported 5 live leopards for breeding in captivity purposes that were captive-bred sourced during this period, as well as one live leopard, one skin and one trophy for educational purposes that were captive-bred. 17 wild-sourced leopards (8 trophies and 9 bodies) were exported from South Africa for educational purposes. For hunting trophy purposes, 1,532 leopards were exported (two captive-bred leopard trophies; two F1 (born in captivity F1 and subsequent) leopard trophies; 36 leopard trophies were seized upon import; two trophies marked as pre-convention specimens; one marked as having been sourced from a ranching operation; and of wild-source specimens, 30 bodies, 260 skins, and 1,199 trophies) from South Africa between 2005 and 2014. For purposes of reintroduction to the wild, 12 leopards were exported (4 live leopards sourced from a ranching operation and 8 live wild-sourced leopards) during the period examined. For personal purposes, 117 leopards were exported (2 captive-bred trophies, 19 pre-convention skins, 5 pre-convention trophies, 6 wild-source bodies, 15 wild-sourced skins, and 80 wild-sourced trophies) from South Africa during the period examined. For commercial purposes, 7 live leopards were exported for commercial purposes. For zoo purposes, 30 leopards were exported (22 captive-bred live leopards, one captive-bred trophy, 5 live leopards sourced from a ranching operation, and two live wild-sourced leopards) from South Africa during the period examined.

t. Sudan

Sudan exported African leopards and their products equivalent to 8 individuals between 2005 and 2014, including live specimens (7) and skins (1) (Annex 4, Table 55). This amount is equivalent to less than 1% of the global exports in leopards during this period. Six of the live leopards exported were wild-sourced and exported for zoo purposes (4 were exported to Syria and 2 to South Africa), and the remaining live specimen was wild-sourced and exported for personal purposes (to Saudi Arabia). The one skin exported was wild-sourced and exported for personal purposes.

u. Swaziland

Swaziland exported African leopards and their products equivalent to 12 individuals between 2005 and 2014, including live specimens (1) and skins (11) (Annex 4, Table 56). This amount is equivalent to less than 1% of the global exports in leopards during this period.

v. Togo

Togo exported one leopard skin that was seized upon import to Spain, with no purpose recorded, during the period examined, the equivalent of one individual (Annex 4, Table 57). This amount is equivalent to less than 1% of the global exports in leopards during this period.

w. The United Republic of Tanzania

The United Republic of Tanzania exported African leopards and their products equivalent to 2,923 individuals between 2005 and 2014, including bodies (5), live specimens (1), skins (462), and trophies (2,455) (Annex 4, Table 58). This amount is equivalent to approximately 23% of the global exports in leopards during this period (2,923 of 12,791). The leopard bodies were exported to Denmark (3), the U.K. (1) and Russia (1), while the one live specimen was exported to Nicaragua. Major skin export destination countries included the U.S. (152), France (79), South Africa (55), Spain (37), and Canada (27). Major trophy export destination countries included the U.S. (1,118), France (439), Spain (189), Mexico (181), South Africa (96), Italy (79), and Germany (73). In total, the U.S. imported approximately 43% (1,270) of the total African leopards and their products that are equivalent to individual animals exported from the United Republic of Tanzania during the period examined. Exports to France (518) comprised 17% of the total.

The United Republic of Tanzania exported one wild-sourced leopard skin for educational purposes during this period. For hunting trophy purposes, 2,609 leopards were exported (two captive-bred leopard trophies; 43 leopard trophies were seized upon import; 3 trophies marked as pre-convention specimens; and of wild-source specimens, 5 bodies, 447 skins, and 2,109 trophies) from the United Republic of Tanzania between 2005 and 2014. For personal purposes, 309 leopards were exported (6 wild-source skins and 303 wild-sourced trophies) from the United Republic of Tanzania during the period examined. For commercial purposes, 7 leopards were exported (4 skins and 3 leopard trophies) during the period examined.

x. Zambia

Zambia exported African leopards and their products equivalent to 866 individuals between 2005 and 2014, including bodies (1), skins (52), and trophies (813) (Annex 4, Table 59). This amount is equivalent to approximately 7% of the global exports in leopards during this period (866 of 12,791). The leopard body was exported to Denmark (1). Major skin export destination countries included South Africa (18), Canada (12), and the U.K. (9). Major trophy export destination countries included the U.S. (466), South Africa (55), Mexico (40), Spain (38), and France (25). In total, the U.S. imported approximately 54% (468) of the total African leopards and their products that are equivalent to individual animals exported from Zambia during the period examined. Exports to South Africa (73) comprised 8% of the total. For hunting trophy purposes, 823 leopards were exported (18 leopard trophies were seized upon import; of wild-source specimens, 1 body, 45 skins, and 777 trophies) from Zambia between 2005 and 2014. For personal purposes, 36 leopards were exported (11 wild-source skins and 25 wild-sourced trophies) from Zambia during the period examined.

y. Zimbabwe

Zimbabwe exported African leopards and their products equivalent to 2,947 individuals between 2005 and 2014, including bodies (12), live specimens (3), skins (490), and trophies (2,442) (Annex 4, Table 60). This amount is equivalent to approximately 23% of the global exports in leopards during this period (2,947 of 12,791). The leopard bodies were exported to Canada (6), South Korea (3), Hong Kong (1) and Sweden (1), while the three live leopards were exported to South Africa. Major skin export destination countries included the U.S. (256), South Africa (52) and Canada (43). Major trophy export destination countries included the U.S. (1,489), South Africa (170), Spain (138), France (86), Mexico (71) and Germany (67). In total, approximately 60% (1,745) of the total African leopards and their products that are equivalent to individual animals from Zimbabwe during the period examined were exported to the U.S. Exports to South Africa (225) comprised 8% of the total, while exports to Spain (138) comprised approximately 5% of the total.

Zimbabwe exported 5 leopard products equivalent to individual leopards for educational purposes (one wild-sourced leopard skin and 4 wild-sourced trophies) during this period. For hunting trophy purposes, a total of 2,840 leopards were exported (one captive-bred leopard trophy; two F1 (born in captivity F1 and subsequent) leopard trophies; 40 leopard trophies were seized upon import; 2 trophies marked as pre-convention specimens; and 2,795 wild-source specimens (8 bodies, 457 skins, and 2,330 trophies) from Zimbabwe between 2005 and 2014. For personal purposes, 111 leopards were exported (one body, 16 skins and 6 trophies were seized upon import from Zimbabwe; 4 pre-convention skins; 19 wild-source skins and 65 wild-sourced trophies) from Zimbabwe during the period examined. For circus and travelling exhibition purposes, 3 wild-sourced leopard bodies were exported, and for commercial purposes, a total of 8 leopards were exported (7 captive-source live specimens and one wild-source skin) during the period examined.

6. Countries of Import of African Leopards and Their Parts

The U.S., France, South Africa, Spain, Germany, Mexico, Russia, Canada, Austria, and Italy were the top ten importers of leopards and their products from 2005-2014, with the U.S. accounting for nearly half of all leopard imports (see **Table 4**). This underscores the major role the U.S. plays in the international trade in leopards, and the importance of ensuring that U.S. law stringently regulates leopard imports to ensure that such imports only occur if the import enhances the survival of the species.

Table 4. Top Ten Countries of Import of African Leopards and their Products, 2005-2014, all sources, all purposes.

Country of Import	Individual Leopards Exported (bodies, live, skins, trophies)	% of Global Exports (rounded to nearest whole percent)
United States	5,575	44%
France	1,072	8%
South Africa	878	7%
Spain	709	6%
Germany	539	4%
Mexico	510	4%
Russia	386	3%
Canada	318	3%
Austria	230	2%
Italy	192	2%

The following examines gross import data from the top ten leopard importer countries.

a. Austria

Austria imported African leopards and their products equivalent to 230 individuals between 2005 and 2014, including bodies (1), skins (56), and trophies (173) (Annex 4, Table 61). This amount is equivalent to approximately 2% of the global imports in leopards during this period. Most leopards imported into Austria were exported from Namibia (120 total: 93 trophies, 27 skins and one body, 52% of total imports), with Zimbabwe (44 total: 29 trophies and 15 skins, 20% of total imports), the United Republic of Tanzania (40 total: 12 skins and 28 trophies, 17% of total imports) and Zambia (11 trophies, 5% of total imports) also playing major roles in exports. For hunting trophy purposes, a total of 164 leopards were imported, all wild-source specimens (one body, 21 skins, and 142 trophies) into Austria between 2005 and 2014. For personal purposes, 65 leopards were imported (one pre-convention skin; 33 wild-source skins and 31 wild-sourced trophies) into Austria during the period examined. For circus and travelling exhibition purposes, one pre-convention skin was imported during the period examined.

b. Canada

Canada imported African leopards and their products equivalent to 318 individuals between 2005 and 2014, including bodies (33), live specimens (10), skins (134), and trophies (141) (Annex 4, Table 62). This amount is equivalent to approximately 2% of the global imports in leopards during this period. Most leopards imported into Canada were exported from Zimbabwe (97 total: 48 trophies, 43 skins and 6 bodies, 30% of total imports), with South Africa (53 total: 21 trophies, 19 skins, two live specimens and 11 bodies, 17% of total imports), Namibia (44 total: 25 trophies and 19 skins, 14% of total imports), the United Republic of Tanzania (36 total: 9 trophies and 27 skins, 11% of total imports), Zambia (36 total: 23 trophies and 12 skins, 11% of total imports), and the U.S. (25 total: 9 trophies, 3 skins, 6 live specimens and 7 bodies, 8% of total imports) also playing major roles in exports. For educational purposes, 3 leopards were imported (two wild-sourced leopard bodies and one wild-sourced leopard skin) into Canada between 2005 and 2014. For hunting trophy purposes, a total of 279 leopards were imported (two captive-bred leopard trophies; two F1 (born in captivity F1 and subsequent) leopard trophies; and

275 wild-source specimens (27 bodies, 119 skins, and 129 trophies) imported into Canada during this period. For personal purposes, 22 leopards were imported (one trophy was seized upon import; 6 pre-convention skins; 3 wild-source skins and 6 wild-sourced trophies) into Canada during the period examined. For commercial purposes, a total of 3 leopards were imported (one pre-convention body and two wild-source skins) during the period examined. For zoological purposes, 10 live leopards were imported into Canada between 2005 and 2014.

c. France

France imported African leopards and their products equivalent to 1,072 individuals between 2005 and 2014, including bodies (3), live specimens (13), skins (124), and trophies (932) (Annex 4, Table 63). This amount is equivalent to approximately 8% of the global imports in leopards during this period. Most leopards imported into France were exported from the United Republic of Tanzania (518 total: 439 trophies and 79 skins, 48% of total imports) and Central African Republic (198 total: 196 trophies and two skins, 18% of total imports), with Zimbabwe (98 total: 86 trophies and 12 skins, 9% of total imports), Namibia (86 total: 84 trophies and two skins, 8% of total imports), Mozambique (54 total: 41 trophies and 12 skins, 5% of total imports) and South Africa (45 total: 35 trophies, 8 skins, and two bodies, 4% of total imports) also playing major roles in exports to France. For hunting trophy purposes, a total of 584 leopards were imported into France during this period, all of which were wild-sourced (one body, 110 skins, and 473 trophies). For personal purposes, 475 leopards were imported (two pre-convention bodies, 9 wild-sourced skins and 459 wild-sourced trophies) into France during the period examined. For circus and travelling exhibition purposes, 4 wild-sourced leopard bodies were imported, and for zoological purposes, a total of 7 live leopards were imported into France during the period examined.

d. Germany

Germany imported African leopards and their products equivalent to 539 individuals between 2005 and 2014, including bodies (3), live specimens (10), skins (63), and trophies (463) (Annex 4, Table 64). This amount is equivalent to approximately 4% of the global imports in leopards during this period. Most leopards imported into Germany were exported from Namibia (266 total: 259 trophies, 5 skins and two bodies, 49% of total imports), with the United Republic of Tanzania (87 total: 73 trophies and 14 skins, 16% of total imports), Zimbabwe (81 total: 67 trophies and 14 skins, 15% of total imports), and South Africa (33 total: 25 trophies, 8 skins, 6% of total imports) also playing major roles in exports. For captive breeding purposes, Germany imported two live captive-bred leopards between 2005 and 2014. For hunting trophy purposes, a total of 486 leopards were imported, all wild-source specimens (one body, 42 skins, and 443 trophies). For personal purposes, 26 leopards were imported (one pre-convention body, two pre-convention skins and one pre-convention trophy, one wild-source body, 3 wild-source skins and 18 wild-sourced trophies) into Germany during the period examined. For circus and travelling exhibition purposes, one live captive-bred leopard and one pre-convention trophy was imported during the period examined. For commercial purposes, a total of 16 leopards were imported (one pre-convention skin, 8 skins of unknown source and 8 wild-source skins) during the period examined.

e. Italy

Italy imported African leopards and their products equivalent to 192 individuals between 2005 and 2014, including a body (1), a live specimen (1), skins (21), and trophies (169) (Annex 4, Table 65). This amount

is equivalent to approximately 2% of the global imports in leopards during this period. Most leopards imported into Italy were exported from the United Republic of Tanzania (93 total: 79 trophies and 14 skins, 48% of total imports), with Zimbabwe (38 total: 34 trophies and 4 skins, 20% of total imports), South Africa (22 total: 21 trophies, one skin, 11% of total imports) and Namibia (17 total: 16 trophies, one body, 9% of total imports) also playing major roles in exports. For hunting trophy purposes, a total of 186 leopards were imported (one ranched leopard trophy and 185 wild-source specimens: one body, 19 skins, and 165 trophies) into Italy during this period. For personal purposes, 4 leopards were imported (one pre-convention skins and 3 wild-source trophies) into Italy during the period examined. For circus and travelling exhibition purposes, one wild-sourced leopard skin was imported, and for zoological purposes, one live, captive-bred leopard was imported during the period examined.

f. Mexico

Mexico imported African leopards and their products equivalent to 510 individuals between 2005 and 2014, including a body (1), live specimens (8), skins (20), and trophies (481) (Annex 4, Table 66). This amount is equivalent to approximately 4% of the global imports in leopards during this period. Most leopards imported into Mexico were exported from the United Republic of Tanzania (186 total: 181 trophies and 5 skins, 36% of total imports), with Zimbabwe (76 total: 71 trophies and 5 skins, 15% of total imports), South Africa (60 total: 53 trophies, 6 skins and one body, 12% of total imports), Namibia (41 trophies, 8% of total imports), and the U.S. (34 total: 31 trophies and 3 live specimens, 7% of total imports) also playing major roles in exports. For hunting trophy purposes, a total of 487 leopards were imported (two captive-bred leopard trophies; two F1 (born in captivity F1 and subsequent) leopard trophies; two leopard trophies were seized upon import; 6 trophies marked as pre-convention specimens; and 475 wild-source specimens (one body, 19 skins, and 455 trophies) into Mexico between 2005 and 2014. For personal purposes, 5 wild-source leopard trophies were imported into Mexico during the period examined. For circus and travelling exhibition purposes, 3 live, captive-bred leopards were imported; while for commercial purposes, 3 wild-source leopard trophies were imported during the period examined. For zoological purposes, 5 live, captive-bred leopards were imported between 2005 and 2014.

g. Russia

Russia imported African leopards and their products equivalent to 386 individuals between 2005 and 2014, including bodies (9), live specimens (41), skins (36), and trophies (300) (Annex 4, Table 67). This amount is equivalent to approximately 3% of the global imports in leopards during this period. Most leopards imported into Russia were exported from the United Republic of Tanzania (73 total: 58 trophies and 17 skins, 19% of total imports), with Namibia (53 total: 47 trophies, 3 skins and 3 bodies, 14% of total imports), South Africa (50 total: 45 trophies and 5 skins, 13% of total imports), Zimbabwe (48 total: 42 trophies, 6 skins, 12% of total imports), and France (45 total: 35 trophies, 9 live specimens, and one body, 12% of total imports) also playing major roles in exports. For captive breeding purposes, a total of two leopards were imported (two live, captive-bred leopards) into Russia between 2005 and 2014. For hunting trophy purposes, a total of 303 leopards were imported, all wild-source (8 bodies, two live leopards, 30 skins, and 263 trophies) into Russia during this period. For purposes of reintroduction to the wild, 4 live, wild-source leopards were imported in Russia between 2004 and 2015. For personal purposes, 38 leopards were imported (one body and 37 trophies), while for circus and travelling exhibition purposes, 4 live, wild-source leopards and 4 live leopards whose source was unknown were

imported into Russia during this period. For commercial purposes, 4 pre-convention skins were imported, and for zoological purposes, one live, F1 leopard was imported in Russia during the period examined.

h. South Africa

South Africa imported African leopards and their products equivalent to 878 individuals between 2005 and 2014, including live specimens (36), skins (229), and trophies (613) (Annex 4, Table 68). This amount is equivalent to approximately 7% of the global imports in leopards during this period. Most leopards imported into South Africa were exported from Zimbabwe (225 total: 170 trophies, 52 skins, 3 live specimens, 26% of total imports) and Mozambique (181 total: 119 trophies and 62 skins, 21% of total imports), and the United Republic of Tanzania (151 total: 96 trophies and 55 skins, 17% of total imports), with Namibia (89 total: 78 trophies and 11 skins, 10% of total imports), Botswana (82 total: 73 trophies, 5 skins, and 4 live specimens, 9% of total imports), and Zambia (73 total: 55 trophies and 18 skins, 8% of total imports) also playing major roles in exports. For captive breeding purposes, a total of 8 live leopards were imports (5 captive-bred, two F1, and one wild-source). For educational purposes, 3 live, captive-bred leopards were imported into South Africa between 2005 and 2014. For hunting trophy purposes, a total of 798 leopards were imported (one captive-bred leopard trophy; two F1 (born in captivity F1 and subsequent) leopard trophies; one ranched leopard trophy; and 794 wild-source specimens (207 skins and 587 trophies) imported (one wild-sourced leopard skin and 4 wild-sourced trophies)) into South Africa during this period. For law enforcement purposes, two wild-source skins were imported into South Africa between 2005 and 2014. For personal purposes, 40 leopards were imported (7 captive-bred skins, 3 pre-convention skins; 10 wild-source skins and 20 wild-sourced trophies) into South Africa during the period examined. For circus and travelling exhibition purposes, 4 live, wild-sourced leopards were imported, and for commercial purposes, a total of 12 leopards were imported (8 captive-source live specimens, two live specimens, and two wild-source trophies during the period examined. For zoological purposes, 9 live, captive-bred leopards and two wild-source leopards were imported.

i. Spain

Spain imported African leopards and their products equivalent to 709 individuals between 2005 and 2014, including bodies (3), live specimens (3), skins (101), and trophies (602) (Annex 4, Table 69). This amount is equivalent to approximately 6% of the global imports in leopards during this period. Most leopards imported into Spain were exported from the United Republic of Tanzania (226 total: 189 trophies, 37 skins, 32% of total imports) and Zimbabwe (154 total: 138 trophies and 16 skins, 22% of total imports), with South Africa (92 total: 63 trophies and 29 skins, 13% of total imports), Mozambique (77 total: 64 trophies and 13 skins, 11% of total imports), Namibia (70 total: 68 trophies and two skins, 10% of total imports), Zambia (40 total: 38 trophies and two skins, 6% of total imports) and Botswana (39 total: 38 trophies and one skin, 6% of total imports) also playing major roles in exports. For hunting trophy purposes, a total of 690 leopards were imported, all wild-sourced (3 bodies, 99 skins, and 588 trophies) imported (one wild-sourced leopard skin and 4 wild-sourced trophies) into Spain during this period. For personal purposes, 15 wild-source leopard trophies were imported while for circus and travelling exhibition purposes, two captive-bred live leopards were imported between 2005 and 2014. For commercial purposes, a total of two leopards were imported (one captive-source live specimen and one wild-source skin) during the period examined.

j. United States of America

The U.S. imported African leopards and their products equivalent to 5,575 individuals between 2005 and 2014, including bodies (14), live specimens (26), skins (741), and trophies (4,794) (Annex 4, Table 70). This amount is equivalent to approximately 44% of the global imports in leopards during this period. Most leopards imported into the U.S. were exported from Zimbabwe (1,745 total: 1,489 trophies and 256 skins, 31% of total imports) and the United Republic of Tanzania (1,270 total: 1,118 trophies and 152 skins, 23% of total imports), with South Africa (900 total: 729 trophies, 163 skins and 8 bodies, 16% of total imports), Namibia (654 total: 646 trophies, 5 skins, 3 bodies, 12% of total imports), Zambia (468 total: 466 trophies and two skins, 8% of total imports) Mozambique (238 total: 133 trophies and 105 skins, 4% of total imports) and Botswana (196 total: 191 trophies and 5 skins, 4% of total imports) also playing major roles in exports. For educational purposes, two wild-source leopard trophies were imported into the U.S. between 2005 and 2014. For hunting trophy purposes, a total of 5,447 leopards were imported (two captive-bred leopard trophies; 175 leopard trophies were seized upon import; one ranched leopard skin and 5,269 wild-source specimens (12 bodies, 683 skins, and 4,573 trophies) into the U.S. during this period. For law enforcement purposes, 3 wild-source skins were imported into the U.S. between 2005 and 2014. For personal purposes, 67 leopards were imported (one trophy was seized upon import, while 15 pre-convention skins, one pre-convention trophy, two skins of unknown origin, two wild-source bodies, 11 wild-source skins, and 35 wild-sourced trophies) into the U.S. during the period examined. For circus and travelling exhibition purposes, 7 live captive-bred leopards, 3 pre-convention skins, and one wild-sourced leopard skin were imported between 2005 and 2014. For scientific purposes, 7 skins of unknown origin were imported, while for commercial purposes, a total of 19 leopards were imported (5 skins were seized upon import, while 6 pre-convention skins, one skin and one trophy of unknown origin, 3 wild-source skins and 3 wild-source trophies were imported between 2005 and 2014. For zoological purposes, two live F1 leopards were imported during the period examined.

Therefore, as demonstrated in this section, the African leopard is Endangered by overutilization for recreational and commercial purposes, and the U.S. plays a major role in this unsustainable international trade.

C. Disease or Predation

Wild leopards have been found to have at least nine infectious agents including viruses (rabies, feline leukemia, feline immunodeficiency), bacteria (*Anthrax*), and protozoa (*Toxoplasma*, *Sarcocystis*, *Hepatozoon*, *Giardia*, *Isospora*) (Murray et al. 1999). While there is evidence of a negative conservation impact of disease on wild populations of other large carnivores (i.e. *Canis lupis*, *Lycaon pictus*, *Canis latrans*, *Panthera leo*), there is no such evidence with respect to leopards (Murray et al. 1999).

The leopard is an apex predator in Africa and is not typically predated by animals other than humans. Lions do kill and eat leopards (Palomares and Caro 1999) but leopards are not among the typical prey of lions and such killing is not known to have a conservation impact on leopard populations.

The most significant non-human predator of leopards is leopards themselves. In a study of leopards in a reserve in South Africa, Balme and Hunter (2013) found high rates of infanticide by adult males which

accounted for almost half of cub mortality and caused the death of nearly a third of all leopard offspring; most of these adult males were immigrants; cubs are vulnerable to infanticide until at least 15 months of age; sometimes females defending their cubs were killed; males frequently consumed the cubs they killed; females also sometimes ate their dead cubs; females never killed cubs. Balme and Hunter (2013) consider infanticide in leopards to be primarily motivated by sexual selection: as females whose cubs were killed came into heat sooner, infanticide allows males to improve their fitness by accelerating their opportunity to father offspring. Despite such high levels of infanticide in the population studied by Balme and Hunter (2013), the population remained stable over the period studied; the authors warn against activities that would artificially elevate male turnover – such as trophy hunting – as this may increase infanticide levels.

D. Inadequacy of Existing Regulatory Mechanisms

1. U.S. Endangered Species Act and CITES

Statutory Background of the ESA

The U.S. has long recognized the need to protect wildlife, and, toward this end, has enacted multiple laws to prohibit human actions that contribute to species extinction. With the promulgation of the Lacey Act in 1900 (16 U.S.C. §§ 3371 *et seq*.), it became a federal offense to engage in commerce of protected species. In 1940, the U.S. signed the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere "to protect and preserve [species] in their natural habitat…in sufficient numbers and over areas extensive enough to assure them from becoming extinct through any agency within man's control." 56 Stat. 1534, T.S. No. 981, U.N.T.S. No. 193. These laws recognized that extinction knows no political boundaries, and that both national action and international cooperation are essential to effectively protect endangered species.

In 1966, Congress enacted the Endangered Species Preservation Act (Public Law No. 89-669), which created "a program in the United States of conserving, protecting, restoring, and propagating selected species of native fish and wildlife that are threatened with extinction." Because this statute extended protection only to native species, Congress found that it did not adequately protect foreign species that suffered from overexploitation, often because of the demands of the American marketplace. Therefore, in 1969, Congress enacted the Endangered Species Conservation Act (Public Law No. 91-135), which authorized the Secretary of the Interior to promulgate a list of species, native or non-native, that were "threatened with worldwide extinction." This Act also called for an "international ministerial meeting" to create a "binding international convention on the conservation of endangered species," ultimately leading to the passage of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (27 U.S.T. 1087, "CITES"). Thus, five decades ago the U.S. led the way to ensure that all countries act to save species from both local and global threats.

Recognizing that prior laws did not sufficiently protect endangered species, in 1973 Congress passed the Endangered Species Act. The purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions" to which the United States is committed. 16 U.S.C. § 1531(b). "It is further declared to be the policy of Congress that all Federal

departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." *Id.* § 1531(c). Thus, as the Supreme Court has declared, the goal of the ESA is to "reverse the trend toward extinction, whatever the cost." *TVA v. Hill*, 437 U.S. 153, 184 (1978).

The ESA defines the term "conserve" to mean "to use all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the ESA] are no longer necessary." *Id.* § 1532(3). Such measures may even include a "regulated taking" of the species, but only in the "extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved." *Id.*

Pursuant to Section 4 of the Act, the Service must "list" species as either "Endangered" or "Threatened," depending on the extent of the threats to their existence. *Id.* § 1533. The term "species" includes "any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature." *Id.* § 1532(16). The Service adopted a policy 20 years ago that defines the term "distinct population segment," under which the agency must conclude that a particular population of a species is both "distinct" and "significant" before it can be determined to be a separate listable entity. 61 Fed. Reg. 4722 (Feb. 7, 1996).

An "Endangered" species is one that the Service has determined is already "in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). A "Threatened" species is one that "is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." *Id.* § 1532(20). The Act requires the Service to list a species as either "Endangered" or "Threatened" based on the following five factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) "other natural or manmade factors affecting its continued existence." *Id.* § 1533(a)(1)(A-E). The Service is required to list a species if any one of these criteria is present. *Southwest Center for Biological Diversity v. Babbitt*, 215 F.3d 58, 60 (D.C. Cir. 2000).

The Service is required to base listing decisions "solely" on the "best available scientific and commercial data available." 16 U.S.C. § 1533(b)(1)(A). In imposing this requirement, Congress expressly intended to "ensure that decisions . . . pertaining to listing . . . are based solely upon biological criteria and to prevent nonbiological considerations from affecting such decisions." H.R. Conf. Rep. No. 835, 97th Cong. 2d Sess. 19-20 (1982). Thus, Congress made it clear that "economic considerations have no relevance to determinations regarding the status of species." *Id.*; *see also* S. Rep. No. 418, 97th Cong., 2d Sess. 12 (1982) ("This amendment would preclude the Secretary from considering economic or other non-biological factors in determining whether a species should be listed…Only in this way will the endangered and threatened species lists accurately reflect those species that are or are likely to be in danger of extinction"). Therefore, as the Supreme Court observed in *TVA v. Hill* "the language, history, and structure of the [ESA]…indicates beyond doubt that Congress intended endangered species to be afforded the highest priorities." 437 U.S. at 174. Moreover, in keeping with the overall purposes of the statute, even where the best available scientific evidence leaves some doubt as to the status of a species, the Service is required to "give the benefit of the doubt" to the species. *Conner v. Burford*, 848 F.2d 1441,

1454 (9th Cir. 1988); *see also San Luis & Delta-Mendoza Water Auth.*, 2000 U.S. Dist. LEXIS 1779 at *9 (E.D. Cal. 2000)).

Once a species is listed, it is entitled to various protections under the agency's implementing regulations, depending on whether it is listed as Endangered or Threatened. Per Section 9 of the statute, it is unlawful to "import any [Endangered] species into, or export any such species from the United States;" to "deliver, receive, carry, transport, or ship in interstate or foreign commerce . . . in the course of a commercial activity, any such species;" and to "sell or offer for sale in interstate or foreign commerce any such species." 16 U.S.C. § 1538(a)(1). It is also unlawful to "take" a member of an Endangered species within the United States or on the high seas, *id.* § 1538(a)(1)(B)-(C) – a term that includes "harass, harm, pursue, hunt, shoot, wound, kill, capture, or collect." *Id.* § 1532(19).

Section 10 of the ESA provides the FWS authority to issue permits for otherwise unlawful activities "for scientific purposes or to enhance the propagation or survival of the affected species…" 16 U.S.C. § 1539(a)(1)(A). The statute further provides that the FWS "shall publish notice in the Federal Register of each application for an exemption or permit," that each such notice "shall invite the submission from interested parties…of written data, views, or arguments with respect to the application," and that "[i]nformation received by the [FWS] as a part of any application shall be available to the public as a matter of public record at every stage of the proceeding." *Id.* § 1539(c). FWS may only grant a permit if it finds "and publishes in the Federal Register" that the permit (1) "was applied for in good faith," (2) if granted and exercised "will not operate to the disadvantage of such endangered species," and (3) will be "consistent with the purposes and policy" of the ESA – *i.e.*, to "conserve" Endangered and Threatened species. *Id.* § 1539(d). These procedures are mandatory. *See Gerber v. Norton*, 293 F.3d 173, 179-82 (D.C. Cir. 2002).

Whenever a species is listed as Threatened, FWS "shall issue such regulations as [it] deems necessary and advisable to provide for the conservation of such species." 16 U.S.C. § 1533(d). FWS has issued a regulation providing that all of the prohibitions that apply to Endangered species also apply to Threatened species, unless the agency (a) otherwise permits those activities pursuant to its general regulations governing permits for Threatened species, 50 C.F.R. § 17.32, or (b) has issued a special rule that governs a particular Threatened species. 50 C.F.R. § 17.31. However, pursuant to the plain language of the ESA, any such special rule must also "provide for the conservation" of the species – *i.e.*, positively benefit its recovery in the wild. 16 U.S.C. § 1533(d); *Sierra Club v. Clark*, 577 F. Supp. 783 (D. Minn. 1984), *aff'd*, 755 F.2d 608 (8th Cir. 1985); *Fund for Animals v. Turner*, 1991 WL 206232 (D.D.C. 1991)).

The ESA also requires FWS to "encourage…foreign countries to provide for the conservation" of listed species and implements the United States' international obligations with regard to worldwide Endangered and Threatened species. 16 U.S.C. § 1537. For example, CITES was drafted by representatives of countries participating in the International Union for the Conservation of Nature – including the United States – to ensure that international trade in specimens of wild animals and plants does not threaten their survival. CITES was first implemented on July 1, 1975, and today there are over 180 countries that are party to the agreement.

CITES classifies species in Appendices with varying levels of protection – those included on Appendix I are "species threatened with extinction." International commercial trade in these species is prohibited unless the Scientific Authority for the state of export has advised that the export will "not be detrimental

to the survival of the species," and the Management Authority for that country is satisfied that (a) the wildlife "was not obtained in contravention of the laws of the State for the protection of fauna and flora;" (b) "any living specimen will be so prepared and shipped as to minimize the risk of injury, damage to health or cruel treatment;" and (c) an "import permit has been granted" for the wildlife. *See* CITES Article III. An import permit may only be granted when the Scientific Authority for the state of import has advised that the import of the wildlife "will be for purposes which are not detrimental to the survival of the species," and that the "recipient of a living specimen is suitably equipped to house and care" for the wildlife, and the Management Authority for the state of import is satisfied that the specimen is "not to be used for primarily commercial purposes." *Id.*

FWS' 1982 Listing of African Leopards under the ESA Did Not Comport with the Best Available Science

In 1968 and 1969 alone, over 17,000 leopard hides were imported into the United States to supply a burgeoning and unsustainable leopard fur trade. 45 Fed. Reg. 19007 (March 24, 1980). In 1970, FWS listed three subspecies of leopard under the Endangered Species Conservation Act, requiring a permit for import of specimens of: the Sinai leopard (*Panthera pardus jarvisi*) (found in Sinai and Saudi Arabia), the Barbary leopard (*P. p. panthera*) (found in Morocco, Algeria, and Tunisia), and the Anatolian leopard (*P. p. tulliana*) (found in Lebanon, Israel, Jordan, Turkey, and Syria). 35 Fed. Reg. 8491 (June 2, 1970).

In 1972, FWS amended that Endangered listing to include all *Panthera pardus* (whether found in Africa, Asia Minor, India, Southeast Asia or Korea). 37 Fed. Reg. 2589 (Feb. 3, 1972); 37 Fed. Reg. 6476 (March 30, 1972). As explained in a subsequent Federal Register notice, FWS listed the species in1972 because it "was being drastically overutilized in the commercial fur trade" and "nearly every country contacted, in which the leopard was resident, expressed fears for the leopard's future if the fur trade was not brought under control," leading FWS to determine that the species could not "tolerate this enormous drain from its wild populations." 45 Fed. Reg. at 19008.

The species continued to be recognized as Endangered across its Asian and African range until 1982, when FWS reclassified the leopard in certain African range states to Threatened. 47 Fed. Reg. 4201 (January 28, 1982). In its proposed rule, FWS proposed to downlist African populations of the leopard occurring to the south of a line running along the borders of Senegal/Mauritania; Mali/Mauritania; Mali/Algeria; Niger/Algeria; Niger/Libya; Chad/Libya; Sudan/Libya; and Sudan/Egypt (see map below). (45 Fed. Reg. 19007 (March 24, 1980))

Figure 4. Map of Africa with red line denoting the proposed scope of the Threatened listing

In proposing to decrease protection for leopards in nearly all of their African range, FWS stated that it "has broad discretion in developing a management strategy that will effectively conserve Threatened species." 45 Fed. Reg. 19009. FWS stated that "data from each specific political entity within Sub-Saharan Africa are lacking" yet "enough are available from representative entities within the region to warrant action representing the region as a whole." *Id.* FWS further stated that reclassification on a country-by-country basis would be "biologically unsound." *Id.*

In its 1980 proposed rule, FWS relied on only three sources of information in determining that African leopards in most countries should be listed as Threatened rather than Endangered: "The Status and Conservation of the Leopard in Sub-Saharan Africa" by Randall L. Eaton (Safari Club International, January 1977); "The Leopard *Panthera pardus* in Africa" by Norman Myers (IUCN Monograph No. 5 1976); and "Status of the Leopard in Africa South of the Sahara" by James G. Teer and Wendell G. Swank (unpublished study financed by FWS in 1978). 45 Fed. Reg. at 19008.

Regarding the available data from these sources, FWS stated that it considered the leopard to be Threatened in most of its African range because, "A careful analysis of area/habitat type, maximum estimated density and minimum estimated density of leopard in this region by Eaton (loc. cit.) shows that an absolute minimum of 233,050 leopards may occur over the entire area; a conservative estimate of numbers would be 546,076 leopards, while a realistic estimate would place the number at 1,155,500 animals." *Id.* The following table from Eaton appears in the 1980 proposed rule:

Country	Absolute minimum	Conservative estimate	Realistic estimate
Kenya	6,379	25,640	35,000
Uganda	1,547	3,413	20,000
Tanzania	14,740	36,100	70,000
Senegal	1,435	2,870	6,000
Mali	3,088	6,175	15,000
Upper Volta	1,633	3,265	10,000
Niger	1,527	3,055	5,000
Chad	4,325	8,650	15,000
C.A.R.	5,450	10,900	20,000
Gambia	528	1,055	2,500
Guinea	2,250	4,500	10,000
Sierra Leone	700	1,400	3,000
Libera	2,500	5,000	20,000
Ivory Coast	5,625	11,250	30,000
Ghana	2,975	5,950	20,000
Nigeria	4,653	9,305	20,000
Cameroon	4,583	10,705	30,000
Angola	17,369	42,340	87,000
Zambia	18,500	46,250	70,000
Mozambique	16,190	32,378	67,000
Malawi	1,918	3,835	10,000
Botswana	3,165	6,846	20,000
Rhodesia	2,288	6,676	20,000
South West A.	3,477	6,544	20,000
South Africa	3,800	7,150	15,000
Sudan	6,900	22,900	80,000
Ethiopia	6,907	12,814	30,000
Congo	13,200	27,500	65,000
Gabon	13,400	26,800	50,000
Zaire	70,000	155,000	300,000

Table from USFWS 1980 proposed rule. 45 Fed. Reg. at 19009, from Eaton (1977).

Eaton's analysis – which was commissioned by Safari Club International, a group with a vested interest in inflating leopard numbers to decrease regulation of leopards to facilitate hunting trophy imports – was never published. The methodology Eaton – who is not a felid biologist – used to derive these population estimates is dubious at best, as he appears to have based his population numbers solely on the area of leopard habitat in each country and the rationale behind the leopard density applied to the available habitat is not disclosed. *Id.* at 19009. However, it is well established that availability of leopard habitat does not mean that leopards necessarily reside there, and that leopard density is dependent on available prey, not available habitat (Stein et al. 2016).

The 1980 proposed rule also states that Eaton conducted a study of leopards in 11 Sub-Saharan African countries and combined those results with Myers to determine the status of leopards in countries throughout Africa. 45 Fed. Reg. at 19009. In forming its conclusions about the status of leopards in

Africa, FWS relied on Eaton's views of Myers's study, which (as detailed below) do not accurately reflect the conclusions of Myers's study.

The purpose of Myers's 1976 study was to determine the leopard's distribution in sub-Saharan Africa, and to ascertain if numbers were being depleted by the fur trade or habitat modification. The author noted that the leopard existed in 40 countries and that his study would attempt to make assessments in at least one country in each of five biomes (Sahel, Sudano-Guinean woodland, rainforest, miombo woodland, and East African savannah grasslands). Myers visited 22 countries and corresponded with 10 others. Myers did not make detailed population estimates but rather focused on whether a population exists, and whether the population was expanding, declining, or stable. To draw his conclusions, Myers consulted with over 700 people, including "Wildlife and park officials at national and local level, private wildlife organisations, field scientists, anti-poaching teams, professional hunters, trappers, poachers, wildlife cropping units, fur-trade dealers, indeed anyone with specialist knowledge of wildlife." Myers (1976), at 12. Over 850 additional people were also interviewed, including "ranchers, veterinarians, livestock officials, forestry personnel, road gangs, customs officials, police and army personnel, anti-malarial teams, Peace Corps and other volunteers, and local chiefs and headmen," as well as "representatives of the fur trade in Europe and North America". *Id.* at 13. Myers recognized that these interviewees brought bias in terms of subjectivity to the study. *Id.* at 13.

Myers noted that the international fur trade had depressed leopard populations in several parts of Africa and cited habitat destruction and loss as a key threat to the survival of leopards. *Id.* at 21. Myers considered the use of poison to be a major threat, which leopards are more susceptible to because of their scavenging behavior, as well as killing due to livestock predation. Yet, he concluded that the leopard "shows more capacity to recover from over-exploitation that the other main spotted-fur species of Africa, the cheetah." *Id.* at 9. Myers claimed that there was no "bio-ecological grounds for permanently banning exploitation of the leopard by the fur trade," and recommended a limited offtake with a "rigorous system of controls." *Id.* at 9. Myers noted that "rainforest biotopes are reputed to present optimal habitats for leopard" and suggested that a leopard density of 1/km^2 is appropriate in some cases.[18] *Id.* at 13. Myers states that this leopard density is based on habitat type, prey distributions and predator competition, but more recent scientific evidence rebuts this figure (Jackson et al. 1989, Bailey 1993, Henschel 2008, Henschel 2009).

[18] Illogically, Myers (p. 14) used a figure by Schaller (1972) of "total predator biomass" in three areas in Kenya, none of which were rainforest habitat, which ranged as high as 95.7 kg/km^2 in Ngorongoro, to support the contention that rainforests might hold one 30 kg leopard / km^2. Myers cites to Schaller (1972) who estimated leopard density in Serengeti National Park as 1 / 22-26.5 km^2 (equivalent of a very low leopard density of about 0.05 leopards/km^2). After considering other density estimates, Myers states, "the leopard seems able to maintain a density of 1 to 10 km^2 in moderately suitable habitats, and 1 to 5 km^2 in favourable ones, with perhaps even 1 to 1 km^2 in exceptionally suitable conditions." *Id.* at 18.

The 1980 proposed rule apparently relied on Eaton's inaccurate characterizations of Myers' study – for example:

FWS Quoting Eaton's Interpretation of Myers	Myers's Actual Text
"The leopard in Kenya has a satisfactory status"	"leopard have declined in numbers and distribution in Kenya during the last decade."
"the leopard is satisfactory and probably abundant in Mozambique"	Myers did not comment that the leopard was probably abundant in Mozambique. Myers noted that the leopard was depleted in some areas.
"There may well be over 20,000 (leopards) in Rhodesia. The leopard has a satisfactory status in Rhodesia"	"its numbers have been significantly reduced in the face of recent agricultural expansion."
"Overall in South Africa the present status should be rated between rare and satisfactory with present trends being stable."	"Its stock-raisers have long tried to eliminate wild carnivores"; "the leopard in South Africa is officially classified as vermin"; "Numbers.... are disturbingly low, although the position is fairly stable"; "There are no grounds however for complacency, as the situation could easily become critical if any of the existing adverse factors were enhanced"; "Its numbers have long been thought to be very low."
"Myers says that leopards may have stabilized or increased recently in the Sudano-Guinean zone, including parts or portions of Sierra Leone, Guinea, Liberia, and northern Ivory Coast. In all of Sub-Saharan Africa, the West African region probably has the least satisfactory leopard populations; however, in much of the region it appears that the species' status is relatively satisfactory and probably does not deserve Endangered status except locally. Moreover, the regional trend may even be improving due to the encroachment of bush from overgrazing and burning, end or the drought in the Sahel portion, increased edge effect in forests from patchy agriculture and so on, all of which favor leopards."	Senegal: "Leopards are said to persist in much of Senegal, in fair though reduced numbers." Mali: "The overall trend, as elsewhere in West Africa, points toward a gradual elimination of leopard in all but a very few rugged hill tracts." Upper Volta: "The leopard is still widely found in Upper Volta. The leopard looks likely to decline steadily in distribution and status." Niger: "Until recently, however, leopard stocks in Niger were moderately sound." Chad: "Nothing better can be expected than very low densities." CAR: "The leopard's status is fairly satisfactory." Gambia: No leopard status information given. Guinea: "No recent information could be obtained about the status of leopard in Guinea." Sierra Leone: No leopard status information given. Liberia: "The leopard is believed to be evenly distributed throughout the country, except in farming and mining areas." Ivory coast: "Nothing was learned during the survey of the status of the leopard in Ivory Coast." Ghana: "Asibey (1971) considers the leopard very rare in many areas; by the 1980s it may hardly

FWS Quoting Eaton's Interpretation of Myers	Myers's Actual Text
	survive at all except in the most remote localities." Togo and Dahomey: "No specific information was obtained during the Survey. Nigeria: No leopard status information given. Cameroon: "leopards are reported in fair numbers in the south-east and in scattered relict populations elsewhere."

Based on this alleged abundance, FWS concluded that "the leopard in Sub-Saharan Africa can hardly be in danger of extinction." 45 Fed. Reg. at 19009.

FWS did recognize that the loss of habitat to agricultural land conversion "could present a long-term threat to the leopard" and that poaching for the fur trade (especially in European countries that had not yet become party to CITES) continued to threaten the species, and expressed concern about the increasing use of poison and its impacts on scavengers like leopards. *Id.* at 19010. Thus, FWS proposed to list leopards in sub-Saharan Africa as Threatened, leaving in place ESA and CITES Appendix I permitting requirements for the import of leopard fur and other parts. However, at the apparent urging of the trophy hunting industry, FWS proposed to adopt a special rule eliminating the requirement for ESA permits for the import of leopard trophies from sub-Saharan Africa, asserting that "there may be cases in which permitting the importation of leopard trophies taken under a strictly controlled management program will benefit the species by giving it an economic value which would in turn stimulate conservation measures." *Id.* FWS based this pro-trophy hunting position on an unpublished report from Teer and Swank (1977) containing interviews with wildlife officials in Kenya and Botswana who supported trophy hunting (but notably, Kenya prohibited trophy hunting in 1977 – prior to FWS' reliance on the Teer and Swank report – and Botswana prohibited trophy hunting in 2014 (Stein et al. 2016)).

Although the proposed special rule would not have required an ESA permit for the import of leopard trophies from sub-Saharan Africa, FWS stated that, "sport trophy imports into the United States will only be permitted when it is found to enhance the survival of the species." 45 Fed. Reg. at 19010 (emphasis added).

In 1982, FWS finalized the Threatened listing, but with a different geographic scope. 47 Fed. Reg. 4204 (Jan. 28, 1982). The final rule listed as Threatened "leopard populations occurring to the south of a line running along the borders of" Gabon/Rio Muni, Gabon/Cameroon, Congo/Cameroon, Congo/Central African Republic, Zaire/Central African Republic, Zaire/Sudan, Uganda/Sudan, Kenya/Sudan, Kenya/Ethiopia, and Kenya/Somalia. Despite having acknowledged in 1980 that reclassification on a country-by-country basis would be "biologically unsound," the Service narrowed this listing from the proposed sub-Saharan region to this "southern Africa"[19] region after learning that Senegal, Liberia, and Ghana considered their leopard populations to be endangered and since that there was "less substantial

[19] Notably, the 1982 final rule refers to the range of the listed entity as "southern Africa" – however, today, the phrase "southern Africa" commonly refers only to the southernmost region in sub-Saharan Africa, distinct from West, Central, and East Africa. This Petition will use the phrase "southern Africa" to refer to full range of the listed entity (**Figure 5**), even though that entity is neither scientifically nor geographically justifiable.

evidence" of leopard abundance from West Africa and the northern tier of countries in sub-Saharan Africa. *Id.* at 4207.

Figure 5. Map of Africa with red line denoting the current scope of the final Threatened listing

At the time, FWS had not yet adopted its policy regarding evaluation of distinct population segments ("DPS") and did not explain whether or why it thought that leopards in southern Africa were both "distinct" and "significant" such that the region forms a listable entity (since the area does not coincide with the full range of the subspecies or species). *See* 61 Fed. Reg. 4722 (Feb. 7, 1996); 16 U.S.C. § 1532(16). And today, twenty years since adopting the DPS policy, FWS still has not conducted an analysis of whether leopards in southern Africa can lawfully be listed as a DPS.

In addition to the three sources relied on in the 1980 proposed rule (discussed above), the 1982 final rule relied on "The Leopard *Panthera pardus* and Cheetah *Acinonyx jubatus* in Kenya" by P.H. Hamilton (unpublished study financed by FWS). 46 Fed. Reg. 44960 (Sept. 8, 1981). Relying on information from Safari Club International (gathered from interviews with hunters, game wardens, field biologists, and local people, but not hard data), FWS said there were an "absolute minimum" of 186,034 in southern Africa. 47 Fed. Reg. at 4205. The FWS stated that it "is reasonable to believe that the absolute minimum figures have validity and that there are probably well over 180,000 leopards in the area under consideration" and points to the fact that the minimum figure of Eaton for Kenya corresponds with P.H. Hamilton's minimum figure for that country. *Id.*

The 1981 Hamilton report, also based on questionnaires and personal observations, asserted that despite a decline in Kenya's leopard population since the 1960s, Hamilton believed that "a recovery of the leopard is underway in Kenya" and that "the lessons of Kenya are widely applicable." 47 Fed. Reg. at 4206. Notably missing is any acknowledgment that this asserted recovery took place in the years following Kenya's 1977 decision to prohibit trophy hunting of leopards. Further, as acknowledged – but not heeded

– in the final rule, even "Hamilton reports that leopards have declined generally in Kenya since the 1960s" and Hamilton said that the virtual elimination of leopards from North Africa "should serve as a warning to any who believe that this species can always survive no matter what the impact of man." 47 Fed. Reg. at 4206.

FWS stated that Hamilton "supports reclassification and controlled sport hunting of the species." *Id.* According to FWS, Hamilton supported lifting the ban on the importation of leopard trophies because "it has not served any useful purpose. The number involved has been relatively small and the ban runs counter to the concept of giving the leopard monetary value that will help to justify its continued existence in Africa." *Id*. This is not entirely surprising considering that Hamilton obtained his information by talking to 21 professional hunters. *Id.* at 4206. Unjustifiably, FWS characterized these biased sources (the professional hunters) as "the most valuable single source of information." *Id.* at 4206.

In the 1982 final rule, FWS continued to rely on the "expert opinion" of Eaton on the status of leopards in the relevant countries, even though FWS acknowledged that Hamilton "considers Eaton's estimates and judgements as invalid". *Id.* Further, FWS did not acknowledge that Eaton's conclusions conflict with Myers's conclusions in some cases, as noted above.

Further demonstrating that this 1982 downlisting was not based on the best available science – as required by law – FWS conceded the "primary reason" that it changed the geographic scope of the downlisting was due to opposition from range States in the northern portion of the sub-Saharan region (i.e., Liberia, Senegal, and Sudan opposed the proposal, and Benin, Ethiopia, and Ghana reported that the leopard was endangered in those countries). *Id.* at 4207.

Aside from this change in geographic scope and the addition of one report regarding population status in one country, the final rule does not include any new information regarding the threats to the species that was not included in the proposed rule. FWS acknowledged that "more than 90 percent" of the over 1,000 comments received on the proposed rule opposed the Threatened listing and special rule (*id.* at 4208), yet it finalized the Threatened listing and adopted the proposed special rule to allow the import of leopard trophies without requiring an ESA permit.

In relaxing its oversight of leopard trophy hunting, FWS baldly concluded that "Experts agree that the economic value that would develop for the species through sporthunting will encourage some of the countries [which may consider leopards as vermin] to develop management and conservation programs and will discourage indiscriminate killings by local landowners." *Id.* at 4209. Further, FWS stated that "hunting is already going on in Africa, and any increase caused by the participation of U.S. residents should not have significant adverse impacts." *Id.* Both of these statements are entirely unsupported and baseless, further proving that the current leopard listing is based on a woefully outdated foundation that was not even valid at the time the listing was finalized.

Thus, the 1982 listing for *Panthera pardus* cannot be said to be in compliance with the ESA's mandate that listing decisions be made solely on the basis of the best available science. In finalizing the listing, FWS relied on biased sources, misrepresented material scientific conclusions, and patently conceded that the scope of the listing was based on political – and not biological – considerations. The egregious flaws

in this listing are exacerbated by the decades that have passed without further review of the listing, the basis of which has been firmly rejected by a consensus of current leopard experts. Therefore, the current ESA protections for leopards in southern Africa are inadequate, endangering the entire species across a significant portion of its range.

Leopard Listing Under CITES

Panthera pardus has been listed on CITES Appendix I since the first meeting of the Conference of the Parties,[20] a listing that became effective on 4 February 1977. Trade in specimens of species listed on Appendix I "must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances." CITES Art. II.[21] Specimens of Appendix I species cannot be exported or imported unless authorized by permit by both exporting and importing countries. CITES Art. III.[22] An import permit can be granted only if the specimen is not to be used in the importing country for primarily commercial purposes. CITES, Art. III.

While Appendix I affords the highest level of protection under CITES, *Panthera pardus* does not enjoy the full extent of these protections, due to the unsustainable and not scientifically-based export quotas for hunting trophies and skins for personal purposes that are currently in place. Leopard export quotas have been set by CITES Resolutions since 1983 (CITES Resolution Conf. 4.13,[23] replaced today by Resolution Conf. 10.14 (Rev. CoP16)[24],[25] and FWS has long expressed support for this quota system. *See, e.g.*, Fed. Reg. Vol 59, Doc. No: 94-20050 (August 16, 1994).

As detailed in this section, the Service's implementation of the CITES and ESA listings for *Panthera pardus* is not based on science and fails to provide sufficient oversight of the trophy hunting industry to ensure that Americans are not contributing to unsustainable offtake of leopard populations, and therefore are not adequate regulatory mechanism to protect the species.

FWS Regulations for Leopard Trophy Imports to the U.S. Are Inadequate

In the 1982 rule finalizing the Threatened listing for southern African leopards under the ESA, FWS averred that even though no ESA import permit would be required for trophies, a CITES import permit for leopard trophies will only be issued if "it is determined that the country of origin for the trophy has a management program for the leopard, and can show that its populations can sustain a sport hunting harvest, *and that sport hunting enhances the survival of the species*." 47 Fed. Reg. at 4205 (emphasis added).

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[20] CITES, Appendices I-II, *available at* https://cites.org/sites/default/files/eng/cop/01/E01-Appendices.pdf.
[21] CITES, art. II, *available at* https://cites.org/eng/disc/text.php#II.
[22] CITES, art. III, *available at* https://cites.org/eng/disc/text.php#III.
[23] *See* Annex 1, CITES, CoP5 Doc. 5.23 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[24] CITES, CoP16 Conf. 10.4 (2002), *available at* https://cites.org/eng/res/10/10-14R16.php.
[25] *See also* CITES, CoP10 Doc. 10.42 (1997), *available at* https://cites.org/sites/default/files/eng/cop/10/doc/E10-41to43.pdf.

Further, the final rule provided that FWS will evaluate CITES import permit applications consistent with CITES Conference Report 2.11 [referring to then-valid Resolution Conf. 2.11], which – at that time – "indicate[d] that import permit decisions for sport-hunting trophies should be made on the basis of the following considerations: (1) Whether the importation will serve a purpose not-detrimental to the survival of the species; and (2) whether the killing of animals whose trophies are intended for import will ***enhance the survival of the species***." *Id.* (emphasis added).

Moreover, FWS asserted that "very few leopard trophies will be imported into the United States" and that the "number is expected to be considerably less than the high of two hundred leopard trophy imports recorded in 1969." 47 Fed. Reg. at 4211. The final rule stated that FWS had "reviewed the adequacy of the leopard conservation program in a specific case for Botswana and has determined in that case that the country currently meets the criteria." *Id.* at 4205.

However, since finalizing this regulation, FWS has not upheld these commitments, instead allowing well over 300 leopard trophy imports per year since 1999 and not conducting a rigorous analysis of whether the source country manages leopard populations in a way that enhances the survival of the species. Indeed, by its own admission, the Service's practice does not include making enhancement findings for the import of African leopard trophies.

While FWS regulations provide that hunting trophies[26] can only be imported as personal items and cannot be sold after import, and that each hunter is limited to importing two leopards per calendar year, these limits are inadequate to protect leopards from unsustainable take by U.S. hunters seeking to import their body parts as trophies. *See* 65 Fed. Reg. 26664, 26679 (May 8, 2000); 72 Fed. Reg. 48402 (Aug. 23, 2007); 50 C.F.R. §§ 23.55, 23.74. Indeed, on their face these regulations would allow for unlimited numbers of U.S. citizens to kill two leopards per year, a concept that is anathema to providing for the conservation of the species, as required by law. 16 U.S.C. § 1531(c)(1) ("It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of" the conservation purpose of the ESA).

Thus, in addition to the lack of scientific support for the original listing, the implementation of this listing is woefully inadequate to promote leopard conservation, endangering the survival of leopards in southern Africa.

- FWS Is Not Applying the Enhancement Standard to Trophy Imports

Although FWS committed in 1982 to only issue CITES import permits for leopard trophies after making an enhancement finding, 47 Fed. Reg. at 4205, the 1994 CITES Conference Report 2.11 [now known as Resolution Conf. 2.11] that FWS said it would use to evaluate the issuance of import permits was amended (based on a proposal from Namibia) to eliminate scientific scrutiny of trade in leopard parts, as indicated by the redline below:

[26] FWS defines "sport-hunted trophy" as "a whole dead animal or a readily recognizable part or derivative of an animal" that, inter alia, "[w]as legally obtained by the hunter through hunting for his or her personal use." 50 C.F.R. § 23.74(b).

"CONSIDERING the need of uniform interpretation of the Convention with regard to hunting trophies;

THE CONFERENCE OF THE PARTIES TO THE CONVENTION RECOMMENDS

a) that with the exception of the rare case of exemptions granted under paragraph 3 of Article VII of the Convention, trade in hunting trophies of animals of the species listed in Appendix I be permitted only in accordance with Article III, i.e. accompanied by import and export permits;

~~b) that the scientific opinions under paragraphs 2 (a) and 3 (a) of Article III of the Convention cover the trade in dead specimens, too;~~

~~c) that in order to achieve the envisaged double control (also in the scientific field) by the importing and the exporting country of the trade in Appendix-I specimens, the Scientific Authority have the possibility of comprehensive examination concerning the question of whether the importation is serving a purpose which is not detrimental to the survival of the species. This examination should, if possible, also cover the question of whether the killing of the animals whose trophies are intended for import would **enhance the survival of the species**;~~

b) in order to achieve the envisaged complementary control of trade in Appendix-I species by the importing and exporting countries in the most effective and comprehensive manner, the Scientific Authority of the importing country accept the finding of the Scientific Authority of the exporting country that the exportation of the hunting trophy is not detrimental to the survival of the species, unless there are scientific or management data to indicate otherwise;

…

CITES Resolution Conf. 2.11, on *Trade in Hunting Trophies of Species Listed in Appendix I* (emphasis added).[27]

The impact of these amendments was to eliminate the independent examination of detriment by the importing country, directing that "the importing country accept the finding of the Scientific Authority of the exporting country that the exportation of the hunting trophy is not detrimental to the survival of the species, unless there are scientific or management data to indicate otherwise." *Id.* The amendment also eliminated the CITES requirement to make an enhancement finding. Therefore, the CITES protections that FWS relied on in relaxing ESA protections for southern African leopards have since been amended, necessitating a status review of the species and increased federal protections.

Further, even though CITES Resolution Conf. 2.11 no longer required an enhancement finding after 1994, the Service was nevertheless bound to its commitment from 1982 that it would apply the enhancement standard to leopard trophy imports, a duty that FWS has failed to meet.

[27] *Compare* CITES, CoP9 Doc. 9.50 (1994), *available at* https://cites.org/sites/default/files/eng/cop/09/doc/E9-Doc-50.pdf, *with* CITES, Com. 9.13 (Rev.), *available at* https://cites.org/sites/default/files/eng/cop/09/E9-in-session.pdf.

- FWS Non-Detriment Advice Is Outdated and Not Scientifically Defensible

The final rule listing certain sub-Saharan national leopard populations as Threatened was published on January 28, 1982 and became effective on March 1, 1982. In the final rule, FWS acknowledged that it had reviewed the adequacy of the leopard conservation program in Botswana and determined that the country meets the criteria for issuance of CITES import permits, but that it had not yet reviewed any other African range state's leopard program. 47 Fed. Reg. at 4205.

Shortly thereafter, on March 25, 1982 the FWS's Office of the Scientific Authority sent a memorandum to wildlife authorities in relevant countries explaining the new Threatened status and how the FWS will determine, on a country-by-country basis, whether imports of leopard trophies will be for purposes that are not detrimental to the survival of the species (FWS 1982a). This memorandum states, "information now available to us is too incomplete for us to say with assurance that leopard trophy imports from any particular country can generally be approved under CITES" and states that the only countries that FWS might allow imports from were Botswana, Namibia, South Africa, Tanzania, Zambia and Zimbabwe (*Id.* at 1). The memorandum lists the factors that the Scientific Authority will consider when advising on leopard trophy imports and states, "We will advise in favor of trophy imports from a particular country only when the best available information shows that sport-hunting of leopards can reasonably be expected to enhance the survival of the species in that country." (*Id.* at 2). This memorandum makes clear that the FWS intended, at the time, to make findings of both non-detriment and enhancement, both of which were required by CITES at the time through the convention language and Resolution Conf. 2.11.

Per this 1982 memorandum, the factors to be considered in evaluating imports were divided into four main issues:

1) legal authority for sport-hunting (Does the country allow sport-hunting of leopards under national law or under laws of any smaller units of government (e.g., provinces or States)? Do any such laws provide sufficient authority to regulate the take of leopards? Is any such authority being exercised to effectively limit take? Is any take allowed by smaller units of government reviewed and coordinated at the national level?);

2) take for other purposes (Does the country allow a commercial trade of leopards or allow the removal of leopards for livestock predator control? Is any such trade effectively regulated and monitored?);

3) basis for limiting take (Does the country limit the quantity and spatial or seasonal distribution of the take of leopards? Are any such limits based on: Reliable information on leopard population trends and mortality estimates (including sport, commercial, predator control or other natural or man-caused mortality)? The relationship of leopard populations to available habitat? The goal of managing leopards to sustain their populations?); and

4) controls on the taking and trading in leopards (Does the country maintain a licensing system for persons who take or process leopards or parts thereof? Is there a standardized, mandatory system under which all lawfully taken leopards are tagged or otherwise made reliably identifiable? Does any such marking system effectively prohibit the transport, in any way, of marked leopards or parts thereof? Does a standardized, mandatory export permit system exist? If so, is the export permit system linked directly to the standardized marking system, and is approval required from the country of import before permits are issued? Is the country of export a Party to CITES?). (*Id.* at 2, 3).

If provided, answers to these questions would allow the FWS to determine if sport-hunting of leopards could reasonably be expected to be both not-detrimental to, and to enhance, the survival of the species in that country.

Only 2.5 months later, on June 10, 1982, the FWS Office of the Scientific Authority issued a memorandum to the FWS Federal Wildlife Permit Office advising that the import of leopard hunting trophies taken from Botswana, Tanzania, Zambia, Zimbabwe, or the Transvaal region in South Africa[28] after July 1, 1975[29] will not be detrimental to the survival of the species (FWS 1982b). FWS found that each of these countries, or in the case of South Africa, a portion of the country, "(a) has laws under which the regulated sport-hunting of leopards is allowed, (b) limits the quantity, or spatial or seasonal distribution of the take of leopards, (c) bases these limits on the goal of managing leopards to sustain their populations, (d) maintains a licensing system for persons who take or process leopards (except in South Africa), and (e) implements a permitting system to regulate trade in accordance with CITES." *Id*. At the same time, FWS noted that (1) leopard hunting was not allowed in Angola, Burundi, Gabon, Kenya, Lesotho, Malawi, Rwanda, Swaziland, and Uganda, (2) FWS did not have enough information to advise on Namibia, and (3) the "available information indicates that it would not be appropriate to allow leopard trophy imports from Congo, Mozambique, or Zaire." *Id*.

It is unclear what information FWS used to draw these conclusions in its non-detriment advice. However, recent events and information call into question whether any of the approved countries had at the time, or even have today, science-based wildlife management in place that uses reliable information on leopard population trends and that takes into account mortality from all sources, including sport, commercial, predator control or other natural or man-caused mortality. For example, South Africa banned the export of leopard trophies during 2016 after the South Africa Department of Environmental Affairs advised that it could not make a non-detriment finding for such exports due to: "no rigorous estimate for the size of the South African leopard population, nor reliable estimates of leopard population trends at national or provincial scales"; "excessive offtakes"; "poorly managed trophy hunting"; "almost no reliable estimates for the extend of illegal off-take of leopards, though data from a few intensive studies in South Africa suggest that levels of illegal off-take exceed levels of legal off-take"; national and provincial trophy hunting quotas are "arbitrary, based on speculative population estimates"; and "harvests of leopards is not managed consistently throughout the country; some provinces implement effective controls, others do not. Legal off-takes are poorly documented in many provinces. There is an urgent need for a coordinated national strategy which provides standardized guidelines to all provinces for the management of leopards" (South Africa Department of Environmental Affairs 2015, p. 16). The Department concludes, "legal local and international trade in live animals and the export of hunting trophies at present poses a high risk to the survival of this species in South Africa." This has most likely been the case since at least 1982 when the FWS approved imports from South Africa.

[28] Transvaal was a province of South Africa from 1910 until the end of apartheid in 1994, when a new constitution subdivided it and it was succeeded by the provinces of Gauteng, Limpopo, Mpumalanga and the eastern part of North West province. *See* Edgar Sanderson, Great Britain in Africa: The History of Colonial Expansion, 149 (Simon Publications LLC 2001).

[29] Thus, in another example of how this listing was designed to cater to the trophy hunting industry, FWS grandfathered in trophies of leopards killed in the previous seven years when trophy imports were banned due to the Endangered status of the leopard.

Furthermore, according to South Africa, "recent research suggests that trophy hunting may be unsustainable in Limpopo, KwaZulu-Natal and possibly North West [provinces]" – yet the Limpopo and North West provinces were once part of the Transvaal region in South Africa from which FWS approved imports. It is deeply concerning that, although this information has been available publicly for nearly a year (it was published on September 10, 2015), the FWS has not rescinded its 1982 approval of imports from the Transvaal region in South Africa.

While we do not have information provided to FWS by the aforementioned countries approved for imports, in an undated letter to the FWS Office of Scientific Authority from Namibia's (then called South West Africa) Department of Agriculture and Nature Conservation (apparently sent in response to the letter from FWS to leopard range states), Namibia explains that exports of leopard trophies had been prohibited by legislation since July 15, 1977 and trophy hunting of leopards was not allowed (South West Africa undated). Based on a survey of farmers, there were an estimated 3,000 leopards in the country; in 1980, 123 leopards were killed by farmers to protect their livestock; in 1981, 201 were killed for this purpose. The letter also explained that the South West Africa Hunter's and Guides' Association recently petitioned the government to allow leopard hunting, and this is evidence that the Service's decision to downlist African leopards to facilitate trophy hunting by Americans also encouraged foreign countries like Namibia to permit leopard trophy hunting.

Namibia approved the petition and opened leopard hunting under certain conditions for two hunting seasons beginning February 1, 1983. The conditions included: landowners must apply to the Department of Nature Conservation to qualify as potential trophy hunting ranches; smaller farms (< 5,000 ha.) would be allocated one leopard hunt per year, and larger farms two hunts per year; each trophy would be tagged with a metal tag bearing a unique number and the Department's emblem; dogs, horses, and bait may be used for hunting leopard but leopards may not be caged, trapped or confined for the purpose of trophy hunting; if it is found that the number of leopards killed for trophy plus the number killed for protection of livestock exceeds the number killed yearly in the past just for the protection of livestock, then trophy hunting would be stopped immediately; and farms would be inspected for leopard occurrence before hunting permits are issued. The letter said that the Department will keep records of permits issued, successful hunts, and measurements of trophies; no permits will be issued for export of leopard trophies killed before February 1, 1983; and all revenue received from trophy hunting will be deposited with the treasury which allocates money for research.

However, notably absent from these conditions is the establishment of a science-based wildlife management program that uses reliable information on leopard population trends and that takes into account mortality from all sources, including sport, commercial, predator control or other natural or man-caused mortality. The establishment of an annual quota of one leopard for small farms and two for large farms is completely arbitrary and is not based on knowledge of the leopard population in the area. The requirement that the number of leopards hunted legally must not out-number the number of leopards killed in previous years for stock protection is not science-based management: there is no information to allow the conclusion that offtakes for stock protection were biologically sustainable.

Nonetheless, on March 10, 1983, FWS issued an internal memorandum advising that the import of leopard trophies taken in Namibia on or after February 1, 1983 will be for purposes that are not detrimental to the survival of the species, referring back to the rationale included in the 1982 memorandum (FWS 1983). This memorandum provides no rationale for the decision or any comment on the information provided by Namibia.

These 1982 and 1983 non-detriment advice memoranda are completely outdated and scientifically indefensible today and cannot be said to qualify as adequate conservation measures. Pursuant to these internal memoranda – and in direct conflict with the commitments it made in the 1982 listing rule – FWS authorized the import of up to 657 leopard trophies per year from 1980 through 2014 (**Figure 2**). *See* 71 Fed. Reg. 20168, 20208 (April 19, 2006) ("From 2001 to 2003, there were between … 420 and 450 leopard trophies imported into the United States annually."); *see* Section IV(B), *supra*.

Then in September 2015 – in direct conflict with the decision it made in 1982 – FWS issued another internal memorandum, advising that the import of leopard trophies from Mozambique during calendar year 2015 will be for purposes that are not detrimental to the survival of the species. FWS, Non-Detriment Advice (Sept. 28, 2015) ("FWS 2015"). In that memorandum, FWS concedes that "there are no reliable, widely-accepted, continent-wide estimates of leopard population sizes in Africa" (*id*. at ¶ 9) and that "the impact of trophy hunting on leopard populations is unclear, but this activity may have negative impacts at the demographic and population levels, especially when females are shot and any dependent off-spring also perish" (*id*. at ¶ 13). There is no evidence that this advice has been reviewed or renewed for calendar year 2016, but there are critical flaws in this non-detriment advice.

First, the 2015 Mozambique non-detriment advice astoundingly relies on the findings of Martin and de Meulenaer (1988), asserting that the current population size of the leopard in Africa is more than 714,000. As detailed below, this report's methodology has been completely discredited, and the best available science makes clear that there are nowhere near this many African leopards left today. While FWS acknowledged some criticism, it wrongly concluded that the Martin and de Meulenaer (1988) findings "are still largely valid today." FWS, Non-Detriment Advice (Sept. 28, 2015) ("FWS 2015").

The FWS further stated, without identifying the source of the information, that, "Leopard densities vary from 1-30 individuals per 100 km^2 according to habitat, prey availability, and degree of threat. The lowest densities correspond to arid areas (for example, 1.25 adults per 100 km^2 in arid areas in South Africa), while the highest leopard densities correspond to mesic woodland savannas that occur in protected areas in East and South Africa (for example, 30.3 individuals per 100 km^2 in riparian areas with high prey density)." However, this general information is misleading and instead the FWS should have considered readily available information specific to Mozambique – for example, a 2008-2010 study in Niassa National Reserve, Mozambique, using camera traps found that leopard density was 2.18 – 12.65 leopard/100 km^2 (Jorge 2012), much lower than the 30.3 cited by FWS. Furhter, a more recent study using camera traps in Xonghile Game Reserve, a protected area in Mozambique, found leopard density to be only 1.53 leopard/100km^2 (Strampelli 2015); the author also studied leopards in another area, Limpopo National Park, and although he was not able to estimate leopard density there, he thought it would be on par with, or less than, that in Xonghile.

The FWS stated, "The impact of trophy hunting on leopard populations is unclear, but this activity may have negative impacts at the demographic and population levels, especially when females are shot and any dependent off-spring also perish (Barnett and Patterson 2005; Caro et al. 2009; Daly et al. 2005); Lindsey et al. 2007; Packer et al. 2009). An additional matter of potential concern is that female leopards have been taken as trophies despite national regulations that specify male-only harvests (e.g., Tanzania; Spong et al. 2000)." But according to Jorge (2012), females are not allowed to be trophy hunted in Niassa National Reserve, Mozambique; however, offtake for trophy hunting combined with illegal offtake resulted in an unsustainable overall offtake. The Service's failure to take this readily available information into account was arbitrary and capricious.

Further, in 2007, Mozambique successfully proposed to double its leopard CITES export quota from 60 to 120. The U.S. preliminary negotiating position was to oppose this proposal, a fact not mentioned in the 2015 Mozambique non-detriment advice, and the U.S. ultimately supported the proposal.

The 2015 FWS Mozambique memo outlines the claims made in Mozambique's 2007 CITES proposal including: "little research had been conducted into the status, distribution, or ecology of the leopard in Mozambique" but the proposal indicated that, based on Martin and de Meulenaer (1988) the leopard population was 37,542; a harvest rate of 5% is 1,779; three field studies characterized the leopard population as "widely distributed" and "common" (citing to Smithers and Tello 1976; Tello 1986; and Begg and Begg 2004); 82% of Mozambique is suitable leopard habitat that could support 3-10 leopards per 100km^2 (according to Mozambique's 2007 CITES proposal); Mozambique's protected areas comprise 130,537km^2 and 90% of these areas have good or prime leopard habitat (*id*); even if Mozambique's leopard population is 50% of that estimated by Martin and de Meulenaer (1988) or 20,000, this population size could sustain an annual harvest of 1000; therefore, according to Mozambique's proposal, the population estimated suggest that there is scope for increase in annual offtake without any danger of significant threat to the species. But even at the time this memorandum was issued, the Martin and de Meulenaer (2008) report had already been completely discredited and it was arbitrary for the Service to rely on that information in issuing its non-detriment advice.

The DSA acknowledges that Mozambique is a Category 3 country under the CITES national legislation project, meaning that "legislation does not meet the requirements for implementing CITES" and that the country is identified as in need of "priority attention". Indeed, in 2014, the Environmental Investigation Agency and the International Rhino Foundation (EIA and IRF) submitted a petition to the U.S. government to have Mozambique certified under the Pelly Amendment for diminishing the effectiveness of CITES (Environmental Investigation Agency and International Rhino Foundation 2014). This petition, which focusses on poaching and trafficking in elephants and rhinos, states, "Mozambique has failed to adopt adequate CITES implementing legislation, lacks adequate penalties to deter poaching and illegal trade and suffers from rampant corruption." (*Id*. at 1). DSA notes several recent developments such as the passage of a new law designed to reduce poaching and illegal wildlife trade and the development of a "national rhino and ivory plan." However, EIA and IRF state that, while the new law is a step in the right direction, it's not clear to what extent it will systemically improve CITES implementation. (*Id*. at 15). DSA also notes that "government corruption remains a serious problem." The EIA and IRF petition

documents rampant corruption in the wildlife sector. Transparency International gives Mozambique a score of 31 out of 100, with 0 being highly corrupt.[30]

In conclusion, DSA wrongly states that Mozambique has improved its CITES implementation in recent years; that the leopard population of Mozambique is sufficiently large enough to support sport-hunting quotas, despite relying the outdated and discredited figures by Martin and de Meulenaer (1988); and there are potential benefits to leopards deriving from concessionaires' management activities in Mozambique with regard to this species, despite the existence of evidence that offtake for trophy hunting and illegal offtake combined are not sustainable in Niassa Game Reserve, Mozambique. On this last point, the DSA notes that sport hunting in Mozambique is subject to a "Strategic Plan for the Development of Tourism in Mozambique (2004-2013)"[31] which "incorporates economic incentives to communities and the private sector through increased income and employment opportunities via leopard sport hunting"; however, the Plan offers no details on how hunting will be managed and regulated to ensure that it is not detrimental to the survival of the species.

Finally, the Mozambique non-detriment advice fails to take into consideration multiple relevant leopard studies that were available prior to September 2015:

- Braczkowski, A.R., Balme, G.A., Dickman, A., Macdonald, D.W., Johnson, P.J., Lindsey, P.A. and Hunter, L.T.B. 2015a. Rosettes, Remingtons and Reputation: Establishing potential determinants of leopard (*Panthera pardus*) trophy prices across Africa. *African Journal of Wildlife Research* 45(2): 158–168.

- Braczkowski, A.R., Balme, G.A., Dickman, A., Macdonald, D.W., Fattebert, J., Dickerson, T., Johnson, P. and Hunter, L. 2015b. Who bites the bullet first? The susceptibility of leopards *Panthera pardus* to trophy hunting. *PloS one*, 10(4): e0123100.

- Du Preez, B.D., Loveridge, A.J. and Macdonald, D.W. 2014. To bait or not to bait: A comparison of camera-trapping methods for estimating leopard *Panthera pardus* density. *Biological Conservation* 176: 153-161.

- Grey, J.C. 2011. *Leopard population dynamics, trophy hunting and conservation in the Soutpansberg Mountains, South Africa*. Doctoral thesis. Durham University, Old Elvet, Durham, South Africa.

- Henschel, P. 2008. *The conservation biology of the leopard Panthera pardus in Gabon: Status, threats and strategies for conservation*. Dissertation zur Erlangung des Doktorgrades der Mathematisch-Naturwissenschaftlichen Fakultäten der Georg-August-Universität zu Göttingen, *available at* http://d-nb.info/99732676X/34.

[30] Transparency International, *Corruption by Country: Mozambique*, *available at* https://www.transparency.org/country/#MOZ (last visited Jul. 20, 2016).
[31] Republic of Mozambique Ministory of Tourism, *Strategic Plan for the Development of Tourism in Mozambique (2004 – 2013)*, Volume I (Feb. 2004), *available at* http://www.tartarugabay.com/Mozambique%20Tourism%20Strategic%20Plan.pdf.

- Henschel, P. 2010. *The status of the leopard in Gabon and lessons learned for leopard research and management in W/C Africa*. Powerpoint presentation. Large Carnivore Workshop, 3-4 November 2010, *available at* http://www.largecarnivoresafrica.com/wp-content/uploads/philiph-henschel2.pdf.

- Jackson, P., Bell, R., Borner, M., Bothma, J.du P., Caughley, G., Hestbeck, J.B., Leyhausen, P., Mendelssohn, H., Norton, P.M., Ranjitsinh, M.K., Shoemaker, A.H., Singh, A., Swank, W., Walker, C., Wilson, V.J. and Martin, R.B. 1989. *A review by leopard specialists of The Status of Leopard in Sub-Saharan Africa by Martin and de Meulenaer*. Information document No. 3 submitted to the seventh meeting of the Conference of the Parties to CITES (Lausanne, 1989).

- Jorge, A.A. 2012. *The sustainability of leopard Panthera pardus sport hunting in Niassa National Reserve, Mozambique*. Master's thesis. School of Life Sciences, University of KwaZulu-Natal, Westville, South Africa. March 2012.

- Palazy L., Bonenfant C., Gaillard J-M, and Courchamp F. 2011. Cat Dilemma: Too Protected To Escape Trophy Hunting? *PloS one* 6(7): e22424.

- Pinnock, D. 2016. South Africa bans leopard trophy hunting for 2016. Africa Geographic blog, 25 January 2016.

- South Africa Department of Environmental Affairs. 2015. Non-detriment Findings. Government Gazette No. 39185, 10 September 2015, Department of Environmental Affairs Notice 897 of 2015.

- Swanepoel, L.H., Somers, M.J. and Dalerum, F. 2015. Functional responses of retaliatory killing versus recreational sport hunting of leopards in South Africa. *PloS one* 10(4): e0125539.

Therefore, this non-detriment advice – which relies on thoroughly discredited and outdated science and ignores the non-existence of a leopard management plan in Mozambique – is arbitrary, capricious, and a completely inadequate regulatory mechanism to protect the species from overexploitation.

Given that 2016 has seen the publication of the most comprehensive study on the status of this species (Jacobson et al. 2016a), as well as an updated IUCN assessment of the species (Stein et al. 2016), none of the three non-detriment advice memoranda can be said to be based on the best available science. Thus, current U.S. CITES regulations for leopards are insufficient to ensure that the U.S. impacts on this species are not detrimental, as required by law.

CITES Export Quotas Are Not Based on Science

Currently, CITES has established export quotas for twelve African countries for leopard skins traded for personal and hunting trophy purposes, totalling 2,648 leopard skins per year (CITES Resolution Conf. 10.14 (Rev. CoP16)) (see **Table 5**). Notably, two of these countries – Central African Republic and

Ethiopia – have populations that FWS recognizes are Endangered, highlighting the lack of scientific basis for these quotas.

Table 5: CITES African leopard export quotas 1983-2016.

Countries	Quota 1983	Quota 1985	Quota 1987	Quota 1989	Quota 1992	Quota 1994 - 2001	Quota 2002	Quota 2004	Quota 2007 - 2016
Botswana	80	80	80	100	100	130	130	130	130
Central African Republic	0	0	40	40	40	40	40	40	40
Ethiopia	0	0	500	500	500	500	500	500	500
Kenya	80	80	80	80	80	80	80	80	80
Malawi	20	20	20	20	50	50	50	50	50
Mozambique	60	60	60	60	60	60	60	60	120
Namibia	0	0	0	0	100	100	100	250	250
South Africa	0	0	0	50	75	75	75	150	150
Uganda	0	0	0	0	0	0	0	0	28
United Republic of Tanzania	60	250	250	250	250	250	500	500	500
Zambia	80	300	300	300	300	300	300	300	300
Zimbabwe	80	350	500	500	500	500	500	500	500
Total	**460**	**1140**	**1830**	**1900**	**2055**	**2085**	**2335**	**2560**	**2648**

Sources: CITES CoP5 Doc. 5.23, CITES CoP6 Doc. 6.27, CITES CoP7 Doc. 7.28, CITES Cop8 Doc. 8.20, CITES Resolution Conf. 8.10 and 8.10 (Rev.), CITES CoP9 Doc. 9.26, CITES CoP10 Doc. 10.42, CITES Resolution Conf. 10.4 and 10.4 (Rev. CoP13), CITES CoP12 Doc. 12.23.1, CITES CoP13 Com. 1 Rep. 1 (Rev. 1), CITES CoP13 Plen. 4, CITES CoP14 Com. 1.6, CITES CoP14 Plen. 4, and CITES Resolution Conf. 10.14 (Rev. CoP16).

CITES export quotas have grown substantially since the U.S. downlisted certain populations of sub-Saharan African leopards (**Table 5**). The total number of leopards that can be exported annually rose five-fold from 460 in 1983 to 2,648 in 2016; and the number of countries with export quotas rose from seven in 1983 to twelve in 2016.

However, these quotas have no scientific basis and are not routinely reviewed to ensure that are not detrimental to the survival of the species. Indeed, the basis for the original and subsequent CITES export quotas for leopards is a model by Martin and de Meulenaer (1988) that has been dismissed by modern leopard scientists – as discussed further below – as over-simplified since it was based on a correlation between rainfall and leopard numbers in savannah habitats of East Africa and used to predict leopard numbers across their entire sub-Saharan Africa range (Braczkowski et al. 2015b). Martin and de Meulenar's model was reviewed by specialists from the IUCN SSC Cat Specialist Group and was rejected because the methodology used was highly flawed resulting in exaggerated and inaccurate population figures (Jackson et al. 1989, Balme et al. 2010, Grey 2011). Yet, the model remains as the sole basis for the existing CITES leopard export quotas.

Botswana:

Botswana was one of the first countries to receive a CITES-approved leopard export quota in 1983, of 80 animals;[32] the working documents discussed at the 1983 meeting are not readily available, so it is not possible to evaluate the information used by the Parties when approving this quota. The quota was increased in 1987 to 100,[33] and then increased again in 1994 (effective in 1995) to 130, the latter with the support of the U.S.[34] Demonstrating the lack of an effective system to evaluate proposals to increase CITES leopard export quotas, the two most recent increases occurred without Botswana providing a supporting statement; there was no written proposal submitted for consideration by the Parties; Botswana simply requested the increases and the CITES Parties granted the request. Botswana then banned all trophy hunting, including of leopard, beginning in 2014 (Stein et al. 2016) due to declining wildlife populations, according to the Ministry of Wildlife, Environment and Tourism.[35] It is worth noting that 1987 is when the draft report of Martin and de Meulenaer (1987) was also presented to the Parties and this report was apparently used to establish or increase a number of CITES leopard quotas, including that of Botswana, where the authors estimated the population to be 7,729. (*Id.* at 647). However, in 1992, Botswana (and Malawi, Namibia, Zambia and Zimbabwe) proposed to transfer its population to CITES Appendix II with an export quota of 100; this proposal, which was not approved, estimated Botswana's leopard population to be 5,822 animals.

Central African Republic:

Central African Republic received a CITES leopard export quota in 1987, for 40 animals,[36] and this has remained the same until today. The supporting statement by Central African Republic in which this quota was requested did not provide a population estimate, explain how the figure of 40 was derived, or any provide other information about how they would ensure this offtake would not detrimental to the survival of the leopard.[37] Nonetheless, the CITES Parties approved the quota. It is worth noting that 1987 is when the draft report of Martin and de Meulenaer (1987) was presented to the Parties and this report was apparently used to establish or increase a number of CITES leopard quotas, including that of Central African Republic, where the authors estimated the population to be 41,546. (*Id.* at 647).

Ethiopia:

Ethiopia received a CITES leopard export quota in 1987 of 500.[38] However, there is no record of Ethiopia having submitted a supporting statement to the meeting where this quota was established.[39] No summary record of this meeting is readily available to the public. However, 1987 is when the draft report of Martin and de Meulenaer (1987) was presented to the Parties and this report was apparently used to establish or increase a number of CITES leopard quotas, including that of Ethiopia, where the authors

[32] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[33] CITES, CoP8 Doc. 8.20, p. 1 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/doc/E-20.pdf.
[34] CITES, CoP9 Com. I Summary Report, p. 172 (1994), *available at* https://cites.org/sites/default/files/eng/cop/09/E9-ComI.pdf.
[35] Press Release, Hunting Ban in Botswana, Message from Permanent Secretary (August 20, 2013), *available at* https://www.facebook.com/permalink.php?story_fbid=500849569997706&id=148228411926492.
[36] CITES, CoP7 Doc. 7.28, p. 791 (1989), *available at* https://cites.org/sites/default/files/eng/cop/07/doc/E07-28.pdf.
[37] CITES, CoP6 Doc. 6.28, p. 671 (1987), *available at* https://cites.org/sites/default/files/eng/cop/06/doc/E06-28.pdf.
[38] CITES, CoP7 Doc. 7.28, p. 791 (1989), *available at* https://cites.org/sites/default/files/eng/cop/07/doc/E07-28.pdf.
[39] CITES, CoP6 Doc. 6.1 (1987), *available at* https://cites.org/eng/cop/06/doc/index.php.

estimated the population to be 9,782. (*Id.* at 647). Therefore, the export quota would allow the offtake of 5.1% of the population annually, which is wholly unsustainable.

Kenya:

Kenya was one of the first countries to receive a CITES leopard export quota in 1983, of 80;[40] the working documents discussed at the 1983 meeting are not readily available to facilitate the evaluation of the information used by the Parties when approving this quota. This quota has remained unchanged from 1983 to the present, although Kenya banned trophy hunting in 1977 (further demonstrating that the CITES export quotas are not based on the best available information).

Malawi:

Malawi was one of the first countries to receive a CITES leopard export quota in 1983, of 20 animals;[41] the working documents discussed at the 1983 meeting are not readily available to facilitate evaluation of the information used by the Parties when approving this quota. The quota was increased to 50 in 1992[42] when Malawi (and Botswana, Namibia, Zambia and Zimbabwe) proposed to transfer its population to CITES Appendix II with an export quota of 50; this proposal estimated Malawi's leopard population to be only 541 animals;[43] this means that the offtake for international trade could comprise as much as 9.2% of the population annually which is well beyond the reproductive capacity of the species. Nonetheless, while the Parties did not approve the proposed transfer, they did approve the increased export quota.

Mozambique:

Mozambique was one of the first countries to receive a CITES leopard export quota in 1983, of 60 animals;[44] the working documents discussed at the 1983 meeting are not readily available to facilitate evaluation of the information used by the Parties when approving this quota. In 2007, Mozambique proposed to the CITES Parties to increase their annual leopard export quota from 60 to 120.[45] The proposal cited the Martin and de Meulenaer (2008) estimate of 37,542 leopards in Mozambique in justifying the quota increase. (*Id.* at 2). The FWS stated that their tentative U.S. negotiating position was to oppose this proposal (FWS 2007):

> "In this document, Mozambique proposes to increase its export quota for leopard hunting trophies and skins for personal use from 60 to 120. The United States, as reflected in the document we submitted for CoP12 on establishing scientifically based quotas, and in accordance with Resolution Conf. 9.21 (Rev. CoP13), which calls for establishment of a scientific basis for proposed quotas, is very interested in ensuring that annual export quotas are established on strong

[40] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[41] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[42] CITES, CoP8 Resolutions Adopted, p. 26 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/E-Resolutions.pdf.
[43] CITES, CoP8, Amendments to Appendices (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF.
[44] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[45] CITES, CoP14 Doc. 14.37.1 (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/doc/E14-37-1.pdf.

biological data. Mozambique's request does not provide enough biological information about the population of leopards or their prey in Mozambique to determine whether the population can be sustained under the proposed quota figure."

However, the U.S. opposition to this proposal was not noted for the record and the proposal was accepted.[46] Israel opposed the proposal due to lack of scientific rigor and that there was little recent information on population status, distribution and ecology.[47]

Namibia:

In 1992, Namibia (and Botswana, Malawi, Zambia and Zimbabwe) proposed to transfer its leopard population to CITES Appendix II with an export quota of 100.[48] The CITES Parties did not approve the change in status but did approve the quota. This quota was increased in 2004 to 250 based on a population estimated by Martin and de Meulenaer (1988) of 7,745 (which, it was said, could support a "safe harvest" of 332 animals,[49] or 4.2% of the population annually). The U.S. expressed support for this increased quota.[50]

South Africa:

South Africa was first granted a CITES leopard export quota in 1989, of 50 animals;[51] the working documents discussed at this meeting are not readily available to facilitate evaluation of the information used by the Parties when approving this quota. However, according to Grey (2011) the proposal was based on a 1.5% offtake of the 23,472 leopards estimated to be in South Africa according to Martin and de Meulenaer (1988). South Africa's quota was increased to 75 in 1992[52] based on a verbal request from the country during a CITES meeting and with no documentation or reasoning provided. Then South Africa's quota was increased from 75 to 150 in 2004 based on information in a document submitted by the country that did not provide a population estimate but claimed that the leopard population was increasing;[53] the U.S. supported the increased quota despite the poor science.[54]

The increase in the CITES quota for South Africa meant that the number of permits issued in Limpopo Province of South Africa, where most leopard trophy hunting occurs, increased from 35 to 50 in 2006 even though there were no accurate population data for leopards in the province and no assessments

[46] CITES, CoP14 Com. I Rep. 2 (Rev. 1) (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Com-I-Rep-02.pdf ; CITES CoP14 Plen. 4 (Rev. 2) (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Plen-4.pdf.
[47] CITES, CoP14 Com. I Rep. 2 (Rev. 1), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Com-I-Rep-02.pdf
[48] CITES, CoP 8 Amendments to Appendices (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF.
[49] CITES, CoP13 Doc. 19.1, p. 2 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-1.pdf.
[50] CITES, CoP13 Com. 1 Rep. 1 (Rev. 1), p. 1 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/rep/E13-ComIRep1.pdf.
[51] CITES, CoP8 Doc. 8.20, p. 1 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/doc/E-20.pdf.
[52] CITES, CoP8 Doc. 8.45.1, p. 1 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/doc/E-45-45_1.pdf
[53] CITES, CoP 13 Doc. 19.2 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-2.pdf.
[54] CITES, CoP13 Com. 1 Rep. 1 (Rev. 1), p. 1 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/rep/E13-ComIRep1.pdf.

were undertaken to determine whether offtake is sustainable (Grey 2011). However, Pitman et al. (2015) found that, in Limpopo Province, legal leopard offtake for trophy hunting and as problem animals combined was not sustainable. In 2015, the South Africa Department of Environmental Affairs similarly concluded that: national and provincial leopard hunting quotas are arbitrary; there is no rigorous estimate of the leopard population size, nor are there reliable estimates of trends at the national or provincial level; poorly managed trophy hunting and excessive offtakes were major threats; trophy hunting is poorly managed and not effectively controlled in many areas, and is not managed consistently throughout the country; and there are indications that trophy hunting is unsustainable in several provinces due to excessive hunting quotas, focused hunting efforts, and the additive impact of leopard poaching and problem animal control (South Africa Department of Environmental Affairs 2015). The Department concluded that export of hunting trophies poses a high risk to the survival of the species in South Africa (South Africa Department of Environmental Affairs 2015), and announced that it would suspend issuance of leopard export permits for 2016 (Pinnock 2016).

Uganda:

In 2007, Uganda proposed to the CITES Parties to transfer its population from CITES Appendix I to II, with an annual export quota of 50 of skins for personal purposes and trophies.[55] The proposal contained no information on the size or trend of the leopard population in Uganda, and provided no scientific basis for the quota of 50, although it did cite the Martin and de Meulenaer (1988) estimate of 700,000 leopards in Africa. (*Id.* at 2). The FWS stated that their tentative U.S. negotiating position was to oppose this proposal to transfer the population to Appendix II and to oppose the export quota of 50 leopards per year (FWS 2007):

> *"*The proposal is not written in accordance with the format for proposals to amend the Appendices as per Annex 6 to Resolution Conf. 9.24 (Rev. CoP13). As a result, it does not demonstrate that the population in Uganda no longer meets the biological criteria for inclusion in Appendix I or which precautionary measure will be in place. The CITES Secretariat has suggested that Uganda request consideration of this proposal under agenda item 37 (Appendix-I species subject to export quotas) rather than item 68 (Proposals to amend the Appendices).
>
> "Uganda asserts that the proposed export quota of 50 leopards per year is a precautionary figure that will account for both animal control and sport hunting. The United States, as reflected in the document we submitted for CoP12 on establishing scientifically based quotas and in accordance with Resolution Conf. 9.21 (Rev. CoP13), which calls for establishment of a scientific basis for proposed quotas, is keen to ensure that annual export quotas are established on strong biological data. Although a quota of 50 is considered by Uganda as precautionary, the proposal does not provide any supporting biological information for this figure. Therefore, it cannot be determined whether the population can be sustained under the proposed quota figure."

At CITES CoP14, Uganda followed the suggestion of the CITES Secretariat and requested during the CoP14 plenary that the Parties grant a quota under Resolution Conf. 10.14 and it would withdraw its

[55] CITES, CoP14 Prop. 3 (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/prop/E14-P03.pdf.

proposal to transfer its population to Appendix II.[56] This request was agreed and the Parties established a leopard export quota for Uganda of 28.[57] However, the U.S. opposition to this proposal was not noted for the record. Democratic Republic of the Congo (DRC) supported the proposal but expressed concern for the cross-border leopard populations it shared with Uganda, noting that the quota might create tension or foster poaching in the DRC.[58] Israel opposed the proposal on the basis of lack of recent population data.

United Republic of Tanzania:

The United Republic of Tanzania's CITES-established export quota increased from 60 in 1983[59], to 250 in 1985,[60] to 500 in 2002,[61] which remains in effect today. The working documents discussed at the 1983 meeting are not readily available to facilitate evaluation of the information used by the Parties when approving this initial quota. The 1985 quota was approved based on a document submitted by the United Republic of Tanzania that admitted "there are no scientific data to provide a background for evaluation of this proposal;"[62] the document provided no estimate of the size of the leopard population in the country and no information on how the quota would not be detrimental to the survival of the species; the document stated that the reason for the increased quota was the large number of leopards killed each year by the government to protect lives and property, which numbered 406 in 1983. Despite this lack of information, as admitted by the proponent itself, the CITES Parties approved the export quota increase. In 2002, the United Republic of Tanzania requested to double its CITES leopard export quota to 500 on the basis of the Martin and de Meulenaer (1988) estimate of 39,000 leopards in Tanzania which would allow a "safe harvest" of 5% or 1,827 leopard annually.[63] The U.S. negotiating position on the 2002 proposal was undecided;[64] the record of the CITES meeting does not indicate that the U.S. expressed any view on the proposal; this proposal was approved. In Tanzania, rising leopard hunting quotas drove a large-scale declines in leopard abundance particularly in populations outside of Selous; 400 leopards were trophy hunted annually at an average rate of 1.33 leopards/1000km^2 (Packer et al. 2010). A hunting quota of no more than 1 leopard/1000km^2 has been recommended in general and 3 leopards/1000km^2 in the Selous Game Reserve (Packer et al. 2010).

Zambia:

Zambia was one of the first countries to receive a CITES leopard export quota in 1983, of 80;[65] the working documents discussed at the 1983 meeting are not readily available to facilitate evaluation of

[56] CITES CoP14 Plen. 2. https://cites.org/sites/default/files/eng/cop/14/rep/E14-Plen-2.pdf
[57] CITES, CoP14 Com. I Rep. 2 (Rev. 1) (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Com-I-Rep-02.pdf ; CITES CoP14 Plen. 4 (Rev. 2) (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Plen-4.pdf ; CITES CoP14 Com. I. 6. (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/com/E14-Com-I-06.pdf.
[58] CITES, CoP14 Com. I Rep. 2 (Rev. 1) (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/rep/E14-Com-I-Rep-02.pdf.
[59] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[60] CITES, CoP6 Doc. 6.27 (1987), *available at* https://cites.org/sites/default/files/eng/cop/06/doc/E06-27.pdf.
[61] CITES, CoP12 Com. I Rep. 1 (Rev.), p. 2 (2002), *available at* https://cites.org/sites/default/files/eng/cop/12/rep/ComI_1.PDF.
[62] CITES, CoP5 Doc. 5.23, p. 421 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[63] CITES, CoP12 Doc. 12.23.1.2 (2002), *available at* https://cites.org/sites/default/files/eng/cop/12/doc/E12-23-1-2.pdf.
[64] 67 Fed. Reg. 66464 (Oct. 31, 2002).
[65] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.

the information used by the Parties when approving this quota. Zambia (and Botswana, Malawi, Namibia, and Zimbabwe) proposed to transfer its population to CITES Appendix II with an export quota of 300; this proposal estimated Zambia's leopard population to be 3,332 animals;[66] therefore, the offtake is approximately 9% of the population annually, which is excessive. The CITES Parties did not approve the transfer of the population to Appendix II, but did approve the quota increase which remains in effect today.

In May 2015, the Tourism and Arts Minister of Zambia announced that hunting of leopards (and lions) would be reinstated in 2016 after a moratorium that started in January 2013 (Zambia DNPW 2015a). The Minister stated that the ban on leopard hunting was based on "lapses in monitoring" that have been rectified and that the leopard population was and still is "healthy". Leopard hunting was to resume in 2015/2016 but with cautionary – though unspecified – quotas. Following the Minister's announcement, in May 2015, the Zambia Wildlife Authority (ZAWA) stated that there were, at minimum, an estimated 4,000 leopards in Zambia and that, according to surveys conducted by ZAWA, big cats are found in three ecosystems in the country: Luangwa Valley, Kafui and Lower Zambezi (Zambia DNPW 2015b).

Additionally, Ray (2011) conducted the first-ever population survey of leopards in Zambia, in Luambe National Park and a portion of an adjacent Game Management Area (GMA), located within the Luangwa Valley, in 2006-2008, when trophy hunting was permitted. Ray noted that it was the opinion of park managers and professional hunters in the area that the leopard was found in "very high abundance". Using camera traps, Ray found that only 12 leopards lived in the National Park in 2008 and 10 in the portion of the GMA studied, with densities of 3.36/100 km^2 in the former and 4.79/100 km^2 in the latter. Ray stated that only one other leopard study, in South Africa, had found a lower density than that she found in the Park and this other study was not in a protected area. The offtake of leopards in the GMA was 8-12 leopards per year, and considered by Ray to be unsustainable. Ray recommended an offtake of 2 leopards / 1000 km^2 in the area (instead of 12 / 2,555 km^2, among other measures. Ray recommended that loss of income from hunting could be addressed by increasing the price of trophies.

Ray explicitly notes, "Until the 1980s, the leopard was one of the most threatened species listed by IUCN. This changed with the study of MARTIN & DE MEULENAR (1988), who suggested a population of leopards of about 700,000 in Africa, which was criticized and largely discredited from the scientific community (MARTIN & DE MEULENAR 1989). Members of the IUCN Cat specialist group mentioned their doubts of the estimates from this habitat model (MARTIN & DE MEULENAR 1989). Nevertheless, the result was that CITES increased the international hunting quotas for the African leopard, despite the lack of reliable continent-wide estimates of its population size."

Zimbabwe:

Zimbabwe received its first CITES-established export quota of 80 leopards in 1983;[67] the working documents discussed at the 1983 meeting are not readily available to facilitate evaluation of the information used by the Parties when approving this quota. This quota was increased to 350 in 1985 based on information provided by Zimbabwe that there were an estimated 38,000 leopards in the

[66] CITES, CoP8 Amendments to Appendices (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF.
[67] CITES, CoP5 Doc. 5.23, p. 414 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.

country.[68] The quota was increased to 500 in 1987; however, there is no record of Zimbabwe having submitted a supporting statement to the meeting where this quota was established.[69] No summary record of this meeting is available on the CITES website. However, 1987 is when the draft report of Martin and de Meulenaer (1987) was also presented to the Parties and this report was apparently used to establish or increase a number of CITES leopard quotas, including that of Zimbabwe, where the authors estimated the population to be 16,064. (*Id.* at 647). (It is of interest to note that, in 1992, Zimbabwe (and Botswana, Malawi, Namibia, and Zambia) proposed to transfer its population to CITES Appendix II with an export quota of 500; this proposal estimated Zimbabwe's leopard population to be only 1,379 animals).[70]

Du Preez et al. (2014) confirmed that the 500 figure was the result of using the flawed Martin and de Meulenaer model as a basis which over-estimated the number of leopards in Zimbabwe at 16,064. Today, as then, there is no reliable estimate of Zimbabwe's national leopard population and leopard numbers are not monitored in most of the areas where they are hunted (Du Preez et al. 2014). Yet, more leopards are hunted in Zimbabwe than any other country with up to 882 leopard hunting permits issued annually (although the average number of successful hunts each year, 261, does not fill the allocation (Du Preez et al. 2014)). Leopard trophy hunting offtakes have repeatedly failed to fill the allocation, possibly indicating that there are not enough leopards remaining and that leopard hunting in Zimbabwe is unsustainable, especially combined with other threats such as habitat loss (Du Preez et al. 2014). The large leopard quota in Zimbabwe is unjustified because there has been no rigorous scientific research undertaken to estimate the national leopard population (Du Preez et al. 2014). Hunting of female leopards is prohibited in Zimbabwe and there is a skull size minimum that must be met for exports to be allowed (Lindsey and Chikerema-Mandisodza 2012). In Zimbabwe, leopard hunting occurs without a national leopard management plan and leopard hunting quotas exceed the CITES export quota (Lindsey and Chikerema-Mandisodza 2012).

CITES Export Quotas Are Not Subject to Review

There has never been a rigorous review of the scientific basis of the CITES-established leopard export quotas, nor are these quotas reviewed on an on-going basis to determine if changes are necessary to protect leopards. Given the increasing imperilment of the species given the recent IUCN Red List assessment, it is high time for a review to be conducted and for a process of routine review to be established, and in the absences of such review the Service must exercise the precautionary principle when evaluating import permit applications for leopard parts.

In its 2015 non-detriment advice for Mozambique, the Service asserts that "CITES Resolution Conf. 10.14 was revised at CoP16. It directed Parties to report on their implementation of this resolution (Decision 16.76; CITES 2013c) and the Secretariat was directed to compile and present to the Standing Committee a summary of those reports (Decision 16.77; CITES 2013d). These decisions will enable Parties to monitor more effectively the implementation of quotas for leopard hunting trophies and skins for personal use. By Notification to the Parties No. 2015/042 (dated 30 July 2015), the Secretariat invited

[68] CITES, CoP5 Doc. 5.23, p. 16 (1985), *available at* https://cites.org/sites/default/files/eng/cop/05/doc/E05-23.pdf.
[69] CITES, CoP6 Doc. 6.1 (1987), *available at* https://cites.org/eng/cop/06/doc/index.php.
[70] CITES, Cop8 Prop. EQ5, p. 11 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF.

Parties to submit their leopard report for compilation and submission by the CITES Secretariat to SC66 (CITES 2015c)."

However, Resolution Conf. 10.14, as amended, does not direct Parties to report on implementation of the resolution. And the related Decisions refer only to the tagging and tracking of leopard skins in trade, and not to the scientific basis of export quotas or issues related to the non-detriment finding. Decision 16.76 states, "Parties shall, by the 66th meeting of the Standing Committee, submit a report to the Secretariat on the implementation of the system as set out in paragraphs c) to j) of Resolution Conf. 10.14 (Rev. CoP16), including details of any problems with the processing of CITES documents, the management and tracking system in general, and the system in place to replace lost or damaged tags." Decision 16.77 states, "The Secretariat shall, at the 66th meeting of the Standing Committee, and subject to the availability of funds: a) provide a summary report to the Standing Committee based on the reports supplied by the Parties concerned in the implementation of Resolution Conf. 10.14 (Rev. CoP16); and b) on the basis of experience gained with the operation of the tagging system set out in paragraphs c) to j) of Resolution Conf. 10.14 (Rev. CoP16), make recommendations, as appropriate, to the Standing Committee regarding the feasibility and appropriateness of extending the system for use with other CITES-listed species."

At the 66th meeting of the CITES Standing Committee, the Secretariat reported that only three countries, South Africa, Slovakia, the U.S., had submitted comments in response to the Notification to the Parties, and none reported any problems with implementation.[71] South Africa advised that it would not allow females to be hunted beginning in 2015; that hunting reports containing details relating to the hunt, including information relating to body measurements, have to be submitted to the issuing authority immediately after the hunt; and that they have initiated the development of national guidelines for the allocation, management and monitoring of leopard trophy quotas, in order to promote a more uniform approach across the nine provinces in the country.

The Enduring Problem of the Martin and de Meulenaer Study

It is important to elaborate on the Martin and de Meulenaer (1987, 1988) study and criticisms of it because, from 1987 to the present, the FWS and authorities in other countries have used the results of this study to make non-detriment findings required for issuance of leopard export and import permits in accordance with CITES, as well as to provide the basis for CITES-established leopard export quotas. The following are some of the regulatory decisions based on the results of this study (see also Annex 1 to this petition):

- **2015**: FWS issued a non-detriment finding for the import to the U.S. of sport-hunted leopard trophies from Mozambique (FWS 2015).
- **2007**: CITES CoP14 increased the leopard export quota for Mozambique from 60-120.[72]
- **2004**: CITES CoP13 increased the leopard export quota for Namibia from 100 to 250 and South Africa from 75 to 150.[73]

[71] CITES, SC66 Doc. 40, *available at* https://cites.org/sites/default/files/eng/com/sc/66/E-SC66-40.pdf.
[72] CITES CoP 14 Doc. 37.1 (2007), *available at* https://cites.org/sites/default/files/eng/cop/14/doc/E14-37-1.pdf.

- **2002**: CITES CoP12 increased the leopard export quota for Tanzania from 250 to 500.[74]
- **1994**: CITES CoP9 increased the leopard export quota for Botswana from 100 to130, and that of South Africa from 50 to 75.[75]
- **1992**: At CITES CoP8, Botswana, Malawi, Namibia, Zambia and Zimbabwe proposed to transfer *Panthera pardus* from CITES Appendix I to Appendix II and to establish export quotas for eleven countries.[76] The proposals were rejected by vote, but the quotas in the proposals were approved. CoP8 adopted a new leopard quota of 100 for Namibia and increased the quota for Malawi from 20 to 50.[77]
- **1989**: CITES CoP7 adopted a new leopard export quota of 50 for South Africa and increased the quota for Botswana from 80 to 100.[78] There is no documentation from CoP7 to support the establishment of the quota for South Africa or the increase of the quota for Botswana.
- **1987**: CITES CoP6 adopted a new leopard export quota of 40 for Central African Republic, 500 for Ethiopia, and increased the quota for Zimbabwe from 350 to 500.[79] It should be noted that Ethiopia was not a CITES Party in 1987 when the leopard export quota was adopted and there is no documentation from CoP6 to support the establishment of this quota.

An abbreviated version of Martin and de Meulenaer's study, a *Survey of the Status of the Leopard* (Panthera pardus) *in Sub-Saharan Africa*, appeared first as an Annex to Document 6.26,[80] on *Trade in Leopard Skins*, discussed at the 6th meeting of the Conference of the Parties to CITES (CoP6), in 1987 (Martin and de Meulenaer 1987). The full study was subsequently published in 1988 (Martin and de Meulenaer 1988).

It must be noted at the outset that, as is explained in CITES CoP6 Document 6.26, the study was funded by Safari Club International and the American Fur Institute, which should immediately raise suspicions of potential bias, given the funders' economic interests in the outcome of the study. And, as noted above, in 1992 the document was used to support a proposal to transfer *Panthera pardus* from CITES Appendix I to Appendix II, in order to allow international commercial trade in leopard skins; the proposal was not approved.

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[73] CITES, CoP13 Doc. 19.1 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-1.pdf; CITES, CoP13 Doc. 19.2 (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/doc/E13-19-2.pdf ; CITES, CoP13 Com. I Rep. 1 (Rev. 1) (2004), *available at* https://cites.org/sites/default/files/eng/cop/13/rep/E13-ComIRep1.pdf.

[74] CITES, CoP12 Com. I. Rep. (Rev.) (2002), *available at* https://cites.org/sites/default/files/eng/cop/12/rep/ComI_1.PDF; CITES, CoP12 Doc. 23.1.2 (2002), *available at* https://cites.org/sites/default/files/eng/cop/12/doc/E12-23-1-2.pdf.

[75] CITES, CoP10 Doc. 10.41 (1997), *available at* https://cites.org/sites/default/files/eng/cop/10/doc/E10-41to43.pdf.

[76] CITES, CoP8 Amendments to Appendices (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF.

[77] CITES, CoP8 Com.I 8.1 (Rev.) (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/E-Com-I.pdf.

[78] CITES, CoP8 Doc. 8.20 (1992), *available at* https://cites.org/sites/default/files/eng/cop/08/doc/E-20.pdf.

[79] CITES, CoP6 Doc. 6.28 (1987), *available at* https://cites.org/sites/default/files/eng/cop/06/doc/E06-28.pdf; CITES, CoP Doc. 7.27 (1989), *available at* https://cites.org/sites/default/files/eng/cop/07/doc/E07-27.pdf.

[80] CITES, CoP6 Doc. 6.26 (1987), *available at* https://cites.org/sites/default/files/eng/cop/06/doc/E06-26.pdf.

Martin and de Meulenaer used a computer modelling exercise, which correlated leopard density with rainfall, to derive estimates of the leopard population in 41 sub-Saharan African countries and a total African leopard population of 714,000 animals (**Figure 6**).

Figure 6. Martin and de Meulenaer leopard population estimates.

#	COUNTRY	PREDICTED POPULATION	FACTOR	FINAL POPULATION
1	ANGOLA	62,486		62,486
2	BENIN	4,915	0.1	492
3	BOTSWANA	7,729		7,729
4	BURKINA FASO	1,693		1,693
5	BURUNDI	495		495
6	CAMEROUN	41,896		41,896
7	CENTRAL AFRICAN REPUBLIC	41,546		41,546
8	CHAD	3,125		3,125
9	CONGO	32,394		32,394
10	DJIBOUTI	25		25
11	EQUATORIAL GUINEA	5,040		5,040
12	ETHIOPIA	9,782		9,782
13	GABON	38,463		38,463
14	GAMBIA	33		33
15	GHANA	5,990	0.1	599
16	GUINEA	15,689	0.1	1,569
17	GUINEA BISSAU	682	0.5	341
18	IVORY COAST	9,522		9,522
19	KENYA	10,207		10,207
20	LESOTHO	420		420
21	LIBERIA	5,031	0.1	503
22	MALAWI	4,530		4,530
23	MALI	3,365		3,365
24	MAURITANIA	230		230
25	MOZAMBIQUE	37,542		37,542
26	NAMIBIA	7,745		7,745
27	NIGER	454		454
28	NIGERIA	18,963	0.5	9,481
29	RWANDA	388		388
30	SENEGAL	781		781
31	SIERRA LEONE	2,803	0.1	280
32	SOMALIA	2,123		2,123
33	SOUTH AFRICA	23,472		23,472
34	SUDAN	22,035		22,035
35	SWAZILAND	805		805
36	TANZANIA	39,343		39,343
37	TOGO	2,537	0.1	254
38	UGANDA	4,292		4,292
39	ZAIRE	226,192		226,192
40	ZAMBIA	46,369		46,369
41	ZIMBABWE	16,064		16,064
	TOTALS	757,196		714,105

Source: Martin and de Muelenaer (1988), p. 8.

Importantly, since 2008, the IUCN has found that "there are no reliable continent-wide estimates of population size in Africa, and the most commonly cited estimate of over 700,000 leopards in Africa (Martin and de Meulenaer 1988) *is flawed*" (Henschel et. al. 2008) (emphasis added). This opinion of the world's foremost leopard experts alone should be reason enough for regulators to avoid using the results of the Martin and de Meulenaer report as the biological basis for decision-making regarding leopards. Leopard scientists continue to point out the shortcomings of Martin and de Meulenaer today: as noted above, the most recent publication on leopard status and distribution (Jacobson et al. 2016a) stated,

"Earlier Africa-wide assessments of population size (Myers, 1976; Eaton, 1977; Martin & De Meulenaer, 1988; Shoemaker, 1993) employed questionable population models based on scant field data and were widely criticized as being unrealistic (Hamilton, 1981; Jackson, 1989; Norton,1990; Bailey, 1993)" (p. 2).

Additionally, soon after the study by Martin and de Meulenaer became available, it was criticized by leopard experts in the IUCN/SSC Cat Specialist Group (Jackson et al. 1989) who rejected the estimates of leopard numbers in Africa given in the study. This paper was included as an information document at CITES CoP7[81] held in 1989 which put regulators on notice that the Martin and de Meulenaer study should not be used as a scientific basis for making regulatory decisions. A summary of this paper states:

> "Leading leopard specialist members of the IUCN/SSC Cat Specialist Group and other experts have reviewed the SURVEY OF THE STATUS OF THE LEOPARD IN SUB-SAHARAN AFRICA by Martin and de Meulenaer. They *reject the computer estimates of leopard numbers in Africa*, although they generally agree that there are still many leopards, especially in certain areas. Most reviewers felt they lacked competence to criticize the computer model as such, but, in common with those who are expert, *they challenged the data input*. The *basic relationship claimed between rainfall and prey and, therefore, leopard populations, was discounted for several specific types of habitat and areas*. Reviewers with extensive field experience in leopard habitat declared that no leopard survive in many areas assumed to be suitable in the model. *Where estimates of leopard numbers in specific places have been made by the reviewers they are generally less than half those predicted by the computer model*" (emphasis added).

Jackson et al. (1989) contains comments of individual co-authors, including:

- Dr. Marcus Borner, Regional Represenative, Frankfurt Zoological Society, Arusha, Tanzania who said, "The computer model has not produced an accurate estimate of the existing or potential leopard population because the data are either guesswork, hearsay or otherwise imprecise…Unscientific data have been fed through very complex scientific methods to make the outcome look serious…A short and superficial survey like this one could not have produced anything more precise than informed guesswork."
- Professor J. du P Bothma, Chair of Wildlife Management, University of Pretoria, South Africa who said, "The database upon which the assumptions are made…is often non-existent. Thus no matter how complicated or good the model the raw data simply do not allow the type of conclusions reached. In South Africa there are many areas suitable as leopard habitat which are simply not occupied by leopards any more."
- Professor Dr. Paul Leyhausen, formerly of the Max Planck Institut fur Verhaltensphysiologie, Germany, who said, "A model, however loosely it seems to fit reality, it is not itself biological reality…The computer model depends on just one variable: prey availability…If prey availability were the sole yardstick, lion numbers in the Serengeti should be much higher in average years than they actually are…The model in question is a theoretically interesting exercise. But it would be hazardous to the extreme to assume that actual leopard numbers conform with it even remotely, let alone to make it the basis of practical policy."

[81] CITES, CoP7 Doc. 3 (1989).

- Dr Peter Norton, Chief Directorate Nature and Environmental Conservation, Kimberley, South Africa, who said, "Much of the report is based on so-called "estimates" of population numbers which I find highly questionable, if not misleading. The model is based on a number of assumptions that are not substantiated by the results of my research work on leopards in the Cape Province of South Africa." Norton specifically criticized four of these assumptions: 1) "If natural habitats are relatively unaltered, leopards will be found there": Norton states that leopards have been "completely eradicated" from certain areas despite the fact that none of the areas have been substantially altered, but leopards had been hunted out. 2) "If leopard are reported they will be at a rainfall-related "carrying capacity": Norton states that adult male leopards make "forays" some distance out of their normal home range but he doubts that their transient presence in these areas indicates that the population in these areas is at "carrying capacity." 3) "Leopard densities are closely correlated with rainfall, irrespective of prey densities": Norton notes that most of the data points used in the Martin and De Meulenaer model are from reserves or hunting areas in savannah habitats where suitable leopard prey may exist; however, he provides examples from his own studies of other types of habitats (fynbos and forests) where suitable leopard prey densities are extremely low. Norton also notes that low biomass of leopard prey animals is likely to occur in high rainfall tropical forests. Critically, Norton notes that the Martin and De Meulenaer study uses a study by Coe et al. (1976) on the relationship between large herbivore biomass and rainfall to support their contention that there is a relationship between leopard density and rainfall; however, Norton notes that this is based on large herbivores, not the small mammals that leopards prey upon. Norton also notes that bushmeat hunting has nearly eliminated small animals preferred as prey by leopards and that although Martin and De Meulenaer recognize this they modified only some of the figures used in their calculations. 4) "Rainfall figures used in the correlation are representative of the study areas": Norton thought that the rainfall figures may be accurate for flatter areas but said, "I seriously question the accuracy of the rainfall figures used in the regression for areas with more varied topography, such as mountains" and provided an example from his study area to demonstrate the fact that the model's predictions do not hold up against field study evidence. Regarding the total number of leopards Martin and De Meulenaer estimated for South Africa (23,472), Norton said it is "totally unrealistic." Norton also stated, "I seriously doubt the regression's validity in mountain or forest habitats, or even in savanna habitats outside of reserves that have a high human population. The regression is just too good to be true. With all the variability in different habitat types, plus the fact that some of the rainfall figures are suspect, I just cannot accept that a wide range of biological systems spread throughout Africa will react so predictably." Regarding the confidence limits in Martin and De Meulenaer, Norton states they "have no biological reality at all. In fact they are dangerous in that they give an aura of scientific respectability that they do not deserve." Norton compared estimates of Martin and De Meulenaer for habitats in South Africa with his best guesses and found that the estimates far exceeded, by ten-fold, the number of leopards he thought existed: 23,470 versus 2,390 (**Figure 7**).

Figure 7. Norton's leopard population estimates.

Table Norton's guesses of the possible numbers of leopards in the different vegetation types (White 1983) in South Africa, compared to Martin & de Meulenaer's (1988) 'estimates'

White's vegetation type number	Description	Norton's guess	M & de M's 'estimate'
16c	Coastal forest transition	200	3 002
19a	Afromontane	50	5 733
20	Highveld grassland transition	20	1 307
24	Scrub forest	50	2 105
28	Mopane woodland	200	771
29d	Woodland	500	3 459
29e	Tongaland bush	200	555
34	Scrub/highveld transition	50	374
35a	Acacia savanna	10	77
39	Evergreen bush & thicket	50	1 417
44	Kalahari Acacia	20	1 335
48	Tongaland bush	20	206
50	Fynbos	600	1 489
51	Karoo/Namib	20	291
52	Succulent karoo	20	67
53	Dwarf karoo	0	161
56	Kalahari/karoo	300	337
57a	Grassy karoo	0	37
57b	Karoo/highveld transition	10	390
58	Highveld	50	331
66	Altimontane	0	17
74	Namib	20	7
77	Mangrove swamp	0	5
	TOTAL	2390	23 470

Source: Jackson et al. 1989, p. 7.

- Dr. M.K. Ranjitsinh, Director of Wildlife Conservation, Government of India who said, "To work out a population based on an arithmetical calculation in one place and then extrapolating it elsewhere has posed many a problem, and the figure can be totally wrong because of so many factors. And when you are extrapolating it for a continent as large as Africa with its diverse climatic, geomorphical, demographic and other considerations, I would be extremely wary of the result … if the figures are accepted and a harvest quota based upon them is adopted, it will become an accepted guideline and parameter for future harvest and one will not know the results until the population of the leopard nose-dives, in places perhaps beyond redemption."
- Vivian Wilson, Director, Chipangali Wildlife Trust, Zimbabwe questioned if the number of leopards can be estimated based on habitat and rainfall stating, "There are vast areas in Africa where there is a lot of suitable habitat, a good food supply and also high rainfall, and yet leopards are either absent or occur in low numbers." Wilson described her experience in Central African Republic where rainfall is high, and there are large areas of ideal leopard habitat and large numbers of leopard prey, but low numbers of leopards due to them having been killed by people many years previously. Wilson provided two other examples to support her conclusion. Wilson said that there are fewer than 10,000 leopards in Zimbabwe compared to 16,064 estimated by Martin and De Meulenaer. Wilson guessed at population sizes in eight countries, based on her experience, and compared them to the estimates of Martin and De Meulenaer, and found that her total population figure was three times less than theirs (**Figure 8**).

Figure 8. **Wilson's leopard population estimates.**

Country	Wilson's guess	Martin & de Meulenaer		
		Predicted Pop.	Lower limit	Upper limit
South Africa	± 10 000	23 472	12 910	42 954
Zimbabwe	± 10 000	16 064	8 335	29 256
Botswana	5 000 ?	7 729	4 251	14 144
Malawi	± 2 000	4 530	2 492	8 290
Zambia	15 000 ?	46 369	25 503	84 855
C.A.R.	± 10 000	41 546	22 435	76 445
Ivory Coast	± 7 000	9 522	5 142	17 520
Sierra Leone	± 100	2 805	1 402	5 382
T O T A L :	59 100	152 035	82 470	278 826

Source: Jackson et al. (1989), p. 10.

- An anonymous co-author stated, "there seems to be a conceptual flaw in the model" in that there is "abundant wildlife literature" that indicates that even if habitat is suitable one cannot expect to find a species there. This author further states that there are "very many and very extensive areas where they would fully expect, according to their model, to find abundant leopards, in fact there would be zero leopards … I can think of more than a dozen extensive areas in each of many countries…where the model would postulate sizable numbers of leopard, but none has been seen, or surmised to exist, since the late 1960s." Anonymous goes on to state that many other factors besides habitat need to be taken into account including activities and density of human communities, types of livelihoods of such communities, availability of poison, size and scope of the skin market, degree of known poaching, conservation capacity, corruption, official ineptitude, public awareness, and conservation commitment.

In another early review of the study of Martin and de Meulenaer, one of the co-authors of Jackson et al. (1989), Norton (1990), published his full analysis, which stated,

> "Results of ecological studies on leopards in the Cape Province, South Africa, carried out by the Chief Directorate: Nature and Environmental Conservation, suggest that some of the assumptions on which the population estimates are based are highly suspect, and that the population figures may be unrealistically high. The recommendations for leopard conservation and management should therefore be viewed with caution, *especially hunting quotas based on a proportional offtake from the 'estimated total' population*" (p. 218) (*emphasis added*).

Norton further states, similar to his comments in Jackson et al. (1989):

> "As I interpret it, the model is largely based on the following questionable assumptions: 1) that if natural habitats are unaltered, leopards will be found there; 2) that if leopards are reported, they will be at a rainfall-related 'carrying capacity'; 3) that all leopard densities are closely correlated with rainfall, irrespective of prey densities; 4) that the rainfall figures used in the correlation are representative of the study areas."

Norton studied each of these assumptions and found that in South Africa: 1) leopards have been extirpated—"hunted out"—from areas where habitat has not been substantially altered; 2) individual leopards, especially male leopards, may journey over 100 km from the nearest known leopard population but one leopard is not indicative of the presence of a population of leopards at 'carrying capacity'; 3) most of the data points in Martin and de Meulenaer's regression are from savanna habitats, but in other habitats (forests, including rain forests) the density of prey animals available for leopards is low to extremely low. Norton also questions the use by Martin and de Meulenaer of Coe et al. (1976) study of the relationship between large herbivore biomass and rainfall because it is based on large herbivore numbers mostly in savanna habitats, whereas leopard prey consists of small mammals. Norton notes that in some areas bushmeat hunting has eliminated small mammals making it difficult for leopards to survive; and 4) Norton questions the accuracy of the rainfall figures used in the Martin and de Meulenaer for all areas and provides a specific example from one of his study areas.

Norton states that he has been reluctant to provide leopard estimates for the region of South Africa in which he works, or for the country as a whole, because these would be more likely to be "a misleading guess" (p. 219). After closely examining Martin and de Meulenaer's estimates for South Africa, Norton found them to be "far too optimistic!" (p. 219, punctuation as in original). In one area Norton estimated to hold "no more than a hundred or so leopards", Martin and de Meulenaer estimated a population of 4,419. In another area where Norton estimated there to be one or two hundred leopards at the most, Martin and de Meulenaer estimated a population of 9,000. In a final area, Norton thought there were no more than "a handful" of leopards but Martin and de Meulenaer estimated a population of 1,335 leopards. In summation, Norton states, "I should be very surprised if there are more than two or three thousand leopards in South Africa at the most. As far as I am concerned, an estimate of over 20 000 is just plain nonsense!" (p. 219, punctuation as in original). Norton concludes, "I therefore suggest that the 'estimates' of leopard populations in the different countries in Africa be rejected, and all recommendations involving these estimates be viewed with extreme caution."

Thus, by 1990, it should have been explicitly clear to FWS that leopard experts – including one of the original authors (Martin) – found the original Martin and de Meulenaer report to be flawed. Yet, from 1989 through 2015, FWS and the CITES Parties have used the report by Martin and de Meulenaer as the scientific basis for establishing CITES export quotas and issuing CITES export and import permits.

More recently, Henschel (2008, 2009) criticized Martin and de Muelenaer for assuming that the Congo Basin[82] was a leopard stronghold based on unaltered habitat and supposedly prey-rich habitat. Henschel said that although the Congo Basin comprised only 12% of the leopard's range in Africa, Martin and de Meulenar estimated that it contained 40% of the leopard population of Africa. Henschel (2008, 2009) noted that other authors, Jackson et al. (1989) and Bailey (1993), also criticized Martin and de Meulenaer because the biomass of potential prey is actually lower in forests as compared to savannah. Henschel (2008) writes,

> "While it is widely accepted that in savannas ungulate biomass is positively correlated with rainfall (Coe et al., 1976, East, 1984) and that in these open habitats leopard density is linked with prey biomass (Marker and Dickman, 2005, Hayward et al., 2007), it has to be understood that although ungulate biomass increases with rainfall it decreases with forest cover, as a high proportion of the primary productivity is in the canopy and only available to relatively small arboreal mammals (Robinson and Bennett, 2004). Yet it is rainforest habitat that was considered optimal leopard habitat by Martin & de Meulenaer in their 1988 status survey, who considered the forests of the Congo Basin an absolute stronghold for the species that would harbour and estimated 40% of Africa's leopards, and predicted extremely high population densities for this habitat type of up to 40 individuals/100 km^2 (Martin and de Meulenaer, 1988). These population density estimates have since been used to produce population size estimates for central African countries, but the results were widely considered to be exaggerated (e.g. Jackson, 1989, Norton, 1990). Bailey (1993) and Jenny (1996) are among several authorities who have argued that since terrestrial mammalian prey biomass is lower in rainforest than in savannah environments, leopard densities should be correspondingly lower. Perhaps most importantly, Martin and de Meulenaer's

[82] The Congo Basin spans across six countries—Cameroon, Central African Republic, Democratic Republic of the Congo, Republic of the Congo, Equatorial Guinea and Gabon.

> model failed to account adequately for reduction of wild prey as a factor lowering leopard density, which could lead to overestimates especially in the Congo Basin, where forest wildlife suffers from a high demand for wild game for both local and commercial use (Wilkie and Carpenter, 1999)."

Henschel (2009) stated, "The figures published by Martin & de Meulenaer (1988) are still quoted today, and remain the chief source of information for African governments proposing to open or raise harvest quotas for trophy hunting of leopards. However, evidence is mounting that leopards have already disappeared from a number of forest sites on the fringes of the Congo Basin." Henschel (2009) notes that these sites are densely populated with people, that people consume medium-sized wild mammals as bushmeat, that such mammals are preferred leopard prey, and that such prey populations are depleted near densely populated areas. Henschel (2009) hypothesizes that this has led to reduced and even extirpated leopard populations in such areas. Henschel's study of leopards in Gabon found a strong correlation between commercial bushmeat hunting near settlements and the local disappearance of leopards (Henschel 2009).

Marker and Dickman (2005) found that, in Namibia, rainfall was not directly related to leopard density. They found leopard densities to be lower outside of reserves despite there being no marked difference in prey biomass between protected and unprotected areas; the authors explained that "the lower leopard density outside reserves was probably a result of local persecution by landowners, as leopards are commonly considered a threat both to people and their stock." (p. 113). Marker and Dickman note,

> "This is one of the main objections raised to the leopard population estimates made by Martin & de Meulenaer (1988), who assumed that where leopards occur, they should be at the carrying capacity determined by rainfall, without considering factors such as local persecution (Norton 1990). Although leopard density appeared to be indirectly linked to rainfall via the relationship with prey biomass, the overall determinants of leopard density and spatial ecology are likely to be a complex set of factors including an artificial 'carrying capacity' determined by the attitudes of local communities."

In a presentation delivered at the Large Carnivore Workshop, 3-4 November 2010, Henschel (2010) estimated the leopard population of Gabon to be 5,910 compared to the Martin and de Meulenaer estimate of 38,463. Regarding Martin and de Meulenaer's estimate of 714,000 leopards in sub-Saharan Africa, Henschel said, "Do not believe it!"

Chapman and Balme (2010) noted that Martin and de Meulenaer estimated the sub-Saharan leopard population to be 714,000 and the South African population to be 23,000 and said that this is "widely considered to be a gross overestimate" and "South Africa's true leopard population size, while still unknown, is thought to be an order of magnitude less" (p. 114). The authors state, "The detrimental consequences of basing management decisions on such unreliable estimates are patently obvious." (*id.*)

Ray (2011) noted that the Martin and de Meulenaer study has been "critically debated among specialists as presenting a high overestimate and has thus been rejected." (p. 1)

Swanepoel et al. (2014) used population modelling to estimate the leopard population size of South Africa which they estimated to be 4,476 leopards, far below the 23,472 leopards Martin and de Meulenaer estimated.

Du Preez et al. (2014) expressed concern about an increase in the CITES leopard export quota for Zimbabwe from 80 leopards per year to 500 being established based on Martin and de Meulenaer's calculations which "were based on the flawed assumption that leopards occurred at the highest possible density in all habitats" and "used rainfall data to estimate abundance; calculating what seems likely to have been an overestimate of Zimbabwe's leopard population at 16,064." (p. 153-154)

Braczkowski et al. (2015b) expressed concern that while leopards are one of the most sought trophies, leopard hunting quotas are based on "expert guesstimates" or "an over-simplified model that correlated leopard density to rainfall [cite to Martin and de Meulenaer] but ignored important factors such as anthropogenic mortality and prey availability."

Strampelli (2015), who studied leopards in Mozambique, stated there are no reliable continent-wide estimates of population size for the species and note that Martin and de Meulenaer was "obtained through a model that correlated leopard numbers with rainfall but omitted information on prey density or human related mortality, has been heavily criticized and is widely considered by specialists to be flawed." (p. 5-6). Strampelli states that the "over-simplified" Martin and de Meulenaer estimate of 37,542 leopards in Mozambique was used as justification for the 2007 increase in the CITES leopard export quota from 60 to 120. Strampelli further states,

> "Martin & de Meulenaer (1988) estimated a country-wide population for Mozambique of 37,542 leopards, based on density of 0.10/km2 (10 leopards per 100 km^2). This estimate was recently successfully quoted as a justification for an export quota increase (CITES 2007). The same report also states that "it is clear that much of Mozambique (perhaps up to 80%) falls within the category capable of supporting leopards at densities of between 0.03 and 0.1 per km²" – i.e. between 3.00 and 10.00 per km^2. Such estimates have already been universally rejected as exaggerated and inaccurate by experts (Balme et al. 2010b); indeed, that density in XGR, one of the better protected areas of the country, was estimated at 1.53/100 km^2 suggests that it is unlikely that many areas in Mozambique experience leopard densities such as those quoted in the quota revision application. Although some landscapes will have higher primary productivity levels, it seems plausible that the high levels of anthropogenic disturbances common in much of the country (Hatton et al. 2001) likely more than counteract this."

A study by Jacobson et al. (2016a) on leopard status and distribution stated, "Earlier Africa-wide assessments of population size (Myers, 1976; Eaton, 1977; Martin & De Meulenaer, 1988; Shoemaker, 1993) employed questionable population models based on scant field data and were widely criticized as being unrealistic (Hamilton, 1981; Jackson, 1989; Norton,1990; Bailey, 1993)." (p. 2)

Therefore, the existing CITES export quotas and domestic implementing regulations are completely outdated, scientifically indefensible, and inadequate to protect the leopard in southern Africa, and the exploitation facilitated by these regulations endangers the continued existence of the African leopard.

2. African Leopard Range Country Mechanisms

The significant decline in both the range and, in many cases, the size of leopard populations due to habitat destruction, loss of prey, excessive and poorly regulated trophy hunting, poaching for commercial trade, and human-leopard conflict demonstrates that many range States do not have adequate regulatory mechanisms to protect leopards.

There are several African regional agreements that have relevance to African leopards: the African Union's African Convention on the Conservation of Nature and Natural Resources, 1968;[83] the Revised African Convention on the Conservation of Nature and Natural Resources, 2003;[84] and the Protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community, 1999.[85]

The African Union (AU), formed in 1992, is an intergovernmental organization comprising 54 African States including all sub-Saharan Africa leopard range States.[86] The AU has an Executive Council to coordinate and take decisions on policies in areas of common interest to Member States, including environmental protection (Article 13 (1)(e)).[87]

Two AU Conventions are relevant to African leopard conservation: the African Convention on the Conservation of Nature and Natural Resources (entered into force in 1968), and the Revised African Convention on the Conservation of Nature and Natural Resources (negotiated in 2003, not yet entered into force).[88]

Parties to the African Convention on the Conservation of Nature and Natural Resources, which entered into force in 1969, have agreed to "adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interests of the people." (Article I). The Convention lists the leopard as a Class B protected species (Article VIII); Class B species "shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority." (Article VIII (1)(b)). Notably, some leopard range States that are significant exporters of leopard specimens have not ratified the Convention: Namibia, South Africa, and Zimbabwe. But even in range countries that have ratified the Convention, this law does not provide sufficient protection for leopards.

The Convention does not establish a Secretariat or designate the role and frequency of meetings of the Conference of the Parties; it also does not contain enforcement measures to address non-compliance with the Convention. Article XVI states:

> The Contracting States shall supply the Organization of African Unity with: (a) the text of laws, decrees, regulations and instructions in force in their territories, which are intended to

[83] African Union's African Convention on the Conservation of Nature and Natural Resources (1968), *available at* https://treaties.un.org/doc/Publication/UNTS/Volume%201001/volume-1001-I-14689-English.pdf.
[84] Revised African Convention on the Conservation of Nature and Natural Resources (2003), *available at* http://faolex.fao.org/docs/pdf/mul45449.pdf.
[85] Protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community (1999), *available at* http://www.sadc.int/files/4813/7042/6186/Wildlife_Conservation.pdf.
[86] *See* African Union, *at* http://www.au.int/en/countryprofiles.
[87] *Id. at* http://www.au.int/en/sites/default/files/ConstitutiveAct_EN.pdf.
[88] *Id. at* http://www.au.int/en/sites/default/files/treaties/7782-sl-revised_-_nature_and_natural_resources_1.pdf.

> ensure the implementation of this Convention; (b) reports on the results achieved in applying the provisions of this Convention; and (c) all the information necessary for the complete documentation of matters dealt with by this Convention if requested.

However, it is unclear if any States have complied with these requirements. Article XVIII addresses settlement of disputes, including the interpretation or application of the Convention, and allows submission of concerns by any party to the Commission of Mediation, Conciliation and Arbitration of the Organization of African Unity. However, it is unclear if any Party has done so and to what effect.

Very few African leopard range States to have ratified the Revised African Convention on the Conservation of Nature and Natural Resources.[89] The Revised Convention has not yet entered into force because fifteen Parties must ratify it and only thirteen have done so.

Several leopard range States have signed the Treaty of the Southern African Development Community (SADC):[90] Angola, Botswana, DRC, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.[91] Among SADC's objectives is to "achieve sustainable utilisation of natural resources and effective protection of the environment" (Article 5 (g)). Article 22 of SADC calls for the establishment of Protocols to achieve the Treaty's objectives. The SADC Protocol on Wildlife Conservation and Law Enforcement[92] elaborates on Article 5 (g) of the Treaty. Its objectives are to:

> a) promote the sustainable use of wildlife; b) harmonise legal instruments governing wildlife use and conservation; c) enforce wildlife laws within, between and among States Parties; d) facilitate the exchange of information concerning wildlife management, utilisation and the enforcement of wildlife laws; e) assist in the building of national and regional capacity for wildlife management, conservation and enforcement of wildlife laws; f) promote the conservation of shared wildlife resources through the establishment of transfrontier conservation areas; and g) facilitate community-based natural resources management practices for management of wildlife resources (Article 4).

With regard to wildlife management and conservation programs, Parties shall: "establish management programmes for the conservation and sustainable use of wildlife and integrate such programmes into national development plans" and "assess and control activities which may significantly affect the conservation and sustainable use of wildlife so as to avoid or minimise negative impacts." (Article 7) Parties are also to take measures to ensure the conservation and sustainable use of wildlife including:

> a) the protection of wildlife and wildlife habitats to ensure the maintenance of viable wildlife populations; b) prevention of over-exploitation and extinction of species; c) restrictions on the taking of wildlife, including but not limited to restrictions on the number, sex, size or age of specimens taken and the locality and season during which they

[89] *Id. at* http://www.au.int/en/sites/default/files/treaties/7782-sl-revised_-_nature_and_natural_resources_1.pdf.
[90] Treaty of the Southern African Development Community, *available at* http://www.sadc.int/files/5314/4559/5701/Consolidated_Text_of_the_SADC_Treaty_-_scanned_21_October_2015.pdf.
[91] *Id. at* http://www.sadc.int/member-states/
[92] *Id. at* http://www.sadc.int/files/4813/7042/6186/Wildlife_Conservation.pdf.

> may be taken; and d) restrictions on trade in wildlife and its products, both nationally and internationally, as required by relevant international agreements.

Article 12 of the Protocol concerning sanctions states:

> 1. Sanctions may be imposed against any State Party which: a) persistently fails, without good reason, to fulfill obligations assumed under this Protocol; or b) implements policies which undermine the objectives and principles of this Protocol. 2. The Council [SADC Council of Ministers] shall determine whether any sanction should be imposed against a State Party and shall make the recommendation to the Summit if it decides that a sanction is called for. The Summit shall decide, on a case-by-case basis, the appropriate sanction to be imposed.

However, it appears that no such sanctions have been considered or approved.

The Lusaka Agreement[93] is also in force in some leopard range countries (e.g. Kenya, Tanzania, Republic of Congo (Brazzaville), Uganda, South Africa, Liberia, Swaziland and Zambia).[94] The Agreement entered into force in 1994 and has the purpose "To support the member states and collaborating partners in reducing and ultimately eliminating illegal trade in wild fauna and flora".

The Lusaka Agreement is focused generally on fighting illegal wildlife trade in and between member States, including through wildlife enforcement officer training. The leopard could benefit in the future from such Lusaka Agreement activities but, to date, there have been no specific programs aimed at illegal leopard trade.

Ineffective conservation policies and inadequate enforcement throughout many leopard range States, as well as lack of efficacy of management and lack of government resources, endanger the survival of the African leopard (**Table 6**).

In addition, while all sub-Saharan African countries that are listed as Threatened under the ESA are CITES Parties, only four of these countries have "legislation that is believed generally to meet the requirements for implementation of CITES" (Category 1 under the CITES National Legislation Project) (Democratic Republic of the Congo, Namibia, South Africa, and Zimbabwe); nine of these countries have "legislation that is believed generally not to meet all of the requirements for the implementation of CITES" (Category 2) (Botswana, Burundi, Republic of the Congo, Gabon, Kenya, Malawi, Mozambique, Tanzania, Zambia); and five have "legislation that is believed generally not to meet the requirements for the implementation of CITES" (Category 3) (Angola, Lesotho, Rwanda, Swaziland, Uganda) (**Table 6**).[95]

[93] Lusaka Agreement (1994), *available at* http://lusakaagreement.org/?page_id=126.
[94] *Id. at* http://lusakaagreement.org/?page_id=24.
[95] The CITES National Legislation Project categorizes Parties by whether or not they have national legislation to implement the Convention. Category 1: legislation that is believed generally to meet the requirements for implementation of CITES; Category 2: legislation that is believed generally not to meet all of the requirements for the implementation of CITES; and Category 3: legislation that is believed generally not to meet the requirements for the implementation of CITES. *See* https://cites.org/legislation.

Table 6. National policies and laws where leopards are listed as Threatened under the ESA.

Country	National Policies, Laws, Regulations
Angola	Wildlife legislation is out-dated and limited; no evidence of consistent enforcement; became a CITES Party in December 2013; legislation in Category 3 under the CITES National Legislation Project; under law, leopard can be hunted, including by foreigners, with a license (DLA Piper 2015).
Botswana	CITES Party since 1978, National Legislation Project Category 2,[96] CITES legislation for terrestrial wildlife and for plants enacted.
Burundi	Became a CITES Party in 1988; CITES National Legislation Project Category 2;[97] CITES legislation enacted.
Republic of the Congo	Strong wildlife protection laws with serious penalties; enforcement is limited and inadequate; became a CITES Party in 1983 and the country has Category 2 CITES implementing legislation; leopards are a fully protected species (Category A) and hunting is not allowed for such species (DLA Piper 2015).
Democratic Republic of the Congo	CITES Party since 1976; legislation is in Category 1 under the CITES National Legislation Project.[98]
Gabon	There are flaws in the primary wildlife legislation and extremely weak penalties; became a CITES Party in 1989; legislation is in Category 2 under the CITES National Legislation Project; leopards are a completely protected species and cannot be hunted (DLA Piper 2015).
Kenya	Became a CITES Party in 1979; legislation is in Category 2 under the CITES National Legislation Project and Kenya is a country "requiring attention as a priority;"[99] strong wildlife legislation enacted, but implementing legislation is pending consultation process.
Lesotho	CITES Party since 2003; legislation is in Category 3 under the CITES National Legislation Project; enabling legislation (environmental) enacted.[100]
Malawi	Became a CITES Party in 1982; legislation is in Category 2 under the CITES National Legislation Project.[101]
Mozambique	Legislation is flawed and inadequate; there is no list of protected species; the law does not prohibit the hunting of protected species; Mozambique became a CITES Party in 1981; CITES National Legislation Project Category 3; enforcement is lacking (DLA Piper 2015). As of January 2016, Mozambique was listed in Category 2 and identified as a Party requiring attention as a priority, CITES-specific legislation enacted but local legal consultant reviewing existing legislation, preparing new draft legislation to address gaps, assisting with national consultative process and preparing final draft legislation.[102]
Namibia	Namibia has a comprehensive national legal framework; Namibia became a CITES Party in 1990; legislation is in Category 1 under the CITES National Legislation Project; financial penalties are comparatively low considering the potential economic value of wildlife; leopards are "protected game" which can be hunted under a permit issued by the Ministry of Environment and Tourism (DLA Piper 2015).

[96] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP+Table2-20years.pdf.
[97] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP+Table2-20years.pdf.
[98] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Cat1.pdf.
[99] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table1-Priority17.pdf.
[100] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table3-less20.pdf.
[101] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP+Table2-20years.pdf.
[102] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table1-Priority17.pdf.

Country	National Policies, Laws, Regulations
Rwanda	CITES Party since 1981; CITES National Legislation Project Category 3 and identified as a Party requiring attention as a priority.[103]
South Africa	South Africa has an "impressive suite" of wildlife regulations and stringent penalties; South Africa has been a CITES Party since 1975; it is in Category 1 of the CITES National Legislation Project; the leopard is a "protected species" which may be hunted under permit; the provinces implement the national laws and there is great disparity between the provinces in this regard; South Africa lacks the enforcement and prosecutorial capacity to adequately combat wildlife crimes (DLA Piper 2015).
Swaziland	CITES Party since 1997; CITES National Legislation Project Category 3; Comprehensive draft and revised draft legislation prepared.[104]
Tanzania	CITES Party since 1980; CITES National Legislation Project Category 2 and identified as a Party requiring attention as a priority;[105] legislation enacted for Tanzania mainland but lack of legislation for Zanzibar a major concern.
Uganda	CITES Party since 1991; CITES National Legislation Project Category 3;[106] Wildlife Policy adopted; draft legislation aligned with policy and submitted to Cabinet.
Zambia	Zambia's national wildlife laws are inadequate as there are significant omissions and confusion; Zambia has been a CITES Party since 1981 and its legislation is in Category 2 under the CITES National Legislation Project; Zambia's laws do not prohibit the hunting and trade of "protected species" for commercial purposes; the leopard is not a protected species but is classified as a "dangerous" animal and a "game animal"; the laws have strong penalties for some violations (illegal hunting of elephants) but these do not extend to other species, including leopards; fines are inadequate compared to potential profits; Zambia banned big cat hunting in 2013 and 2014, except in Game Management Areas, due to declining numbers and allegations of corruption in the awarding of safari hunting concessions (DLA Piper 2015).
Zimbabwe	Zimbabwe has detailed legislation and comprehensive penalties; nonetheless, enforcement is inadequate and wildlife crime is widespread; CITES Party since 1981; Zimbabwe's legislation is in Category 1 under the CITES National Legislation Project.[107]

E. Other Natural or Manmade Factors Affecting the Species' Existence

1. Prey Depletion

Leopard population densities are directly related to biomass of medium (10-40 kg) and large-sized wild herbivores, the main leopard prey (Stein et al. 2016). However, populations of such herbivores have been severely depleted by the unsustainable bushmeat trade which is considered to be a major threat to the survival of the African leopard (Jacobson et al. 2016a, Stein et al. 2016). As noted in Jackson et al. (1989), the existence of suitable habitat in and of itself does not mean that leopards will be present; there are many places with suitable habitat that contain no leopards because the prey has been depleted. In some places, bushmeat hunting has nearly eliminated the small- to medium-sized animals preferred as

[103] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table1-Priority17.pdf.
[104] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table3-less20.pdf.
[105] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Table1-Priority17.pdf.
[106] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP+Table2-20years.pdf.
[107] CITES, *at* https://cites.org/sites/default/files/eng/prog/Legislation/CITES-NLP-Cat1.pdf.

prey by leopards (Jackson et al. 1989). According to Stein et al. (2016), Craigie et al. (2010) found an estimated 59% average decline in leopard prey populations in 78 protected areas in West, East and Southern Africa between 1970 and 2005 due to commercialized bushmeat trade.

In intact rainforests where there is intense competition with humans for wild prey and "wild meat harvests denudes forests of prey" and may drive local leopard extinction (Henschel 2008). Bushmeat hunting in the Congo Basin for local and commercial use has reduced the wild prey base, resulting in lower leopard densities and even the disappearance of leopards from some places (Henschel 2008, 2009). Leopard range is largely reduced in human-populated areas in the Democratic Republic of the Congo due illegal hunting and bushmeat trade (Stein et al. 2016). Bushmeat poaching in Mozambique and Zambia has severely reduced leopard prey inside and outside of protected areas (Stein et al. 2016).

2. Human-Leopard Conflict

Intense persecution, particularly for livestock loss but also for human deaths and injury, is a major threat to the leopard in Africa (Ray et al. 2005, Henschel 2008, Stein et al. 2016). About 60-70% of Africa's people rely on agriculture and livestock for their livelihoods, and the human population of Africa is expected to more than double by 2050 (Stein et al. 2016); thus, the future will likely see increasing numbers of people using increasing amounts of land in conflict with decreasing numbers of leopards. Currently, many sub-Saharan African countries allow farmers to kill predators considered to be a threat to life or property without first obtaining a permit; it is likely that a large number of leopards are killed but not reported; and the total number of leopards killed due to conflict is unknown (Stein et al. 2016). Leopards have been eradicated from some areas in order to protect livestock and humans (Jackson et al. 1989). Marker and Dickman (2005) found leopard densities to be lower outside of reserves despite there being no marked difference in prey biomass between protected and unprotected areas; the authors explained that "the lower leopard density outside reserves was probably a result of local persecution by landowners, as leopards are commonly considered a threat both to people and their stock." (p. 113). And indiscriminate killing, such as the poisoning of carcasses aimed at attracting and killing carnivores of any and all types, and the use of snares to kill other species, is also a threat to the survival of leopards (Henschel 2008, Jorge 2012).

* * *

As demonstrated in this Petition, the current listing of leopards in "southern Africa" is biologically, legally, and geographically unsound, as it relies on biased anecdotal reports that have been discredited for over two decades, and leopards in the 18 countries currently listed as Threatened are in danger of extinction based on the ESA listing factors and should be included along with leopards in Asia and North and West Africa in one species-level Endangered listing. The Service cannot continue to maintain this unlawful split-listing and must immediately initiate a status review of the species. 16 U.S.C. § 1533(b)(3). Indeed, in order to ensure that listings are based on the best available science, the ESA requires FWS to "conduct, at least once every five years, a review of *all* species" listed under the ESA to determine if such species should be reclassified or removed from the list. 16 U.S.C. § 1533(c)(2) (emphasis added). *See also* 50 C.F.R. § 424.21; *Florida Home Builders Ass'n v. Norton*, 496 F.Supp.2d 1330 (M.D. Fl. 2007) (making clear that FWS has a non-discretionary duty to conduct five-year status reviews of each species listed under the ESA). Since finalizing the 1982 listing for leopards in southern Africa, FWS has not conducted a single five year review for *Panthera pardus*, in violation of the ESA. Thus, FWS must

expedite the processing of this petition and immediately issue a positive 90-day finding to begin this long-overdue status review. Petitioners are confident that a status review will reveal that listing the species *Panthera pardus* as Endangered across its entire African and Asian range is warranted.

V. FWS Must Immediately Restrict Leopard Trophy Imports

Additionally, even before FWS completes a status review of the species, we hereby petition the Service take immediate action to restrict leopard imports to address the primary impact that the U.S. has on leopard conservation. First, we urge FWS to suspend the issuance of CITES import permits for *Panthera pardus* trophies until the FWS non-detriment advice memoranda are updated for each range country where trophy hunting occurs. Second, we urge FWS to rescind the special rule pertaining to leopards from southern Africa (50 C.F.R. § 17.40(f)) to require ESA permits for all otherwise prohibited activities, consistent with 50 C.F.R. § 17.31(a).

A. FWS Must Suspend Leopard Trophy Imports Pending Scientific Review

It is arbitrary and capricious for the Service to issue CITES import permits for leopard trophies based on the faulty 1982, 1983, or 2015 non-detriment advice memoranda. As detailed above, those memoranda are not supported by the best available science and, therefore, the Service cannot possibly rely on those memoranda to make a reasoned finding that the issuance of leopard trophy import permits "will not be detrimental to the survival of that species." CITES Art. III; 50 C.F.R. § 23.61 ("Detrimental activities, depending on the species, could include, among other things, unsustainable use and any activities that would pose a net harm to the status of the species in the wild. For Appendix I species, it also includes use or removal from the wild that results in habitat loss or destruction, interference with recovery efforts for a species, or stimulation of further trade.").

Under the Administrative Procedure Act, a reviewing court shall "hold unlawful and set aside agency action, findings, and conclusions found to be ... arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law[.]" 5 U.S.C. § 706(2). In evaluating agency actions under this standard, courts must consider "whether the [agency's] decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989) (citation and internal quotation marks omitted); *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971). If an agency, however, "failed to provide a reasoned explanation, or where the record belies the agency's conclusion, [the court] must undo its action." *Cnty. of Los Angeles v. Shalala*, 192 F.3d 1005, 1021 (D.C.Cir.1999). At the very least, the agency must have reviewed relevant data and articulated a satisfactory explanation establishing a "rational connection between the facts found and the choice made." *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43 (internal quotation marks omitted); *see also* Pub. Citizen, Inc. v. Fed. Aviation Admin., 988 F.2d 186, 197 (D.C.Cir.1993) ("The requirement that agency action not be arbitrary or capricious includes a requirement that the agency adequately explain its result."). "[A]n agency acts arbitrarily or capriciously if it 'has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Am. Wildlands*, 530 F.3d at 997-98 (*quoting Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43).

In order to comply with the APA, ESA, and CITES, the Service must not issue any leopard trophy import permits unless or until it has strictly scrutinized the trophy hunting programs of leopard range states to determine whether recreational offtake of this imperiled species is sustainable. In order to facilitate that evaluation, the Service should determine whether the range state from which the trophy originated:

- Has an approved and current national leopard management plan, which develops and implements conservation activities for specific leopard conservation units and works in concert with regional leopard management plans. Such national management plans should be developed using the IUCN SSC guidelines for strategic conservation planning, based on scientific information, and implemented in a manner that benefits the species and provides economic incentives for local communities to protect and expand leopard habitat.
- Has up-to-date estimates on leopard distribution range, abundance, and status.
- Observes a precautionary approach to establishing hunting quotas given current leopard population trends.
- Carries a credible capacity to monitor and manage leopard populations in order to maintain healthy numbers and genetic diversity.
- Has appointed an identified national leopard plan coordinator.
- Implements its leopard management in a manner that is informed by the biological needs of the species and is based on the best available science.
- Has sound law enforcement capabilities to deter or punish illegal retaliatory killings.
- Involves local communities in leopard protection and humane conflict mitigation strategies.
- Implements a human-leopard conflict management plan (including rapid response, mitigation approaches, a training component, education).
- Actively promotes wildlife-integrated land-use to ensure land-use planning does not negatively impact leopard conservation.
- Achieves conservation targets within identified time frames.
- Documents the achievement of stated goals and monitor and evaluate the implementation of the plan, and adapt it as necessary.
- Is in compliance with all international, regional and national commitments, agreements and regulations relating to wildlife (and specifically leopard) conservation, including (but not limited to) CITES.
- Has enacted laws and provided ample resources for enforcement against illegal trade in leopards and their parts.
- Cooperates with neighboring countries for transboundary leopard population conservation and monitoring.
- Has a system for measuring good governance when it comes to wildlife conservation/protection policy making and its implementation (for example, transparency International's corruption perception index).
- Has credible policies for managing any hunting offtake, including:
    - A science-based system for establishing hunting quotas which is demonstrably sustainable at a population level;

- Price-setting (taxes and minimum number of safari days) and a system of concession leasing that increase the value of leopards across their range (no competition on price);
- Hunting moratoria for any declining populations;
- A verifiable and enforceable mechanism to ensure no subadults or females are taken;
- An adaptive management policy of monitoring the impacts of the removal of individuals on remaining populations , and adjusting quotas accordingly; and
- A demonstrable commitment to ensure proceeds of trophy hunting are used to benefit wildlife (and specifically leopard) conservation and communities living with wildlife.

The status of *Panthera pardus* has changed dramatically since the 1982 and 1983 memoranda were drafted, and it is entirely arbitrary and capricious for the Service to rely on those memoranda to make non-detriment findings. It is particularly egregious for the Service to turn a blind eye to the last decade of warnings from leopard experts that the Martin and De Meulenaer's report of 700,000 leopards in Africa is completely inaccurate, and to have doubled-down on this bad science in issuing its 2015 non-detriment advice for Mozambique.

Additionally, the existing non-detriment advice memoranda only purport to authorize leopard imports from South Africa if they originate from "Transvaal" – but this now-defunct region does not encompass the whole of the leopard's range in South Africa and it does not appear that the Service has limited leopard trophy imports from South Africa to this part of the country. Thus, it appears that the Service's practice of allowing American trophy hunters to import their leopard kills does not even comply with its own non-detriment advice, which is arbitrary, capricious, and not in accordance with law.

Thus, in order to comply with CITES, the ESA, and the APA, FWS must immediately initiate a review of the leopard hunting programs in African range states, prioritizing the seven countries from which FWS currently allows leopard trophy imports: Mozambique, Botswana, South Africa, Tanzania, Zambia, Zimbabwe, Namibia. Unless or until such review is completed, FWS cannot lawfully issue any CITES import permits for leopard trophies.

B. FWS Should Repeal the ESA Special Rule for Leopards

In addition to taking the above action regarding CITES import permits, FWS must also take immediate action to apply the enhancement standard to leopard trophy imports. As discussed above, FWS committed in 1982 to not issue leopard trophy import permits unless the enhancement standard was met. *See* 47 Fed. Reg. at 4205 (import permit for leopard trophies will only be issued if "it is determined that the country of origin for the trophy has a management program for the leopard, and can show that its populations can sustain a sport hunting harvest, *and that sport hunting enhances the survival of the species*") (emphasis added). The Service has completely abdicated this duty, primarily through the adoption of a special rule that waives the requirement for ESA permits for leopard trophy imports. 50 C.F.R. § 17.40(f). In order to require ESA permits for all otherwise prohibited activities, consistent with 50 C.F.R. § 17.31(a), the Service should rescind this special rule.

As an initial matter, the Service only has authority under the ESA to issue special rules that are "necessary and advisable to provide for the conservation of such species." 16 U.S.C. § 1533(d). Special rules must be designed and implemented to actually promote the conservation of the Threatened species. *See Sierra Club v. Clark*, 755 F.2d 608 (8th Cir. 1985); 16 U.S.C. § 1531(b) (the primary purpose of the ESA is to "provide a program for the conservation of such endangered species"); 16 U.S.C. § 1532(3) (the term "conservation" means "to use…all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this chapter are no longer necessary"). The current special rule – which allows American trophy hunters to exploit African leopards with little oversight, constituting a recognized threat to the species – is not *necessary* or *advisable* to provide for leopard conservation. Indeed, as demonstrated in this Petition, trophy hunting of leopards is poorly managed, unsustainable, and does not promote the conservation of *Panthera pardus*.

Therefore, the Service must take action to apply the enhancement standard to leopard trophy imports, in addition to requiring compliance with CITES permitting standards. *See, e.g.,* FWS, *Ensuring the Future of the Black Rhino* (Nov. 25, 2014), *at* http://www.fws.gov/news/blog/index.cfm/2014/11/25/Ensuring-the-Future-of-the-Black-Rhino (acknowledging that the ESA enhancement standard is more stringent than the CITES non-detriment standard and that these rhino import permits will only be issued if the Service finds "that the rhino is taken as part of a well-managed conservation program that contributes to the long-term survival of the species").

Rescinding the leopard special rule – the only purpose of which is to waive the ESA permitting requirements for trophy imports – would achieve this goal. Such action would be consistent with the Service's recent action to reign in the unfettered imports of African elephant and lion trophies. *See* 50 C.F.R. § 17.40(e) ("African elephant sport-hunted trophies may be imported into the United States provided: (A) The trophy was legally taken in an African elephant range country that declared an ivory export quota to the CITES Secretariat for the year in which the trophy animal was killed; (B) A determination is made that the killing of the trophy animal will enhance the survival of the species and the trophy is accompanied by a threatened species permit issued under § 17.32; (C) The trophy is legibly marked in accordance with 50 CFR part 23; (D) The requirements in 50 CFR parts 13, 14, and 23 have been met; and (E) No more than two African elephant sport-hunted trophies are imported by any hunter in a calendar year."); 50 C.F.R. § 17.40(r)(2) ("The import exemption found in § 17.8 for threatened wildlife listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) does not apply to this subspecies. A threatened species import permit under § 17.32 is required for the importation of all specimens of *Panthera leo melanochaita*."). *See also Safari Club Int'l v. Jewell*, 76 F.Supp.3d 198 (D.D.C.2014) (upholding the Service's non-detriment advice memorandum and enhancement memorandum finding that elephant trophy imports from Tanzania are unsustainable); 80 Fed. Reg. 79999 (Dec. 23, 2015) (FWS committing to review African lion range state management plans prior to issuing any ESA import permits for lion trophies).

Moreover, because the trophy hunting industry has been on notice since 1982 that the import of leopard trophies must meet the enhancement standard before being authorized, the Service could issue a Director's Order to reiterate that the commitment made in the 1982 rule remains in force. Such order would be consistent with recent action that the Director took to prohibit FWS from issuing ESA or CITES

trophy import permits for any species to individuals who previously violated federal wildlife law, and directing FWS to "consider all relevant facts or information available" when determining whether to issue a permit.[108] It would also be consistent with the Director's order to strengthen enforcement of existing laws pertaining to the trade in ivory (including ivory obtained through trophy hunting), making clear that the burden of proof is on the importer "to definitively show" that the importation of elephant tusks is ESA compliant.[109]

Thus, while the Service considers this Petition to reclassify all *Panthera pardus* as Endangered, it must take swift action to bring its existing regulations and practice into compliance with the ESA by rescinding the special rule for leopards, applying the enhancement standard to any applications for leopard trophy imports, and updating the non-detriment advice memoranda for any country that authorizes leopard trophy hunting. *See* Declaration of Dr. Jane Goodall, ¶ 9-12; Declaration of Dereck Joubert, ¶ 19 ("The effort to protect leopards from extinction is vital – we no longer have the luxury of time to use or abuse these big cats for our own desires. Poaching of leopards – primarily for the fur trade – continues at unsustainable rates, and the African leopard is under immense threats from habitat loss and human conflict. To allow the trophy hunting of leopards for recreational purposes to continue unchecked is scientifically and ethically unjustified.").

VI. Conclusion

This Petition presents substantial scientific and commercial information indicating that the petitioned action – listing all *Panthera pardus* as Endangered – may be warranted. *See* 50 C.F.R. § 424.14(b). Therefore, Petitioners expect that the Service will promptly issue a positive 90-day finding on this Petition. 16 U.S.C. § 1533(b)(3). Further, because the Service has never reviewed the 1982 listing for *Panthera pardus*, the Service must immediately initiate a status review of the African leopard to bring that listing into compliance with the Endangered Species Act. *Id.* at § 1533(c)(2).

Not only must the Service reevaluate this listing to ensure it is based on the best available science, but it must take immediate action to restrict the import of African leopard trophies by requiring Endangered Species Act permits, applying the enhancement standard to each proposed import of leopard parts, and reevaluating its CITES non-detriment advice for African leopard range states. Indeed, a recent Congressional report specifically directs the Service to "rescind regulations that allow trophy imports to meet lesser conservation standards and require enhancement findings and import permits for all trophies of listed species."[110]

[108] *See* FWS, Director's Order No. 212 § 3 (Dec. 9, 2015), *available at* http://www.fws.gov/policy/do212.pdf.
[109] *See* FWS, Director's Order No. 210 § 2 (Feb. 25, 2014), *available at* http://www.fws.gov/policy/do210.pdf.
[110] Representative Raul M. Grijalva, *Missing the Mark: African Trophy Hunting Fails to Show Consistent Conservation Benefits*" (June 13, 2016), *available at* http://democrats-naturalresources.house.gov/imo/media/doc/Missing%20the%20Mark.pdf.

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VIII. Annexes

A. Declaration from Dr. Jane Goodall
B. Declaration from Dereck Joubert
C. CITES Establishment of Leopard Export Quotas 1987-2013
D. Information from the CITES Trade Database

ANNEX A

Declaration of Jane Goodall, Ph.D., DBE
Founder, the Jane Goodall Institute & UN Messenger of Peace

England)
)
County of Dorset)

I, Jane Goodall, hereby declare as follows:

1. I reside in Bournemouth, England.

2. I received my Ph.D. in ethology from Cambridge University in 1965 and I have received over 45 honorary degrees from universities around the world. I have held several academic appointments, including serving as a professor at Stanford University, University of Southern California, Cornell University (Andrew D. White Professor at Large), and the University of Dar Es Salaam, and I routinely lecture on the topics of primatology, ethology, and conservation. I began studying the behavior of wild chimpanzees in what is now known as Gombe National Park, Tanzania, in 1960. I have written 15 books, plus 16 children's books, many of them drawing upon my knowledge of African wildlife and conservation efforts, and have co-authored more than 86 research papers that have been published in peer-reviewed scientific journals. I am a United Nations Messenger of Peace and I currently serve in an advisory capacity in more than 100 organizations, including the Wildlife Conservation Society, the Cougar Fund and other groups that work on big cat conservation. A copy of my curriculum vitae is attached hereto.

3. In 1977, I founded the Jane Goodall Institute (JGI), which supports community-centered conservation in areas of East Africa and the Congo Basin. For example, JGI is working with 54 villages in western Tanzania to promote environmentally friendly agricultural practices, improve education, build efficient stoves to reduce demand for timber, and raise local incomes in order to mitigate deforestation and habitat loss for chimpanzees. JGI has also protected hundreds of thousands of acres of land in Tanzania, Uganda and Democratic Republic of Congo in which local communities have been empowered with technology to report activities that relate to habitat destruction and poaching.

4. The study of the Gombe chimpanzees is one of the two longest running studies of any wild animal species – now 56 years long – and my colleagues and I have made significant discoveries regarding the behavior of chimpanzees in Gombe, including the use and manufacture of tools, hunting and meat sharing, food preferences, ranging patterns, mother-offspring and sibling relationships, communication patterns, reproductive behavior, social dominance, personality differences, intercommunity "war" and the cultural traditions of a chimpanzee community. While conducting field work at Gombe, I have seen leopards on multiple occasions.

5. Based on my personal knowledge of African wildlife and for the following reasons, I support this administrative petition to extend the full protections of the Endangered Species Act to African leopards and to immediately increase scrutiny of leopard trophy imports into the U.S.

6. I have observed a significant decline in the presence of leopards in Gombe and other locations in Africa I have visited for decades. Leopards are extremely elusive and although I did not frequently see them when I first arrived at Gombe, it was apparent through their prints, scat, and sound that leopards were commonly there. Several months after I began tracking the chimpanzees, I experienced my first siting of a leopard, a male who passed only a few yards away from me through the long grass. In the 1960s and 1970s, two leopards routinely ranged through the Kakombe valley in Gombe and Gombe rangers would see leopards on the beach of Lake Tanganyika at night. One actually sometimes visited my camp at night. But today Gombe, Tanzania's smallest national park, is increasingly pressured by human encroachment and it has been some years since there was any verified observation of any leopard.

7. At multiple other field sites where researchers study chimpanzees – such as Tai National Park in Cote d'Ivoire, the Bili-Uele Forest in Democratic Republic of Congo, and Mahale Mountains National Park in Tanzania – there have been documented instances of chimpanzee and leopard interactions. Chimpanzees sometimes appear to demonstrate fear of leopards and even behave more altruistically in the presence of leopards (suggesting that leopards may predate on chimpanzees, a theory supported by a 2012 study that discovered a chimpanzee patella and phalanges in leopard scat), but there have also been documented instances of chimpanzees antagonizing leopards (including evidence of chimpanzees killing leopard cubs and one incident of chimpanzees eating an adult leopard). There are also examples of baboons on the Serengeti forcing leopards to take refuge in a tree, and reports from Ruaha National Park of leopards preying on baboons. This fascinating behavior is increasingly difficult to observe, due to the decline in the leopard's population and range.

8. It is absolutely clear that leopards – like most wildlife in Africa – are at greater risk of extinction today than they were in 1982 when the U.S. Fish and Wildlife Service listed southern African leopards as Threatened. In the nearly six decades during which I have learned a great deal about wildlife in Tanzania and other African countries, the human population has more than doubled, resulting in rapidly vanishing wildlife habitat, wiping out forests and grasslands essential to sustain leopards and their prey. Large mammals – like leopards and chimpanzees – play essential roles in their ecosystems, and in order to preserve these magnificent animals in perpetuity it will require all nations to exercise their full power to promote the conservation of imperiled species.

9. Given the precipitous decline of African leopards in recent decades, and because the threats to the continued existence of *Panthera pardus* and its habitat are significant, the United States must ensure that it is not contributing to the imperilment of this species and do all it can to promote the conservation of leopards in Africa. Thus, it is completely unacceptable that American trophy

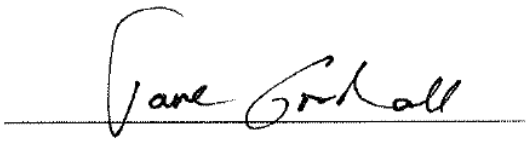
hunters continue to import hundreds of leopard trophies per year, apparently for recreational purposes.

10. Trophy hunters target large males in their prime – those who carry the genes likely to result in the perpetuation of strength and magnificence, splendid individuals whose decapitated heads disfigure the walls of countless wealthy homes. Trophy hunters routinely boast about the animals they have killed, posting photographs of their smiling faces hovering over the lifeless bodies of their conquests, even though the prey (which may be drugged or baited) is often shot with a high powered rifle from a safe distance. Trophy hunters sometimes defend this malicious slaughter by claiming that the money they pay for the pleasure of killing is what enables impoverished countries to pay for conservation of wildlife, but this argument has many flaws.

11. The money paid to hunt a leopard or other trophy animal is often counted as profit by a hunting outfitter and does not usually end up in a conservation program. And as the founder of an organization that has worked for decades on community-based conservation in Africa, I can say confidently that putting a bounty on the heads of individual animals is counter-productive to promoting their protection. Indeed, normalizing the recreational killing of a species promotes poaching of the species for commercial purposes. On the whole, trophy hunting is having a negative impact on populations of imperiled species, including leopards, which are subject to unsustainable quotas across their African range. Conservation programs are only as effective as the governmental organizations responsible for managing them, and the countries where the most trophy hunting occurs have high levels of corruption.

12. In my expert opinion, leopards across their African range are in danger of extinction and the U.S. Fish and Wildlife Service should strictly regulate the import of hunting trophies and other leopard parts in order to not continue to contribute to the decline of this endangered species.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is, in my professional opinion, true and correct.



Dr. Jane Goodall

Executed on the 20th day of July, 2016

the Jane Goodall Institute

Curriculum Vitae
Jane Goodall, Ph.D., DBE
Founder, the Jane Goodall Institute
UN Messenger of Peace
www.janegoodall.org

Personal

Date of Birth: 3rd April 1934
Nationality: British
Marital Status: Married to Baron Hugo van Lawick, 1964 (divorced);
Married to Hon. Derek Bryceson, M.P., 1975 (widowed)
Children: Hugo Eric Louis van Lawick (1967 -)

Education

1950 School Certificate (London) with Matriculation Exemption

1952 Higher Certificate (London)

1962 Entered Cambridge University, United Kingdom, as Ph.D. candidate in Ethology under Professor Robert Hinde

1966 Ph.D. in Ethology, Cambridge University, United Kingdom

Research

From 1960 Behavior of free-living chimpanzees in Gombe National Park, Tanzania

1968-1969 Social behavior of the spotted hyena, *Crocutta crocutta*, Ngorongoro Conservation Area, Tanzania

1967-2003 Scientific Director of the Gombe Stream Research Centre, Tanzania

1972-2003 Director of research on the behavior of the olive baboon, *Papio anubis*, Gombe National Park, Tanzania

Academic Appointments

1971 – 1975 Visiting Professor, Department of Psychiatry and Program of Human Biology, Stanford University, Calif., USA

From 1973 Honorary Visiting Professor in Zoology, University of Dar es Salaam, Tanzania

1987 – 1988 Adjunct Professor of the Department of Environmental Studies, Tufts University, School of Veterinary Medicine, Boston, Mass., USA

1990 Associate, Cleveland Natural History Museum, Cleveland, OH, USA

1990 Distinguished Adjunct Professor, Departments of Anthropology and Occupational Therapy, University of Southern California, Calif., USA

1996 – 2002 Andrew D. White Professor-at-Large, Cornell University, NY, USA

Professional Affiliations

From 1974 Trustee, L.S.B. Leakey Foundation, USA

From 1976 Trustee, the Jane Goodall Institute for Wildlife Research, Education and Conservation, USA

From 1981 Scientific Governor, Chicago Academy of Sciences, USA

From 1984 International Director, ChimpanZoo (research program involving zoos and sanctuaries worldwide), USA

From 1987 Vice President, the British Veterinary Association's Animal Welfare Institute, UK

From 1988 Trustee, Jane Goodall Institute, UK

From 1989 Director, Humane Society of the United States, USA

From 1990 Member of the Advisory Board, Advocates for Animals, UK

From 1991 Member of the Advisory Board, the Albert Schweitzer Institute for the Humanities, USA

From 1993 Trustee, the Jane Goodall Institute, Canada

From 1994 Member of the Board, the Orangutan Foundation, USA

From 1994 Member of the Advisory Board, Trees for Life, USA

From 1997 Founder, Whole Child Initiative, USA

From 1995 Member of the Advisory Board, International Dolphin Project and Dolphin Project Europe

From 1995 Member of Council of Advisors, Global Green, USA

From 1996 Member of Advisory Board, The Fred Foundation, Netherlands

From 1998 to May 2008 President, Advocates for Animals, UK

From 1999 Member of Advisory Board, The Orion Society, USA

From 2000 to 2007 Member of the Board, Save the Chimps/Center for Captive Chimpanzee Care, USA

From 2000 Co-founder of Ethologists for Ethical Treatment of Animals/Citizens for Responsible Animal Behavior, USA

From 2001 Member of the International Advisory Board, Teachers Without Borders, USA

From 2001 Member of Advisory Committee, RESTORE, USA

From 2001 Honorary Trustee, The Eric Carle Museum of Picture Book Art, USA

From 2001 Member of IPS Ad-Hoc Committee for the World Heritage Status for Great Apes

From 2001 Member of Board of Trustees, NANPA Infinity Foundation, USA

From 2001 Member of Board, North American Bear Center, USA

From 2001 Member of Advisory Board, Laboratory Primate Advocacy Group, USA

From 2001 Member of Advisory Board, Tech Foundation, USA

From 2001 Member of Honorary Committee, Farm Sanctuary, USA

From 2002 Member of Advisory Board, Rachel's Network, USA

From 2002 Member of the Board of Directors, The Cougar Fund, USA

From 2002 Scientific Fellow of the Wildlife Conservation Society, USA

From 2002 Member of Board of Directors, The Many One Foundation, USA

From 2002 Member of Board of Governors and Officers, For Grace, USA

From 2002 Member of Advisory Board, Dignity U Wear, USA

2002-2003 Papadopoulos Fellow, The Kinkaid School USA

From 2003 Member of the Honorary Board, Albert Schweitzer Institute, USA

From 2004 Member of Advisory Board, Initiative for Animals and Ethics, Harvard University, USA

From 2004 Honorary Patron, Ryan's Well Foundation, Canada

From 2004 Member of Advisory Board, MONA-Spain

From 2004 Member of the Advisory Council, The Spiritual Alliance to Stop Intimate Violence, USA

From 2004 Member of Honour Committee of Fundación Altarriba, Spain

From 2005 Member of International Advisory Board, Friends of Africa International, USA

From 2005 Member of Cincinnati Zoo Advisory Council, USA

From 2005 Member of Advisory Board, Chimps Inc., USA

From 2005 Member of Advisory Board, KidsRights, Netherlands

From 2005 Member of Advisory Board, MediSend, USA

From 2005 Member of Honorary Board, Quinnipiac University, USA

From 2006 Member of Advisory Board, Foundation for Natural Leadership

From 2006 Member of Advisory Board, Nuclear Age Peace Foundation, USA

From 2006 Honorary Member, Club of Budapest, Hungary

From 2006 Member of the Mothers Network, ENO, Finland

From 2006 Member of Board of Directors, National Institute for Play, USA

From 2007 Fellow, Wings WorldQuest, USA

From 2007 Member of Advisory Board, Gift of Life in America, Inc., USA

From 2007 Member of Advisory Board, The Heart of America Foundation, USA

From 2007 Member of Advisory Board, Project R&R: Release and Restitution for Chimpanzees in U.S. Laboratories, a campaign of the New England Anti-Vivisection Society, USA

From 2007 Member of Advisory Board, Save the Chimps, USA

From 2007 Member of Advisory Board, Slow Food Nation, USA

From 2007 Distinguished Fellow, Ewha Academy for Advanced Studies, Republic of Korea

From 2007 Member of Advisory Board, Human and KIND, USA

From 2007 Honorary Board Member, The Scholar Ship Research Institute, UK

From 2007 Member of Advisory Board, Climate Clean, USA

From 2008 Member of the Great Chapter, Grace Cathedral, CA, USA

From 2008 Honorary Board Member, Eagle Vision Initiatives, USA

From 2008 Honorary Patron, Comunidad Inti Wara Yassi, UK

From 2008 Honorary Fellow, Institute of Biology, UK

From 2008 Patron, Earth Charter-UK

From 2008 Special Advisor for Biodiversity, Prince Albert II of Monaco Foundation, Monaco

From 2008 Member of Council of Honour, Waldrappteam, Austria

From 2008 Member of the Board, Climate Change Center, Republic of Korea

From 2008 Patron, Julia's House, UK

From 2008 Member of the Honorary Committee, Alpine Peace Crossing, Austria

From 2008 Member of the Advisory Council, Ebola Vaccination Initiative

From 2008 Patron, Society of Theological Zoology, Germany

From 2008 Member of Celebrity Circle Board, Green Chimneys, USA

From 2009 Honorary Keeper of the Museum Tridentino of Natural Science, Italy

From 2009 Member of Advisory Board, EcoReserve, USA

From 2009 Honorary Fellow, Society of Biology, UK

From 2009 Member of Advisory Board, Goodplanet Foundation of Yann Arthus-Bertrand, France

From 2009 Member of Advisory Board as advisor for Biodiversity, Foundation Jacques Chirac, France

From 2010 Honorary Co-Chair of the Build the Peace Committee, USA

From 2010-2013 Patron, Minding Animals International, Australia

From 2010 Member of the International Conference, WE, USA

From 2010 Member of Advisory Board, Living with Wolves, USA

From 2010 Goodwill Ambassador, Equine Sciences Academy, USA

From 2010 Acclaimed Ambassador, Best Friends Animal Society, USA

From 2011 Member of the Advisory Council, Voices for a World Free of Nuclear Weapons, USA

From 2011 Patron, Voiceless, Australia

From 2012 Honorary Councilor, World Future Council, Germany

From 2012 Honorary Board, Center for Great Apes, USA

From 2013 International Patron, School Broadcasting Network Inc., Australia

From 2013 Member of Scientific and Ethics Council, Ecolo-Ethik, France

From 2013 Philosophical Society, Trinity College, Dublin, Ireland

From 2014 Member of Advisory Council, International Women's Earth and Climate Initiative (IWECI), USA

From 2014 Member of Advisory Board, Years of Living Dangerously, USA

From 2014 Advisor to Board, APOPO, USA

From 2014 Advisory Board, Mongabay.org, USA

From 2014 Honorary Board of Directors, IFAW, USA

From 2015 Patron of Nature, IUCN, USA

Memberships

1972 Honorary Foreign Member of the American Academy of Arts and Sciences, USA

1981 Explorer's Club, USA

1984 Foreign Member of the Research Centre for Human Ethology at the Max-Planck Institute for Behavioral Physiology, Germany

1988 American Philosophical Society, USA

1988 Society of Woman Geographers, USA

1990 Deutsche Akademie der Naturforscher Leopoldina, Germany

1991 Academia Scientiarium et Artium Europaea, Austria

1991 Honorary Fellow of the Royal Anthropological Institute of Great Britain and Ireland

2004 Great Ape Subsection of the Primate Specialist Group, USA

2006 Honorary Member, Ewha Academy of Arts and Sciences, Republic of Korea

2006 Member of the International Primatological Society, USA

Honorary Degrees

1975 LaSalle College, Philadelphia, Penn., USA

1979 Stirling University, Stirling, Scotland, UK

1986 Ludwig-Maximilians University, Munich, Germany

1986 Zoologisches Institut der Universitat Munchen, Munchen, Germany

1986 Tufts University, Boston, Mass., USA

1988 University of North Carolina, Greensboro, N.C., USA

1990 University of Pennsylvania, Philadelphia, Penn., USA

1991 Colorado College, Colorado Springs, Colo.,USA

1993 College of William and Mary, Williamsburg, Va., USA

1993 University of Miami, Coral Gables, Fla., USA

1994 Utrecht University, Utrecht, Netherlands

1996 Western Connecticut State University, Danbury, Conn., USA

1996 Salisbury State University, Salisbury, Md., USA

1997 University of Edinburgh Veterinary School, Edinburgh, Scotland, UK

1998 University of Guelph, Guelph, Ontario, Canada

1999 Albright College, Reading, Penn., USA

2000 Wesleyan College, Macon, Ga., USA

2001 University of Minnesota, Minneapolis, Minn., USA

2001 University at Buffalo, Buffalo, N.Y., USA

2001 Ryerson University, Toronto, Ontario, Canada

2001 Providence University, Taiwan, Republic of China

2002 Elon University, Elon, N.C., USA

2002 Sweet Briar College, Sweet Briar, Va., USA

2003 University of Central Lancashire, UK

2004 University of Natal, Pietermaritzburg, South Africa

2004 Haverford College, Haverford, Penn., USA

2005 Pecs University, Pecs, Hungary

2005 Syracuse University, Syracuse, N.Y., USA

2005 Rutgers, The State University of New Jersey, Camden, N.J., USA

2006 The Open University of Tanzania, Dar es Salaam, Tanzania

2007 Doane College, Crete, Neb., USA

2007 Uppsala University, Uppsala, Sweden

2007 Kyoto University, Kyoto, Japan

2007 University of Liverpool, Liverpool, UK

2008 Lehigh University, Bethlehem, Penn., USA

2008 University of Toronto, Toronto, Canada

2008 University of Haifa, Haifa, Israel

2008 National Taiwan University of Science and Technology, Taiwan, Republic of China

2009 University of Liège, Liège, Belgium

2009 University of Pablo de Olavide, Seville, Spain

2009 University of Alicante, Sant Vicent del Raspeig/Alicante, Spain

2011 American University of Paris, Paris, France

2011 Giordano Bruno GlobalShift University, Budapest, Hungary

2011 Maimonides University, Buenos Aires, Argentina

2012 National Tsing Hua University, Taiwan

2012 Goldsmiths, University of London, UK

2013 University of St. Andrews, Scotland, UK

2013 Trinity College, Dublin, Ireland

2013 St. Ignatius of Loyola University, Peru

2014 University of South Australia, Adelaide, Australia

2016 University of Redlands, Redlands, CA

Awards

1963 and 1964 Franklin Burr Award for Contribution to Science, National Geographic Society, USA

1970 Stott Science Award, Cambridge University, UK

1974 Gold Medal for Conservation, San Diego Zoological Society, USA

1974 Conservation Award, Women's Branch of the New York Zoological Society, USA

1974 Bradford Washburn Award, Boston Museum of Science (with Hugo van Lawick), USA

1980 Order of the Golden Ark, World Wildlife Award for Conservation, presented by HRH Prince Bernhard of the Netherlands, Netherlands

1984 J. Paul Getty Wildlife Conservation Prize, Tanzania

1985 Living Legacy Award, the Women's International Center, USA

1987 The Albert Schweitzer Award of the Animal Welfare Institute, USA

1987 National Alliance for Animals Award

1987 E. Mendel Medaille from the Deutsche Akademie der Naturforscher Leopoldina, East Germany

1987 Golden Plate Award, Academy of Achievement, USA

1988 Centennial Award, National Geographic Society, USA

1988 Joseph Wood Krutch Medal, the Humane Society of the United States, USA

1988 Award for Humane Excellence, American Society for the Prevention of Cruelty to Animals, USA

1989 Encyclopedia Britannica Award for Excellence on the Dissemination of Learning for the Benefit of Mankind, USA

1989 Anthropologist of the Year Award

1990 The Anthropology in Media Award, American Anthropological Association, USA

1990 Whooping Crane Conservation Award, Conoco, Inc., USA

1990 Gold Medal of the Society of Women Geographers, USA

1990 Washoe Award

1990 The Kyoto Prize in Basic Science, Japan

1991 The Edinburgh Medal, UK

1993 Rainforest Alliance Lifetime Achievement Award, USA

1994 Chester Zoo Diamond Jubilee Medal, UK

1995 Commander of the British Empire, presented by Her Majesty Queen Elizabeth II, UK

1995 The National Geographic Society Hubbard Medal for Distinction in Exploration, Discovery, and Research, USA

1995 Lifetime Achievement Award, In Defense of Animals, USA

1995 The Moody Gardens Environmental Award, USA

1995 Honorary Wardenship of Uganda National Parks, Uganda

1996 The Zoological Society of London Silver Medal, UK

1996 The Tanzanian Kilimanjaro Medal, Tanzania

1996 The Primate Society of Great Britain Conservation Award, UK

1996 The Caring Institute Award, USA

1996 The Polar Bear Award, National Alliance for Animals

1996 William Proctor Prize for Scientific Achievement, Sigma Xi, USA

1997 Tyler Prize for Environmental Achievement, USA

1997 David S. Ingalls, Jr. Award for Excellence

1997 Common Wealth Award for Public Service, USA

1997 The Field Museum's Award of Merit

1997 Royal Geographical Society / Discovery Channel Europe Award for A Lifetime of Discovery

1997 Global 500 Roll of Honour Award, UNEP, Seoul, Korea

1998 Disney's Animal Kingdom Eco Hero Award, USA

1998 National Science Board Public Service Award, USA

1998 The Orion Society's John Hay Award, USA

1999 International Peace Award, Community of Christ, USA

1999 Botanical Research Institute of Texas International Award of Excellence in Conservation, USA

2000 Reorganized Church of the Latter Day Saints International Peace Award, USA

2001 Graham J. Norton Award for Achievement in Increasing Community Liability

2001 Rungius Award of the National Museum of Wildlife Art, USA

2001 Master Peace Award

2001 Gandhi/King Award for Non-Violence, USA

2002 The Huxley Memorial Medal, Royal Anthropological Institute of Great Britain and Ireland

2002 United Nations Messenger of Peace Appointment, USA

2003 Benjamin Franklin Medal in Life Science, USA

2003 Harvard Medical School's Center for Health and the Global Environmental Citizen Award, USA

2003 Prince of Asturias Award for Technical and Scientific Achievement, Spain

2003 Chicago Academy of Sciences' Honorary Environmental Leader Award, USA

2003 Commonwealth Club Centennial Medallion Award

2004 Dame of the British Empire, presented by HRH Prince Charles, UK

2004 Teachers College Columbia University Medal for Distinguished Service to Education, USA

2004 Nierenberg Prize for Science in the Public Interest, USA

2004 Will Rogers Spirit Award, the Rotary Club of Will Rogers and Will Rogers Memorial Museums

2004 Lifetime Achievement Award, the International Fund for Animal Welfare (IFAW), USA

2004 Polar Star Award, Paris, France

2004 Save Our Species Award, Santa Barbara, Calif., USA

2004 Time Magazine European Heroes Award

2004 Extraordinary Service to Humanity Award, The Bear Search and Rescue Foundation, USA

2004 Medal for Distinguished Service to Education, Teachers College, Columbia University, N.Y., USA

2005 Lifetime Achievement Award, Jackson Hole Wildlife Film Festival, USA

2005 Siemens Academy of Life Award, Austria

2005 Westminster College President's Medal, Salt Lake City, Utah, USA

2005 National Organization for Women's Intrepid Award, USA

2005 Honorary Conservation Award, University of Iowa, USA

2005 Discovery and Imagination Stage Award, USA

2005 Westminster College President's Medal for Exemplary Achievement, Utah, USA

2005 Pax Natura Award, Utah, USA

2005 Two Wings Award, Vienna, Austria

2006 International Patron of the Immortal Chaplains Foundation, USA

2006 UNESCO 60th Anniversary Golden Medal Award, Paris, France

2006 French Legion of Honor, awarded by the President of France, Mr. Jacques Chirac, and presented by Prime Minister Dominique de Villepin

2006 Lifetime Achievement Award, Jules Verne Adventures

2006 Biophilia Award, Jazzpur Society, Windsor, Canada

2006 Genesis Award, Humane Society of the United States, USA

2007 Lifetime Achievement Award, WINGS WorldQuest

2007 Honorary Medal of the City of Paris, presented by Mr. Bertrand Delanoë, mayor of Paris, France

2007 Roger Tory Peterson Memorial Medal, Harvard Museum of Natural History, USA

2008 Presidential Medal for Global and Visionary Leadership, Montana State University, Bozeman, Mont., USA

2008 Prix de la Fondation Prince Albert II de Monaco, presented to David Lefranc by Prince Albert II of Monaco

2008 Prize for Sustainable Community Development, Weidemann Foundation, Calif., USA

2008 State of Rhode Island and Providence Plantations Citation, R.I., USA

2008 Eurogroup Award, Brussels, Belgium

2008 Courage of Conscience Award, The Peace Abbey, Sherborn, Mass., USA

2008 Environmental Education Award of Hebei University of Science and Technology, China

2008 L.S.B Leakey Foundation Prize for Multidisciplinary Research on Ape and Human Evolution (Leakey Prize), USA

2009 United States Department of the Interior, The Secretary's Lifetime Achievement Award, presented by Mr. Ken Salazar, USA

2009 Minerva Award, USA

2010 Association of American Geographers Atlas Award, USA

2010 International Golden Doves for Peace Award, Italy

2010 Peace Hero, Kids for Peace, USA

2010 BAMBI Award, Germany

2010 NEA Award for Outstanding Service to Public Education, NEA Foundation, Washington, D.C., USA

2011 Order of Merit of the Italian Republic, Italy

2011 Mayor's Medallion, Lincoln, Neb., USA

2011 Heart of Green Award for Lifetime Achievement, TheDailyGreen.com, USA

2011 Focus magazine's Greatest Personality of Planete Doc Film Festival, Poland

2011 Honorary International Ranger Award, The Thin Green Line Foundation and International Ranger Federation, Australia

2011 Inspirational International Award, The Inspiration Awards for Women, USA

2011 Grand Officer of the Order of Merit of the Italian Republic, presented by the President of the Republic's Counselor Magistrate Dr. Elio Berarducci

2012 Lifetime Achievement Award, The Observer Ethical Awards, UK

2012 Outstanding Harmony Award in Rio+20, World Harmony Foundation, Australia

2012 Anne Marrow Lindberg Award for Living with Grace and Distinction, Huffington Center for Aging, USA

2012 II Monito del Giardino international award, Italy

2012 AARP Inspire Award, USA

2013 Varner Vitality Lecture, Oakland University, Michigan, USA

2013 WildCare Environmental Award, California, USA

2013, Wyland Icon Award, USA

2014 Better Malaysia Foundation (BMF) Person of the Year Award, Kuala Lumpur, Malaysia

2014 Animal Defence and Anti-Vivisection Society, Person of the Year Award, British Columbia, Canada

2014 Distinguished Lecturer, the University of Iowa Lecture Committee, Iowa, USA

2014 Invercargill Vegan Society Award, Dunedin, New Zealand

2014 BAUM Award, Germany

2014 Look! World Achievement Award

2014 Green Prize Award, Santa Monica Public Library

2014, Recognition of lifelong contributions to wildlife protection from MOTC, Taiwan

2014, World Technology Network (WTN) Award for Use of Technology in Policy, New York, USA

2014, President's Medal from the British Academy, London, UK

2014, Captain Planet Foundation Exemplar Award, Atlanta, GA USA

2015, Asia Pacific Brand Foundation, The BrandLaureate Legendary Award, Malaysia

2015, Premi Internacional Catalunya Prize, Catalonia, Spain

2015, The Perfect World Foundation, Conservationist of the Year 2015, Stockholm, Sweden

2015, the Orang Utan Republik Foundation, Pongo Environmental Award, Beverly Hills, CA USA

Publications

Books

1967 My Friends the Wild Chimpanzees. Washington, D.C.: National Geographic Society

1971 Innocent Killers (with H. van Lawick). Boston: Houghton Mifflin; London: Collins.

1971 In the Shadow of Man. Boston: Houghton Mifflin; London: Collins.
Published in 48 languages.

1986 The Chimpanzees of Gombe: Patterns of Behavior. Boston: Bellknap Press of the Harvard University Press. Published also in Japanese and Russian.

R.R. Hawkins Award for the Outstanding Technical, Scientific or Medical book of 1986, to Bellknap Press of Harvard University Press, Boston.

The Wildlife Society (USA) Award for "Outstanding Publication in Wildlife Ecology and Management."

1990 Through a Window: My Thirty Years with the Chimpanzees of Gombe. London: Weidenfeld & Nicolson; Boston: Houghton Mifflin.
Translated into more than 15 languages.

1991 Penguin edition, UK. American Library Association "Best" list among Nine Notable Books (Nonfiction) for 1991.

1993 Visions of Caliban (co-authored with Dale Peterson, Ph.D.). Boston: Houghton Mifflin.
New York Times "Notable Book" for 1993.
Library Journal "Best Sci-Tech Book" for 1993.

1999 Brutal Kinship (with Michael Nichols). New York: Aperture Foundation.

1999 Reason For Hope: A Spiritual Journey (with Phillip Berman). New York: Warner Books, Inc. Translated into more than 13 languages.

1999 40 Years At Gombe. New York: Stewart, Tabori, and Chang.

2000 Africa In My Blood (edited by Dale Peterson). New York: Houghton Mifflin Company.

2001 Beyond Innocence: An Autobiography in Letters, The Later Years (edited by Dale Peterson). New York: Houghton Mifflin Company.

2002 The Ten Trusts: What We Must Do To Care for the Animals We Love (with Marc Bekoff). San Francisco: Harper San Francisco.

2005 Harvest for Hope: A Guide to Mindful Eating (with Gary McAvoy and Gail Hudson). New York: Warner Books.

2009 Hope for Animals and Their World: How Endangered Species Are Being Rescued from the Brink (with Thane Maynard and Gail Hudson). New York: Grand Central Publishing.

2010 50 Years at Gombe. New York: Stewart, Tabori, and Chang.

2014 Seeds of Hope: Wisdom and Wonder from the World of Plants (with Gail Hudson). New York: Grand Central Publishing.

Children's Books

1972 Grub: The Bush Baby (with H. van Lawick). Boston: Houghton Mifflin.

1988 My Life with the Chimpanzees. New York: Byron Preiss Visual Publications, Inc. Translated into French, Japanese and Chinese.
Parenting's Reading-Magic Award for "Outstanding Book for Children," 1989.

1989 The Chimpanzee Family Book. Saxonville, MA: Picture Book Studio; Munich: Neugebauer Press; London: Picture Book Studio.

Translated into more than 15 languages, including Japanese and Kiswahili.
The UNICEF Award for the best children's book of 1989.
Austrian state prize for best children's book of 1990.

1989 Jane Goodall's Animal World: Chimps. New York: Macmillan.

1989 Animal Family Series: Chimpanzee Family; Lion Family; Elephant Family; Zebra Family; Giraffe Family; Baboon Family; Hyena Family; Wildebeest Family. Toronto: Madison Marketing Ltd.

1994 With Love (illustrated by Alan Marks). New York / London: North-South Books. Translated into German, French, Italian, and Japanese.

1999 Dr. White (illustrated by Julie Litty). New York: North-South Books.

2000 The Eagle & the Wren (illustrated by Alexander Reichstein). New York: North-South Books.

2001 Chimpanzees I Love: Saving Their World and Ours. New York: Scholastic Press.

2004 Rickie and Henri: A True Story (with Alan Marks) New York: Penguin Young Readers Group.

2013 Dr. White (illustrated by Julie Litty) gift book size. Honk Kong: minedition

2014 The Eagle & the Wren (illustrated by Alexander Reichstein) gift book size. Hong Kong: minedition

2014 With Love (illustrated by Alan Marks) gift book size. Hong Kong: minedition

2014 Jane Goodall The Chimpanzee Children of Gombe (with Michael Neugebauer). Hong Kong: minedition

2015 Prayer for World Peace (with Michael Neugebauer). Hong Kong: minedition

Films

1963 Miss Goodall and the Wild Chimpanzees, National Geographic Society.

1984 Among the Wild Chimpanzees, National Geographic Special.

1988 People of the Forest, with Hugo van Lawick.

1990 Chimpanzee Alert, in the Nature Watch Series, Central Television.

1990 Chimps, So Like Us, HBO film nominated for 1990 Academy Award.

1990 The Life and Legend of Jane Goodall, National Geographic Society.

1990 The Gombe Chimpanzees, Bavarian Television.

1995 Fifi's Boys, for the Natural World series for the BBC.

1995 My Life with the Wild Chimpanzees, National Geographic.

Chimpanzee Diary for BBC2 Animal Zone.

Animal Minds for BBC.

1999 Jane Goodall: Reason For Hope, PBS special produced by KTCA.

2001 Chimps R Us PBS special Scientific Frontiers.

2002 Jane Goodall's Wild Chimpanzees, in collaboration with Science North and Science Museum of Minnesota.

2004 Jane Goodall's Return to Gombe, produced by Tigress Productions for Animal Planet/Discovery Communications.

2004 Jane Goodall's State of the Great Ape, produced by Tigress Productions for Animal Planet/Discovery Communications.

2005 Jane Goodall - When Animals Talk, produced by Tigress Productions for Animal Planet/Discovery Communications.

2006 Jane Goodall's Heroes, produced by Creative Differences for Animal Planet/Discovery Communications.

2007 Almost Human, produced by Creative Differences for Animal Planet/ Discovery Communications

2010 Jane's Journey, produced by Animal Planet, CC Medien, NEOS Film and Sphinx Media

2014 Jane and Payne, produced by Boy Olmi and LSD Live (Dylan Williams)

2015 Racing Extinction, produced by Discovery and directed by Louie Psihoyos

2016 Time to Choose, directed by Charles Ferguson

Articles

1962 Nest building in a group of free-ranging chimpanzees. Ann. N.Y. Acad. Sci. 102: 455-467.

1963 Feeding behaviour of wild chimpanzees: a preliminary report. Symp. Zool. Soc. Lond. 10: 39-48.

1963 My life with the wild chimpanzees. National Geographic 124 (2):272-308.

1964 Tool-using and aimed throwing in a community of free-living chimpanzees. Nature. 201: 1264-1266.

1965 Chimpanzees of the Gombe Stream Reserve. In: I. DeVore (Ed). Primate Behaviour. New York: Holt, Rinehart and Winston.

1965 New discoveries among Africa's chimpanzees. National Geographic 128 (6): 802-831.

1965 Infancy, childhood and adolescence in a group of wild chimpanzees. Proc. Roy. Inst. Lond.

1966 (with H. van Lawick). Use of tools by the Egyptian Vulture, Neophron porenoptemus. Nature. 212: 1468-1469.

1967 Mother-offspring relationships in chimpanzees. In: D. Morris (Ed). Primate Ethology. London: Weidenfeld & Nicolson. pp. 287-345.

1967 (with H. van Lawick). Tool-using bird, the Egyptian Vulture. National Geographic 133 (5): 631-651.

1968 Behaviour of free-living chimpanzees of the Gombe Stream Area. In: J.M. Cullen and C.G. Beer (Eds). Anim. Behav. Monog. Vol. 1, Part 3. London: Bailliere, Tindall, and Casell. pp. 165-311.

1968 Expressive movements and communication in free-ranging chimpanzees: a preliminary report. In: P. Jay (Ed). Primates: Studies in Adaptation and Variability. New York: Hold, Rinehart and Winston. pp. 313-374.

1969 Some aspects of reproductive behaviour in free-living chimpanzees. Journ. Reprod. Fert.

1970 Some aspects of mother-infant behaviour in wild chimpanzees. In: R. Schaffer (Ed). Determinants of Infant Behaviour. New York: John Wiley and Sons.

1970 The scratching rocks clan. Animals. 13: 401-407.

1970 Tool-using in Primates and other Vertebrates. In: D.S. Lehrman, R.A. Hinde, and E. Shaw (Eds). Advances in the Study of Behaviour, Vol. 3. New York and London: Academic Press. pp. 195-249.

1971 Some aspects of aggressive behaviour in a group of free-living chimpanzees. Int. Soc. Sci. Journ. 23 (1): 89-97.

1973 Baboons too use tools. Science News 103: 71-72.

1973 The behaviour of chimpanzees in their natural habitat. Am. J. Psychiatry. 130 (1): 1-12.

1973 (with H. van Lawick and C. Packer). Use of objects as tools in free-living baboons in the Gombe National Park, Tanzania. Nature 24: 212-213.

1973 Cultural elements in a chimpanzee community. In: W.W. Menzel (Ed). Precultural Primate Behaviour, Vol I. Karger: Fourth IPV Symposium Proceedings.

1975 Chimpanzees of Gombe National Park: 13 years of research. In: I. Eibesfeldt (Ed). Hominisation und Verhalten. Stuttgart: Gustav Fischer Verlag. pp. 74-136.

1975 The chimpanzee: a model for the behaviour of early man? In: V. Goodall (Ed). Quest for Man. London: Pall Mall Press. pp. 130-169.

1975 On the contribution of chimpanzee studies to understanding human origins. In: S.L. Isaac (Ed). Perspectives on Human Evolution, Vol. 3: Essays on East Africa and Human Origins--a tribute to the life's work of the late Louis Leakey.

1976 (with D.A. Hamburg). New evidence on the origins of human behaviour. In: D. Hamburg and K. Brodie (Eds). American Handbook of Psychiatry, Vol. 6, New Frontiers. New York: Basic Books.

1976 Continuities between chimpanzee and human behaviour. In: G.L Isaac and E.R. McGown, (Eds). Human Origins: Louis Leakey and the East African Evidence California: W.J. Benjamin Inc.

1976 (with D. Riss). Sleeping behaviour and associations in a group of captive chimpanzees. Folia Primatol. 25: 1-11.

1977 Infant-killing and cannibalism in free-living chimpanzees. In: Folia Primatol. 28: 59-282.

1977 (with K. Morris). Competition for meat between chimpanzees and baboons of the Gombe National Park. Folia Primatol. 28: 109-121.

1977 (with D. Riss). The recent rise to the alpha rank in a population of free-living chimpanzees. Folia Primatol. 27: 134-151.

1978 Chimp Killings: Is it the Man in them? Sci News 113: 276.

1979 (with A. Bandora, E. Bergmann, C. Busse, H. Matama, E. Mpongo, A. Pierce, D. Riss). Inter-community interactions in the chimpanzee population of the Gombe National Park. In: D.A. Hamburg and E.R. McGown (Eds). The Great Apes. Menlo Park, California: Benjamin/Cummings. pp. 13-53.

1979 Life and Death at Gombe. National Geographic 155 (5): 592-621.

1980 (with J. Athumani). An observed birth in a free-living chimpanzee in Gombe National Park, Tanzania. Primates. 21 (4): 545-549.

1982 Order without law. Journal of Social and Biological Structures 5: 353-360.

1983 Population dynamics during a 15 year period in one community of free-living chimpanzees in the Gombe National Park, Tanzania. Zeitscherift fur Tierpsychologie 61: 1-60.

1983 (with T. Nishida, R.W. Wrangham, and S. Uehara.) Local differences in plant-feeding habits of chimpanzees between the Mahale Mountains and Gombe National Park, Tanzania. J. Human Evol. 12: 467-480.

1984 (with D.A. Collins, C.D. Busse and J. Goodall. 1984. Infanticide in two populations of Savanna Baboons. In: G. Hausfater and S.B. Hrdy (Eds). Infanticide: Comparative and Evolutionary Perspectives. New York: Aldine Publishing Company. pp. 193-216.

1984 The nature of the mother-child bond and the influence of family on the social development of free-living chimpanzees. In: N. Kobayashi and T.B. Brazelton (Eds). The Growing Child in Family and Society. Tokyo: University of Tokyo Press. pp. 47-66.

1985 Chapter. In: P.L. Berman (Ed). The Courage of Conviction. New York: Ballantine Books.

1985 (with H. Kummer, H). Conditions of innovative behaviour in primates. Phil. Trans. R. Soc. Lond. 308: 205-214.

1986 Mountain Warrior. Omni. May 1986, 132-143.

1986 Social rejection, exclusion, and shunning among the Gombe chimpanzees. Special issue: Ostracism: A social and biological phenomenon. Eth. and Sociobiol. 17 (3-4): 227-236.

1987 A Plea for the Chimps. The New York Sunday Times Magazine. May 17, 1987. pp. 108-110.

1987 A Plea for the Chimpanzees. Am. Sci. 75 (6): 574-577.

1988 Ethical concerns in the use of animals as donors. Xenograft 25: Proceedings of the International Congress, Xenograft 25. Elsevier Science Publishers. pp. 335-349.

1988 (with A. Prince, J. Moor-Jankowski, J. Eichberg, H. Schellekens, R. Mauler, and M. Girard) Chimpanzees and AIDS research. Nature. 333 (9): 513.

1989 The Chimpanzee: Man's closest relative in danger. In: Kakakuona, the magazine of the Tanzania Wildlife Protection Fund. 1 (1): 5-9.

1989 (with A. Prince, B. Brotman, H. Dienske, H. Schellekens, and J. Eichberg). Appropriate conditions for maintenance of chimpanzees in studies with blood-borne viruses: an epidemiologic and psychosocial perspective. J. Med. Primatol. 18: 27-42.

1989 (with R.W. Wrangham). Chimpanzee use of medicinal leaves. In P. Heltne and L. Marquardt (Eds) Understanding Chimpanzees, pp. 22-37. Cambridge: Harvard University Press.

1990 (with A.L. Zihlman, and M.E. Morbeck). Skeletal biology and individual life history of Gombe chimpanzees. J. Zool., London 221: 37-61.

1990 Gombe: Highlights and Current Research. In: In: P.G. Heltne and L.A. Marquard (Eds). Understanding Chimpanzees. Boston: Harvard University Press. pp. 2-21.

1990 ChimpanZoo. In: P.G. Heltne and L.A. Marquard (Eds). Understanding Chimpanzees. Boston: Harvard University Press. pp. 148-150.

1990 Area Status Report: Tanzania. In: P.G. Heltne and L.A. Marquard (Eds). Understanding Chimpanzees. Boston: Harvard University Press. pp. 360-361.

1990 Respect for Life. In: C. Fadiman (Ed). Living Philosophies. New York: Doubleday. pp. 81-88.

1992 Psychosocial needs of laboratory chimpanzees. Proceedings of the Symposium on Biomedical Research on Primates.

1993 Unusual violence surrounding the rise to alpha rank in the Gombe chimpanzee community. In: Proc. XIIIth Cong. IPS.

1993 (with J. Wallis). Anogenetal swelling in pregnant chimpanzees of Gombe National Park. Am. J. Primatol. 31(2): 89-98.

1994 (with P.A. Morin, J.J. Moore, R. Chakraborty, L. Jin, and D.S. Woodruff). Kin selection, social structure, gene flow and the evolution of chimpanzees. Science 265: 1193-1201.

1994 (with C.B. Stanford, Wallis, J., Matama, H.) Patterns of Predation by chimpanzees on red colobus monkeys in Gombe National Park, 1982-1991. American Journal of Physical Anthropology, 94 (2) 213-228.

1994 (with C.B. Stanford, Wallis, J, Mpongo, E) Hunting decisions in wild chimpanzees. Behaviour, 131, 1-18.

1995 (with C. Packer, D.A. Collins, and A. Sindimwo). Reproductive constraints on aggressive competition in female baboons. Nature 373: 60-63.

1995 Why is it unethical to use chimpanzees in the laboratory? ATLA. 23: 615-620.

1995 Chimpanzees and others at play. ReVision 17 (4): 14-20.

1997 (with A. Pusey and J. Williams). The influence of dominance rank on the reproductive success of female chimpanzees. Science. 277: 828-831.

1999 (with A. Whiten, McGew, W.C., Nishida, T., Reynolds, V., Sugiyama, Y. Tutin, C.E.G., Wrangham, R.W., Boesch, C.) Cultures in chimpanzees. Nature 399, 682-5.

2001 (with Marc Bekoff). Primate Origins of Human Cognition and Behavior, edited by Tetsuro Matsuzawa. (Book review). Science. 411: 995-996.

2001 (with Bekoff, M.). The view from Japan. Nature 411, 995-996.

2001 (with Mario L. Santiago, Cynthia M. Rodenburg, Shadrack Kamenya et. al.) Noninvasive Detection and Molecular Identification at Simian Immunodeficiency Virus in Wild-living Chimpanzees. Nature.

2001 (with A. Whiten, McGew, W.C., Nishida, T., Reynolds, V., Sugiyama, Y. Tutin, C.E.G., Wrangham, R.W., Boesch, C.) Charting cultural variation in chimpanzees. Behavior 138, 1489-1525.

2001 (with Constable, J., Ashley, M., & Pusey, A.) Noninvasive paternity assignment in Gombe chimpanzees. Molecular. Ecology, 10:1279-1300.

2001 (with Hill, K., Goodall, J, Pusey, A., Williams, J., Boesch, C., Boesch, H., & Wrangham, R.W.) Chimpanzee mortality in the wild. Journal of Human Evolution. 40:437-450.

2002 (with RW Wrangham and D Pilbeam). Apes as time machines. In BMF Galdikas, N Briggs, LK Sheeran, GL Shapiro, and J Goodall eds, All Apes Great and Small Volume 1: Chimpanzees, Bonobos, and Gorillas. Plenum/Kluwer Publication

2002 (with Anne Pusey, Shadrack Kamenya, Anthony Collins, Richard Wrangham, Beatrice H. Hahn et. al.) SIV cpz in Wild Chimpanzees. Science.

2002 (with Lonsdorf, E. V.) Cultures in chimpanzees. Encyclopedia of Evolution. Oxford UK, Oxford University Press.

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ANNEX B

Declaration of Dereck Joubert

Botswana)
)
Okavango)

I, Dereck Joubert, hereby declare as follows:

1. I reside at Duba Plains camp, in the Okavango Delta in Botswana.

2. After my studies at University of Witwatersrand in Johannesburg, South Africa, I started work at the Chobe Lion Research Institute in Botswana researching and, later, filming big cats, for the major broadcasters of the world (e.g., BBC, National Geographic).

3. During our 30 years with the National Geographic Society so far, my wife Beverly and I have made over 25 films for National Geographic that have garnered 9 Emmy Awards, a Peabody award, and other international recognition. I have also published 11 books, multiple scientific papers, and dozens of articles for National Geographic Magazine and other publications, focusing on the plight of wildlife in southern Africa.

4. In 2006 Beverly and I were awarded the status of National Geographic Explorers in Residence, two of only 10 people that carry that title around the world.

5. In 2009, we founded the Big Cats Initiative, a National Geographic program dedicated to the preservation of big cats (including leopards, lions, tigers, jaguars, and cheetahs) through education, conservation projects, and a worldwide awareness campaign. To date, the Big Cats Initiative has funded over 90 grants across more than 27 countries. Further, the Big Cats Initiative has supported research, including the most recent and most comprehensive study of leopard populations across their range.

6. In 2011, I received a Presidential Order of Meritorious Service by the President of Botswana for my conservation efforts in Botswana. I am currently a member of the International Union for Conservation of Nature (IUCN) African Lion Working Group.

7. I am also the founder and CEO of Great Plains Conservation, a company that manages approximately 1,800,000 acres of land in Botswana and Kenya for conservation purposes. Through this effort I have converted large tracts of land that were formerly open to hunting to wildlife preserves that benefit surrounding communities and provide opportunities for low-impact eco-tourism. For example, the Selinda Reserve is a 350,000 acre private wildlife sanctuary in the northern part of Botswana that provides habitat for leopards and dozens of other species. Through this effort we increased the economic benefit to the nation of Botswana from that concession by 2,500% by switching from hunting to photographic tourism. I also sit on the board of The Big Life Foundation in Kenya.

7. I have made four films about leopards: "Eye of the Leopard," "The Unlikely Leopard," "Living with Big Cats " and "Big Cat Odyssey" all of which required Beverly and I to follow individual leopards on a daily basis for multiple years to capture natural leopard behavior. For example, for "Eye of the Leopard," from 2003-2007 Beverly and I following a leopard cub – named Legadema – from eight days of age, a journey that exposed us to the often

mysterious lives of leopards and gave us an insight into just how fragile and complex their societies are. Making these films – which involves hundreds of hours in the field, tracking leopards, highlighted the need to engage in policy decisions to protect the world's remaining big cats.

8. Based on my substantial experience in field biology and wildlife filmmaking, it is my expert opinion that leopards are in danger of extinction across their African and Asian range, and that governments must take all actions within their authority to promote the conservation of this species before it disappears.

9. Because of the secretive and solitary nature of leopards, it is exceedingly difficult get an accurate census of leopards across the species' African range. There were estimates of about 700,000 leopards in Africa in the 1980s, but the most recent science states that such estimates were flawed. There is no reason to believe that the population trend for leopards is significantly different to those of other big cats in Africa, all of which indicate a 95% decline over the past 50 years. Our own findings coincide with that hypothesis and in many areas I have surveyed, in particular where there is hunting, leopard have declined significantly. Territories have been disrupted and breeding has been suppressed. It is unlikely that there are more than 50,000 leopards in Africa today. Indeed, based on my experience over the last 30 years working with leopards, the population has significantly decreased in that time. For example, in the Selinda and Kwando areas of Botswana where we estimated a home range of 12 sq km per leopard and studied 26 females, once trophy hunting increased, we reached a point where we saw no leopards in 5 years and heard none either. Overhunting is a huge threat to this species.

10. Leopards are severely impacted by habitat loss and human encroachment, with the most recent data revealing that the African leopard has lost 48-67% of its historical range. I have actively worked to reduce those threats through protecting leopard habitat, educating surrounding communities on how to peacefully coexist with these predators, and implementing a program to reimburse local people for any loss of livestock caused by leopards, via our foundations and initiative (Great Plains Foundation, Big Cats Initiative and The Big Life Foundation.) However, the habitat loss is often linked to over population of humans and a task best tackled at a different level of policy and leadership discussion. Hunting, however, is something we can actually do something about with rational legislation today.

11. Despite their imperiled status, leopards continue to be targeted by trophy hunters, most of whom are American. I estimated that in the five years I followed Legadema, 10,000 leopards were legally shot by trophy hunters, (according to issued CITES permits) in addition to the immense amount of leopard poaching during the same period. The African leopard simply cannot sustain losses of thousands or even hundreds of individuals per year – at this rate the subspecies could go to the very edge of extinction in 10-15 years.

12. In my expert opinion, trophy hunting is a dire threat to the continued survival of the African leopard. My own observations across six hunting concessions in Botswana are consistent with this observation. Scientific papers (Palazy et al) on the relationship between lions and trophy hunters are also indicative of that basic fact that trophy hunting is the direct cause of cat population declines wherever it is carried out.

13. In addition, the activity undermines conservation, fuels corruption at the local levels in particular and often higher up, and causes the loss of the healthiest animals in the populations, animals that are key for reproduction and social cohesion of those species. Leopards are no exception. A single young male has enormous obstacles to overcome to survive on his own, to learn how to hunt, to fight for territory and to earn the status to breed. But it is exactly these qualities that trophy hunting targets the young male for, and selects the finest breeders, and carriers of the best genetic qualities for the survival of the species. This selection process often condemns them to death before they can breed. In addition, the cubs of prime breeding males that are shot are left unprotected and vulnerable to incoming territorial males, whose first order of business is to kill cubs from other males. Each leopard that is shot as a trophy cannot be considered in isolation but as just the tip of the iceberg in a trickle down effect of destruction to the family and society of leopards he influences.

14. Hunting is often cited as being a deterrent to poaching, but it was clearly demonstrated in Botswana, that the presence and occurrence of gunshots by legal hunters in an area only served to confuse anti poaching forces in their efforts to detect illegal hunters (poachers.) Once trophy hunting was stopped the wildlife authorities and the military (carrying out anti-poaching duties) were significantly more effective in finding and stopping poachers, to the degree where poaching in the border sections of Botswana went from 'rampant' to 'zero' over a six year period.

15. As a revenue resource, not only has hunting been shown to contribute less than 0.27% to the GDP's of African countries that still allow hunting today, it cannot co-exist with tourism for obvious reasons, so it actually erodes the potential for an alternative land use. The replacement of hunting, in particular of big cats, with tourism, however, is a very viable way to use the land more kindly. For example, before I acquired the Selinda concession in Botswana it was used almost exclusively for trophy hunting. On the first day of purchase I stopped all the hunting. Since then I have seen a steady regrowth and benefit to the wildlife, both in terms of population recovery, and of course the attitude of wildlife towards humans (tourists). We have no attacks, no charges, animals don't run in fear that we have been able to create a facility that is wild again but that allows people from around the world to see wildlife and become engaged with the life changing experiences that a safari in Africa can offer. We converted the concession into a Reserve and it now employs 20 times the number of local staff, pays taxes, and delivers a benefit to the nation of over 2,500% more that it was doing under the hunting regime, while providing food on a daily basis to many thousands of dependents of people we employ.

16. Claims that trophy hunting promotes conservation through financial contributions are not supported, nor are the claims that hunting is the only land use that creates value in marginal wildlife areas. The Selinda Reserve is a classic example of what was once considered a marginal piece of land. The value of these animals is a combination of "intangible" and "real." Who can quantify the impact on a young person, of seeing their first leopard in a tree in the wild, or the disappearance of any knowledge of a leopard to the Ingwe people of the Zulu nation, who take the leopard as their spiritual totem? For tourism, however, it is tangible. For example, I did a survey in Savuti in Botswana to calculate the value of one male lion trophy versus the value of that male lion as a living eco-tourism asset. At the time (in1995), the value of the dead lion was US$15,000, whereas its value alive was approximately US$2,000,000. A male leopard that may live 12 years in the wild is

an enduring revenue stream, a single hunt of that leopard ends, not just its genetic lineage, but its earnings potential for conservation, forever. Most trophy hunting operations, are owned by foreign interests and do not share money with local communities. Responsible eco-tourism – like that operated by Great Plains Conservation – shares the benefit with governments and local communities. For example, most hunting concessions can only service 12-15 hunters per year, whereas an eco-tourism operated concessions can service thousands with much less of an ecological impact. In each of our concessions we pay over more than US$30,000 per year in leases and benefits.

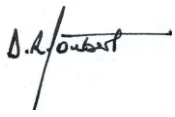
17. Because of our income from tourism and because of our influence on our guests, many of whom come specifically to see leopards, we have been able to solicit support in being able to rescue and move 100 rhinos from the highest poaching areas in South Africa to the protection in Botswana. This is an added and often hidden benefit of protecting the iconic cats of Africa: the extended holistic conservation ethic born from protection rather than selfish eradication.

18. Trophy hunting is little more than a bloodlust and thrill of killing and has no longer any place in sound wildlife management, especially in association with declining and threatened species. Studies also show that we cannot rely on the hunting fraternity to make wise conservation decisions around threatened species and that, in fact, as species decline and become more threatened or even endangered, they become even more valuable and desired by hunters. We have to ask if we want to project to the next generation that the best way for us to interact with nature is via violent actions like this and if that will lead to more or less harmony in an already troubled world.

19. The effort to protect leopards from extinction is vital – we no longer have the luxury of time to use or abuse these big cats for our own desires. Poaching of leopards – primarily for the fur trade – continues at unsustainable rates, and the African leopard is under immense threats from habitat loss and human conflict. To allow the trophy hunting of leopards for recreational purposes to continue unchecked is scientifically and ethically unjustified.

20. In my opinion, leopards across their African range are in danger of extinction and the U.S. Fish and Wildlife Service should strictly regulate the import of hunting trophies and other leopard parts in order to not continue to contribute to the decline of this endangered species.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury under the laws of the United States of America that the foregoing is, in my professional opinion, true and correct.



Dereck Joubert

Executed on 1st day of July, 2016.

ANNEX C

CITES Establishment of Leopard Export Quotas 1987-2013

Resolution Conf. 5.13 a) recommends that the following states export not more than the indicated number of leopard skins in any one calendar year:

State	Quota
Botswana	80
Kenya	80
Malawi	20
Mozambique	60
United Republic of Tanzania	250
Zambia	300
Zimbabwe	350

Source: https://cites.org/sites/default/files/eng/cop/06/doc/E06-27.pdf, 1987.

Resolution Conf. 6.9, paragraph a), recommends that the following states export not more than the indicated number of leopard skins in any one calendar year:

State	Quota
Botswana	80
Central African Republic	40
Ethiopia	500
Kenya	80
Malawi	20
Mozambique	60
United Republic of Tanzania	250
Zambia	300
Zimbabwe	500

Source: https://cites.org/sites/default/files/eng/cop/07/doc/E07-27.pdf, 1989.

Resolution Conf. 7.7, paragraph a), recommends that the following states export not more than the indicated number of leopard skins in any one calendar year:

State	Quota
Botswana	100
Central African Republic	40
Ethiopia	500
Kenya	80
Malawi	20
Mozambique	60
South Africa	50
United Republic of Tanzania	250
Zambia	300
Zimbabwe	500

Source: https://cites.org/sites/default/files/eng/cop/08/doc/E-20.pdf, 1992.

STATE	QUOTA
Botswana	100
* Central African Republic	40
* Ethiopia	500
* Kenya	80
Malawi	50
Namibia	100
* Mozambique	60
* South Africa	50
United Republic of Tanzania	250
Zambia	300
Zimbabwe	500

Source: Proposal by Botswana, Malawi, Namibia, Zambia and Zimbabwe to transfer *Panthera pardus* from CITES Appendix I to Appendix II and to establish export quotas for eleven countries https://cites.org/sites/default/files/eng/cop/08/prop/E08-Prop-EQ1_to_EQ5_Panthera.PDF, 1992. The proposal was rejected by vote but the quotas approved.[1]

State	Quota
Botswana	100
Central African Republic	40
Ethiopia	500
Kenya	80
Malawi	50
Mozambique	60
Namibia	100
South Africa	75
United Republic of Tanzania	250
Zambia	300
Zimbabwe	500

Source: In session document, https://cites.org/sites/default/files/eng/cop/08/E-In-session.pdf, 1992.

The delegation of Botswana stated that in February 1994 they had submitted a special report to the Secretariat requesting an increase in their annual quota from 100 to 130 for the period 1995-1997. The Secretariat acknowledged receipt of the report and agreed that the increase in quota was justified but needed the approval of the Parties.

Source: https://cites.org/sites/default/files/eng/cop/09/E9-ComI.pdf, 1994.

Reported Exports of Leopard (*Panthera pardus*) Hunting Trophies and Skins

Country	1994			1995			1996	
	Quota	Special reports (exports)	Annual reports (exports)	Quota	Special reports (exports)	Annual reports (exports)	Quota	Special reports (exports)
Botswana	100	41	42 (42)	130	68	25 (25)	130	32
Central African Republic	40	19	19 (19)	40	8	7 (13)	40	n.a.
Ethiopia	500	2	1 (1)	500	0	0 (0)	500	2
Kenya	80	0	2 / (2)	80	0	0 (1)	80	0
Malawi	20	6	6 / (6)	50	8	/ (7)	50	1
Mozambique	60	15	4 (4)	60	23	14 (9)	60	18
Namibia	100	49	/ (47)	100	30	/ (36)	100	21
South Africa	50	28	/ (116)	75	55	n.a.	75	31
United Republic of Tanzania	250	185	275 (270)	250	175	223 (231)	250	250
Zambia	300	44	43	300	38	38	300	47
Zimbabwe	500	382	/ (142)	500	311	n.a.	500	n.a.

n.a. means the report in question was not submitted
( ) figures in brackets are from the CITES annual reports database maintained by WCMC

Source: https://cites.org/sites/default/files/eng/cop/10/doc/E10-41to43.pdf, 1997

[1] https://cites.org/sites/default/files/eng/cop/08/E-Com-I.pdf

Reported exports of leopard (*Panthera pardus*) whole skins and nearly whole skins

Party [quota]	1999	2000	2001
Botswana [130]	115	124	54
Central African Republic [40]	11	22	26
Ethiopia [500]	0	0	0
Kenya [80]	1	0	0
Malawi [50]	0	no report	no report
Mozambique [60]	42	51	26
Namibia [100]	45	61	55
South Africa [75]	15	37	35
United Republic of Tanzania [250]	259 *(includes 23 specimens collected in previous years)*	248	260 *(includes 16 specimens collected in previous years)*
Zambia [300]	76	55	10
Zimbabwe [500]	131	185	275

Source: https://cites.org/sites/default/files/eng/cop/12/doc/E12-23-1-1.pdf, 2002.

State	Quota
Botswana	130
Central African Republic	40
Ethiopia	500
Kenya	80
Malawi	50
Mozambique	120
Namibia	250
South Africa	150
Uganda	28
United Republic of Tanzania	500
Zambia	300
Zimbabwe	500

Source: https://cites.org/sites/default/files/eng/cop/16/doc/E-CoP16-52.pdf

State	Quota
Botswana	130
Central African Republic	40
Ethiopia	500
Kenya	80
Malawi	50
Mozambique	120
Namibia	250
South Africa	150
Uganda	28
United Republic of Tanzania	500
Zambia	300
Zimbabwe	500

Source: Resolution Conf. 10.14 (Rev. CoP16), https://cites.org/eng/res/10/10-14R16.php

ANNEX D

Information from the CITES Trade Database

Table 1: International trade in leopards and their parts for all sources and all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Totals
bodies	7	0	9	10	22	19	24	24	9	11	135
bone pieces	0	0	0	2	0	0	0	0	0	0	2
bones	0	1	2	299	8	12	41	16	13	13	405
carvings	1	1	1	0	4	1	1	3	1	0	13
claws	0	70	20	3	64	18	65	72	68	1	381
cloth	0	0	0	0	0	0	0	1	0	0	1
derivatives	3,470	1,770	3,146	1,722	1,593	821	1,442	2	1	1	13,968
feet	0	2	0	29	0	0	0	4	0	0	35
garments	2	2	2	1	6	6	0	5	5	2	31
hair	0	6	0	10	209	0	2	2	8	1	238
hair products	0	0	0	0	0	0	0	1	0	0	1
leather products (L)	0	8	0	0	2	1	0	1	0	0	12
leather products (S)	3	2	4	2	3	6	2	3	262	0	287
live	37	44	45	42	48	75	79	68	68	44	550
medicine	0	0	0	0	0	0	0	383	56	99	538
plates	2	0	0	2	0	0	0	0	0	0	4
shoes	0	0	4	0	0	0	0	0	0	0	4
skeletons	1	0	0	0	0	0	1	0	0	0	2
skin pieces	9	1	1	65	10	2	2	17	8	4	119
skins	72	162	61	74	233	234	353	466	228	45	1,928
skulls	26	132	17	48	238	277	437	479	277	114	2,045
specimens	132	108	119	262	361	445	324	1,421	143	1,037	4,352
tails	0	0	0	0	0	2	0	0	0	10	12
teeth	31	4	9	2	1	40	31	4	13	11	146
trophies	1,229	1,126	1,060	1,279	1,400	990	769	985	722	651	10,211
unspecified	1	0	0	0	0	0	0	0	0	0	1
Grand Total:	5,023	3,439	4,500	3,852	4,202	2,949	3,573	3,957	1,882	2,044	35,421

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, all purposes, on 04/04/2016.

Table 2: International trade in wild source leopards and their parts for all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	6	0	7	10	21	19	19	20	9	10	121
bones	0	1	0	259	6	12	41	16	13	13	361
carvings	0	0	0	0	0	0	0	0	1	0	1
claws	0	66	18	0	62	12	63	72	67	0	360
derivatives	521	246	154	4	20	20	50	0	0	0	1015
feet	0	2	0	0	0	0	0	4	0	0	6
garments	0	0	0	0	0	1	0	1	0	1	3
hair	0	6	0	10	209	0	0	2	7	1	235
leather	0	0	0	0	1	0	0	0	0	0	1

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
products (large)											
leather products (small)	0	0	0	0	1	0	0	0	0	0	1
live	5	5	5	2	7	2	13	11	9	2	61
plates	1	0	0	2	0	0	0	0	0	0	3
shoes	0	0	2	0	0	0	0	0	0	0	2
skeletons	1	0	0	0	0	0	1	0	0	0	2
skin pieces	4	0	0	2	4	1	1	12	1	3	28
skins	46	148	36	46	210	222	345	442	214	34	1743
skulls	25	128	16	47	235	270	437	477	276	112	2023
specimens	132	108	119	257	18	442	291	1419	106	905	3797
tails	0	0	0	0	0	1	0	0	0	10	11
teeth	31	4	8	0	0	18	27	4	4	4	100
trophies	1211	1098	1041	1255	1387	977	748	968	706	643	10034
unspecified	1	0	0	0	0	0	0	0	0	0	1
Grand Total	1984	1812	1406	1894	2181	1997	2036	3448	1413	1738	19909

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, wild sources, all purposes, on 03/23/2016.

Table 3. Imports of wild source leopards and their parts for all purposes, by country.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
leather products (small)		AE	0	0	0	0	0	1	0	0	0	0	
live		AE	0	2	0	0	0	0	0	0	0	0	
skins		AE	0	1	1	0	0	0	1	5	0	0	
skulls		AE	0	0	0	0	0	0	3	0	0	1	
trophies		AE	4	6	6	2	1	4	7	1	3	1	
skins		AR	0	0	0	0	0	1	0	3	1	0	
skulls		AR	0	0	0	0	0	1	0	4	4	1	
trophies		AR	1	4	7	1	8	2	4	10	5	4	
bodies		AT	0	0	0	0	0	1	0	0	0	0	
skins		AT	7	14	15	0	3	4	4	3	4	0	
skulls		AT	6	0	11	0	3	4	3	3	3	0	
teeth		AT	0	0	8	0	0	0	0	0	0	0	
trophies		AT	17	27	15	22	21	11	12	18	15	14	
trophies		AT	0	0	0	0	0	0	1	0	0	0	
hair		AU	0	0	0	0	0	0	0	2	0	0	
leather products (small)		AU	0	1	0	0	0	0	0	0	0	0	
skins		AU	1	9	1	0	1	5	2	1	0	0	
skulls		AU	0	0	0	0	0	4	2	1	0	0	
trophies		AU	0	4	0	2	1	0	1	2	0	1	
skins		BE	0	0	0	0	3	1	0	1	0	0	
skulls		BE	0	0	0	0	2	3	0	1	0	0	
trophies		BE	11	6	11	10	10	11	4	4	2	1	
skins		BG	0	1	0	0	0	1	0	1	0	0	
skulls		BG	0	0	0	0	0	2	0	1	0	0	
trophies		BG	4	6	7	3	1	5	3	6	1	2	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
trophies		BH	0	1	0	0	0	0	0	0	0	0	
feet		BR	0	2	0	0	0	0	0	0	0	0	
skins		BR	0	3	0	0	1	0	0	0	0	0	
skulls		BR	0	0	0	0	1	1	0	0	0	0	
teeth		BR	0	4	0	0	0	0	0	0	0	0	
trophies		BR	1	1	0	1	1	1	0	0	0	4	
skulls		BS	0	0	0	0	2	0	0	0	0	0	
trophies		BS	0	1	0	1	1	0	0	0	0	0	
skins		BW	0	0	0	0	0	0	1	2	1	0	
skulls		BW	0	0	0	0	0	0	1	2	5	0	
trophies		BW	1	0	0	0	0	0	0	0	5	0	
bodies		CA	0	0	0	7	9	0	6	4	1	5	
bones		CA	0	1	0	2	2	0	2	0	0	0	
skin pieces		CA	0	0	0	0	0	0	1	0	0	0	
skins		CA	15	24	0	18	33	10	10	12	3	3	
skulls		CA	8	19	0	30	39	12	15	11	4	5	
skulls		CA	0	0	0	0	1	0	0	0	0	0	
trophies		CA	19	17	3	15	17	22	9	11	10	15	
CA total			42	61	3	72	101	44	43	38	18	28	450
skins		CG	0	0	0	0	0	0	0	0	0	2	
bodies		CH	2	0	0	0	0	0	0	0	0	1	
claws		CH	0	0	0	0	0	0	18	0	0	0	
hair		CH	0	6	0	0	0	0	0	0	0	0	
skins		CH	1	0	2	1	2	1	4	4	1	0	
skulls		CH	1	0	0	1	3	1	4	4	1	0	
specimens	ml	CH	0	5	0	0	0	0	0	0	0	0	
specimens		CH	0	100	46	25	0	0	0	27	6	3	
teeth		CH	0	0	0	0	0	0	0	4	4	0	
trophies		CH	10	2	10	4	6	0	21	3	7	5	
skulls		CL	0	0	0	0	0	1	0	0	0	0	
trophies		CL	4	0	1	1	0	1	0	0	3	0	
bodies		CN	1	0	1	0	0	1	2	2	1	0	
skins		CN	0	0	0	1	0	0	0	2	0	0	
skulls		CN	1	0	0	0	0	0	0	0	0	0	
specimens	g	CN	0	0	0	0	0	0	0	0	0	36	
specimens		CN	5	0	0	1	1	5	0	0	0	1	
trophies		CN	3	1	1	2	1	6	0	2	2	0	
skulls		CO	0	0	0	0	1	1	0	1	0	0	
trophies		CO	0	1	0	0	1	5	0	1	0	1	
skins		CR	1	0	0	0	0	0	0	0	0	0	
trophies		CR	1	3	0	2	0	0	1	1	0	0	
trophies		CS	1	0	0	1	0	0	0	0	0	0	
live		CU	0	0	0	0	0	0	0	6	6	0	
bodies		CZ	0	0	0	0	0	0	1	1	0	0	
skins		CZ	0	0	0	0	0	1	4	3	4	0	
skulls		CZ	0	0	0	0	0	1	4	3	4	0	
trophies		CZ	9	7	2	5	4	4	7	7	7	3	
bodies		DE	0	0	0	1	0	1	0	0	0	0	2
bones		DE	0	0	0	257	2	0	0	2	0	3	
claws		DE	0	0	0	0	18	0	0	0	0	0	
skin pieces		DE	0	0	0	0	2	0	0	0	0	0	
skins		DE	1	0	7	0	5	3	14	15	8	0	53

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
skulls		DE	0	0	0	0	5	1	13	19	8	0	
specimens	ml	DE	0	0	0	0	0	0	0	60	0	0	
specimens		DE	126	0	53	44	1	100	5	1233	0	901	
teeth		DE	31	0	0	0	0	0	0	0	0	0	
trophies		DE	66	65	42	38	67	37	32	51	38	36	472
DE Total			224	65	102	340	100	142	64	1380	54	940	3411
bodies		DK	0	0	0	0	0	1	2	1	2	0	
bones		DK	0	0	0	0	0	2	4	0	0	0	
derivatives		DK	10	0	0	0	0	0	0	0	0	0	
skins		DK	0	0	0	2	0	2	5	1	2	1	
skulls		DK	0	1	0	1	2	4	8	1	2	2	
teeth		DK	0	0	0	0	0	0	27	0	0	0	
trophies		DK	7	10	11	11	24	23	45	6	3	6	
trophies		EC	0	0	2	0	0	0	1	0	0	0	
skins		EE	0	1	0	0	0	0	0	0	0	0	
skulls		EE	0	1	0	0	0	0	0	0	0	0	
trophies		EE	1	1	0	1	0	0	0	0	1	1	
trophies		EG	0	1	0	0	0	0	0	0	0	0	
bodies		ES	0	0	0	0	0	2	0	1	0	0	3
skeletons		ES	0	0	0	0	0	0	1	0	0	0	3
skins		ES	0	3	0	0	19	27	32	12	7	1	6
skulls		ES	0	4	1	0	20	28	38	14	8	3	
trophies		ES	90	91	100	76	72	54	40	29	28	22	602
ES Total			90	98	101	76	111	111	111	56	43	26	823
skins		FI	0	0	0	0	0	0	2	1	0	0	
skulls		FI	0	0	0	0	0	1	3	1	1	0	
trophies		FI	6	5	3	3	24	6	5	5	2	5	
bodies		FR	0	0	0	0	3	0	0	0	0	0	3
carvings		FR	0	0	0	0	0	0	0	0	0.33	0	0
hair	kg	FR	0.486	0	0	0	0	0	0	0	0	0	0
skeletons		FR	1	0	0	0	0	0	0	0	0	0	1
skins		FR	4	1	1	0	29	26	19	23	11	3	117
skulls		FR	1	1	0	0	30	29	18	26	17	9	131
tails		FR	0	0	0	0	0	1	0	0	0	0	1
teeth	g	FR	65	0	0	0	0	0	0	0	0	0	0
trophies	kg	FR	0	0	4	0	0	0	0	0	0	0	0
trophies		FR	191	73	64	186	110	97	43	91	45	35	935
FR Total													1188
bodies		GB	0	0	0	0	4	3	1	2	4	0	
claws		GB	0	0	0	0	0	0	0	0	5	0	
derivatives		GB	0	0	0	0	0	0	50	0	0	0	
garments		GB	0	0	0	0	0	0	0	1	0	0	
hair		GB	0	0	0	0	209	0	0	0	0	0	
skin pieces		GB	0	0	0	0	0	0	0	5	0	0	
skins		GB	0	3	0	8	9	4	9	5	5	0	
skulls		GB	0	2	0	3	8	7	9	9	4	1	
specimens		GB	0	8	0	0	0	0	0	4	1	0	
trophies		GB	6	6	7	12	6	6	4	7	3	7	
live		GM	0	0	0	2	0	0	0	0	0	0	
bodies		HK	0	0	1	0	0	0	0	0	0	0	
leather products (small)		HK	0	0	0	0	1	0	0	0	0	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
skins		HK	0	0	0	0	1	0	0	0	0	0	
skulls		HK	0	0	0	0	1	0	0	0	0	0	
skins		HN	0	0	0	0	0	0	0	0	1	0	
skulls		HN	0	0	0	0	0	0	0	0	1	0	
trophies		HR	6	3	3	3	4	1	1	0	0	1	
skins		HU	0	0	0	0	8	0	3	2	5	0	
skulls		HU	0	0	0	0	8	0	3	2	5	1	
trophies		HU	0	0	6	11	21	11	12	16	13	11	
trophies		ID	0	0	0	0	0	0	0	0	0	1	
trophies		IE	1	0	3	0	0	0	0	0	0	0	
specimens	ml	IL	0	0	0	0	0	0	0	0	1.5	0	
specimens		IL	0	0	0	0	0	0	0	1	0	0	
bodies		IS	0	0	1	0	0	0	0	0	0	0	
skins		IS	0	0	0	0	0	0	0	0	3	1	
skulls		IS	0	0	0	0	0	0	0	0	3	1	
trophies		IS	0	0	0	1	2	0	1	1	1	0	
bodies		IT	0	0	0	0	0	1	0	0	0	0	
bones		IT	0	0	0	0	0	2	0	0	0	0	
skins	kg	IT	0	0	0	0	0	0	1	0	0	0	
skins		IT	0	0	0	0	5	5	4	3	2	0	
skulls	kg	IT	0	0	0	0	0	0	1	0	0	0	
skulls		IT	0	0	0	0	6	6	10	5	7	1	
trophies		IT	20	12	15	18	23	18	22	19	15	7	
skins		JM	0	0	0	0	0	0	2	0	0	0	
skulls		JM	0	0	0	0	0	0	2	0	0	0	
trophies		JM	1	0	1	0	0	0	0	0	0	0	
live		JO	0	0	0	0	1	0	0	0	0	0	
skins		JO	0	0	0	0	1	0	0	0	0	0	
hair	kg	JP	0	0	0	0.2	0	0	0	0	0	0	
specimens	g	JP	0	300	0	0	0	0	0	0	0	0	
specimens	kg	JP	0	0.3	0	0	0	15	0	0	0	0	
specimens		JP	0	0	20	0	0	0	0	0	0	0	
skins		KE	0	0	0	0	0	0	1	0	0	0	
specimens		KE	0	0	0	0	0	0	0	1	0	0	
bodies		KR	3	0	0	0	0	0	1	0	0	0	
live		KR	0	0	0	0	2	0	0	0	0	0	
bodies		KW	0	0	0	0	1	0	0	0	0	0	
specimens		KW	1	0	0	0	0	0	0	0	0	0	
trophies		KW	0	0	2	1	0	0	0	0	0	0	
live		KZ	0	0	0	0	0	0	1	1	0	0	
bodies		LB	0	0	1	0	0	0	0	1	0	0	
skins		LB	0	0	0	0	1	0	0	0	0	0	
skulls		LB	0	0	0	0	0	2	0	1	0	0	
trophies		LB	1	0	1	2	1	2	4	0	1	0	
trophies		LI	1	0	0	0	0	0	0	0	0	0	
skins		LK	0	0	0	0	2	0	0	0	0	0	
skins		LT	0	0	0	0	0	0	0	1	1	0	
skulls		LT	0	0	0	0	0	0	0	1	1	0	
trophies		LT	1	1	2	2	5	3	0	2	2	4	
skins		LU	0	0	0	0	0	0	1	0	0	0	
skulls		LU	0	0	0	0	0	0	2	0	0	0	
trophies		LU	2	1	6	4	0	4	4	0	1	3	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
derivatives		LV	0	0	0	0	0	2	0	0	0	0	
trophies		LV	2	4	3	4	2	1	0	1	3	3	
leather products (small)		LY	0	0	1	0	1	1	0	0	0	0	
skins		LY	0	0	1	0	1	0	0	0	0	0	
bodies		MA	0	0	0	0	0	0	1	0	0	0	
skins		MA	0	0	0	0	0	0	3	0	0	0	
skulls		MA	0	0	0	0	0	0	2	0	0	0	
trophies		MA	0	2	0	1	1	1	2	0	0	1	
trophies		MC	0	0	0	0	0	0	0	0	0	1	
skins		MG	0	0	0	0	0	0	0	1	0	0	
skulls		MG	0	0	0	0	0	0	1	1	0	0	
trophies		MG	0	0	0	0	0	0	1	0	0	0	
skulls		MU	0	0	0	0	0	0	0	1	0	0	
trophies		MU	0	0	0	0	0	0	0	1	0	0	
live		MW	0	0	0	0	0	0	6	2	0	0	
bodies		MX	0	0	0	0	1	0	0	0	0	0	
bones		MX	0	0	0	0	0	2	2	1	0	0	
claws		MX	0	0	0	0	0	0	0	18	18	0	
derivatives		MX	0	0	0	0	0	2	0	0	0	0	
skins		MX	0	0	0	0	3	4	3	4	5	1	
skulls		MX	0	2	0	0	3	5	11	4	4	2	
trophies		MX	40	68	54	64	50	47	38	49	33	31	
trophies		MX	0	0	0	0	0	0	1	0	0	0	
MX Total			40	70	54	64	57	60	55	76	60	34	570
skins		MZ	0	0	1	0	1	0	1	0	0	0	
skulls		MZ	0	0	0	0	0	0	1	0	0	2	
trophies		MZ	0	0	0	0	0	2	0	1	0	0	
bodies		NA	0	0	0	1	0	0	0	0	0	0	
skins		NA	0	0	0	0	0	0	2	2	0	0	
skulls		NA	0	1	0	0	0	0	2	2	0	0	
trophies		NA	3	5	0	2	1	1	1	1	1	0	
skins		NC	1	0	0	0	0	0	0	0	0	0	
trophies		NC	0	0	0	0	0	1	0	0	0	1	
bodies		NG	0	0	0	0	0	0	2	0	0	0	
skins		NG	0	0	0	0	0	0	0	6	0	0	
skulls		NG	0	0	0	0	0	0	2	0	0	0	
trophies		NG	0	0	0	0	0	0	0	4	0	0	
live		NI	0	0	0	0	0	0	1	0	0	0	
trophies		NI	0	0	0	0	0	0	0	1	0	0	
bodies		NL	0	0	0	0	0	1	0	0	0	0	
hair		NL	0	0	0	10	0	0	0	0	0	0	
skins		NL	3	0	0	0	1	0	2	1	0	0	
skulls		NL	0	0	0	1	2	0	2	0	0	0	
trophies		NL	2	1	0	0	3	2	0	0	0	2	
bodies		NO	0	0	0	0	0	0	0	0	0	3	
skins		NO	0	0	0	0	1	2	2	1	0	1	
skulls		NO	0	0	0	1	2	3	4	1	0	3	
specimens		NO	0	0	0	0	0	0	0	1	0	0	
trophies		NO	2	5	2	7	5	6	6	3	3	3	
trophies		NP	0	0	1	0	0	0	0	0	0	0	
bodies		NZ	0	0	0	0	2	0	0	1	0	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
hair		NZ	0	0	0	0	0	0	0	0	0	1	
skin pieces		NZ	0	0	0	0	0	0	0	1	0	0	
skins		NZ	1	2	0	0	1	1	0	0	1	0	
skulls		NZ	0	0	0	0	2	1	1	2	1	0	
trophies		NZ	2	1	0	1	4	6	3	3	1	2	
skins		PA	0	0	0	0	0	0	0	0	2	0	
skulls		PA	0	0	0	0	0	0	0	1	3	0	
trophies		PA	0	0	0	0	0	1	0	1	1	0	
leather products (large)		PH	0	0	0	0	1	0	0	0	0	0	
skulls		PH	0	0	0	0	1	2	2	0	0	0	
trophies		PH	1	0	0	3	41	5	2	0	0	0	
live		PK	0	0	0	0	0	0	0	0	0	2	
skulls		PK	0	0	0	0	1	0	1	2	0	0	
trophies		PK	3	1	1	0	1	0	5	3	0	0	
trophies		PK	0	0	0	0	0	0	1	0	0	0	
bodies		PL	0	0	0	0	0	0	0	0	1	0	
skins		PL	0	0	0	0	2	0	1	2	0	0	
skulls		PL	0	0	0	0	2	0	1	1	0	0	
trophies		PL	5	10	8	8	8	6	8	6	6	6	
leather products (small)		PT	0	1	0	0	0	0	0	0	0	0	
skins		PT	0	0	0	0	0	1	5	5	2	0	
skulls		PT	0	0	0	0	3	6	10	7	2	0	
trophies		PT	18	12	12	7	16	6	9	5	2	1	
trophies		PY	0	0	0	0	0	0	0	0	0	3	
skulls		QA	0	0	0	0	0	0	0	2	2	4	
trophies		QA	2	0	0	0	0	2	3	4	3	0	
skins		RO	0	0	0	0	0	0	0	1	0	0	
skulls		RO	0	0	0	0	0	0	0	1	0	0	
trophies		RO	1	0	4	2	1	1	0	0	2	1	
trophies		RS	0	1	1	2	1	1	1	0	2	0	
bodies		RU	0	0	3	0	1	2	1	1	0	1	
live		RU	0	0	0	0	4	2	4	0	0	0	
skins		RU	0	0	0	0	7	6	8	7	2	1	
skulls		RU	0	0	0	0	6	5	11	6	2	7	
trophies		RU	15	8	18	36	40	35	29	43	21	36	
live		SA	1	0	0	0	0	0	0	0	3	0	
trophies		SA	0	0	4	0	1	0	0	0	0	0	
skins		SB	0	0	0	0	0	0	1	0	0	0	
skulls		SB	0	0	0	0	0	0	1	0	0	0	
skins		SD	0	0	0	0	0	0	0	0	1	0	
skulls		SD	0	0	0	0	0	0	0	0	1	0	
trophies		SD	0	0	0	0	0	0	0	0	0	2	
bodies		SE	0	0	0	0	0	0	0	1	0	0	
claws		SE	0	0	0	0	0	0	0	16	0	0	
skins		SE	0	0	0	0	0	4	1	6	2	0	
skulls		SE	0	0	0	0	0	2	3	6	4	1	
teeth		SE	0	0	0	0	0	18	0	0	0	0	
trophies		SE	2	7	9	5	29	7	3	8	12	3	
bones		SG	0	0	0	0	0	0	0	0	2	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
skulls		SG	0	0	0	0	0	0	0	0	1	0	
trophies		SG	0	1	0	0	0	0	0	0	1	0	
trophies		SI	1	4	5	2	4	1	0	2	0	0	
bones		SK	0	0	0	0	0	0	0	0	0	1	
skins		SK	0	0	0	0	0	0	0	0	0	4	
skulls		SK	0	0	0	0	0	0	0	0	0	4	
trophies		SK	3	3	2	8	5	2	5	5	5	2	
trophies		SL	0	1	0	0	1	2	1	2	0	0	
live		SV	0	0	0	0	0	0	0	1	0	0	
trophies		SV	0	0	1	0	0	0	0	0	0	0	
live		SY	1	3	3	0	0	0	0	0	0	0	
skins		SY	0	1	0	0	0	0	0	0	0	0	
skins		SZ	0	2	4	4	0	0	0	0	0	0	
trophies		SZ	6	0	0	2	1	0	0	0	0	2	
live		TJ	2	0	0	0	0	0	0	0	0	0	
specimens		TN	0	0	0	1	0	0	0	0	0	0	
skins		TR	1	0	0	0	0	0	0	0	0	0	
trophies		TR	0	0	0	1	1	0	1	0	0	0	
skins		TW	0	0	0	0	0	0	1	0	0	0	
skins		TZ	0	0	0	0	0	1	1	0	0	0	
skulls		TZ	0	0	0	0	0	5	0	0	0	0	
trophies		TZ	1	1	1	1	1	5	0	0	0	0	
bodies		UA	0	0	0	1	0	0	0	0	0	0	
skulls		UA	0	0	0	0	0	1	0	0	0	0	
trophies		UA	0	1	2	1	1	1	0	0	2	3	
bodies		US	0	0	0	0	0	6	2	5	0	0	13
bones		US	0	0	0	0	2	4	31	9	11	9	66
claws		US	0	66	18	0	44	12	27	38	44	0	249
derivatives		US	511	246	154	4	20	16	0	0	0	0	951
garments		US	0	0	0	0	0	1	0	0	0	1	2
hair		US	0	0	0	0	0	0	0	0	7	0	7
leather products (small)		US	0	0	1	0	0	0	0	0	0	0	1
plates		US	1	0	0	2	0	0	0	0	0	0	3
shoes		US	0	0	2	0	0	0	0	0	0	0	2
skin pieces		US	4	0	0	2	0	1	0	2	1	3	13
skins		US	4	29	3	12	47	83	153	262	108	11	712
skulls		US	2	46	4	9	70	96	186	275	129	47	864
specimens	g	US	0	0	0	0	0	0	0	0	16	0	0
specimens	ml	US	0	0	0	0	0	6	0	0	0	0	0
specimens		US	0	0	0	186	0	286	286	150	39	0	947
specimens		US	0	0	0	0	0	51	0	0	0	0	51
tails		US	0	0	0	0	0	0	0	0	0	10	10
teeth		US	0	0	0	0	0	0	0	0	0	4	4
trophies		US	507	524	506	581	648	447	298	474	352	319	4656
trophies		US	0	0	0	0	0	1	0	0	0	0	1
unspecified		US	1	0	0	0	0	0	0	0	0	0	1
US Total													8553
trophies		VG	0	1	0	0	0	0	0	0	0	0	
skins		XX	0	0	0	0	1	1	0	1	0	2	
skulls		XX	0	0	0	0	0	1	0	0	0	0	
trophies		XX	15	2	0	0	0	3	0	1	0	2	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
skins		YE	0	1	0	0	0	0	0	0	0	0	
skins		YU	0	0	0	0	0	0	0	0	1	0	
skulls		YU	0	0	0	0	0	0	0	0	1	0	
bones		ZA	0	0	0	0	0	2	2	4	0	0	8
claws		ZA	0	0	0	0	0	0	18	0	0	0	18
feet		ZA	0	0	0	0	0	0	0	4	0	0	4
live		ZA	1	0	2	0	0	0	1	1	0	0	5
skin pieces		ZA	0	0	0	0	2	0	0	4	0	0	6
skins		ZA	6	52	0	0	22	28	41	40	27	3	219
skulls		ZA	6	51	0	1	11	34	56	51	44	17	271
specimens	ml	ZA	0	0.5	0	0	0	0	0	0	0	0	0
specimens		ZA	0	0	0	0	16	0	0	2	60	0	78
trophies		ZA	89	74	73	74	85	48	44	55	43	30	615
ZA Total													1224
skulls		ZM	0	0	0	0	0	0	0	1	0	0	
trophies		ZM	0	0	0	0	0	0	2	2	0	1	
skins		ZW	0	1	0	0	0	0	2	3	6	0	
skulls		ZW	0	0	0	0	0	0	2	3	6	0	
trophies		ZW	5	5	3	2	4	2	0	0	0	1	

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" to U.S. of *Panthera pardus*, wild sources, all purposes, on 06/06/2016.

Table 5. Exports of wild source leopards and their parts for all purposes, by country.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
leather products (small)		AE	0	0	1	0	1	1	0	0	0	0	
live		AE	0	0	0	0	1	0	0	0	3	0	
skins		AE	6	2	1	0	3	0	0	0	0	0	
skulls		AE	6	0	0	0	0	0	0	0	0	0	
specimens		AE	0	0	35	1	0	0	0	2	0	0	
trophies		AE	2	0	0	0	0	0	1	0	0	0	
trophies		AR	0	0	0	0	0	0	2	0	3	0	
skulls		AT	0	0	0	1	0	0	0	0	0	0	
trophies		AT	4	0	0	3	1	0	2	1	1	1	
skins		AU	0	1	0	0	0	0	1	1	0	0	
trophies		AU	0	0	1	0	0	0	0	0	0	0	
bodies		BE	0	0	0	0	0	0	1	0	0	1	
trophies		BE	0	0	0	0	0	0	0	0	1	0	
trophies		BH	0	0	2	0	0	0	0	0	1	0	
trophies		BR	0	0	0	0	1	0	0	0	0	0	
bodies		BW	0	0	1	0	0	0	0	0	0	0	
claws		BW	0	0	0	0	0	0	0	16	0	0	
hair		BW	0	6	0	0	0	0	0	0	0	0	
skins		BW	0	2	2	0	3	0	3	6	0	0	
skulls		BW	0	0	0	0	2	0	21	22	13	1	
specimens	ml	BW	0	5	0	0	0	0	0	0	0	0	
specimens		BW	0	4	11	25	16	0	0	27	60	0	
trophies	kg	BW	0	0	4	0	0	0	0	0	0	0	
trophies		BW	54	47	50	58	39	34	19	30	33	3	
bodies		CA	0	0	0	0	0	0	1	1	0	0	
garments		CA	0	0	0	0	0	1	0	0	0	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
plates		CA	0	0	0	2	0	0	0	0	0	0	
skins		CA	0	0	0	5	0	0	0	1	0	0	
skulls		CA	0	0	0	2	0	0	0	1	0	0	
trophies		CA	0	0	0	1	0	0	0	2	0	0	
skins		CD	0	0	0	3	2	0	0	5	0	0	
bones		CF	0	0	0	0	2	0	2	0	0	0	
claws		CF	0	0	0	0	18	0	18	0	0	0	
skins		CF	1	0	1	0	0	1	1	0	0	0	
skulls		CF	0	0	0	0	0	3	1	0	0	0	
specimens		CF	0	0	0	0	0	0	0	0	6	3	
trophies		CF	37	28	28	33	90	66	17	23	4	0	
bodies		CH	0	0	0	0	0	0	0	0	3	0	
skin pieces		CH	0	0	0	0	0	0	0	0	0	1	
skins		CH	0	0	7	0	0	0	0	0	0	0	
specimens		CH	125	0	0	0	0	0	0	2	1	0	
trophies		CH	4	0	0	0	0	0	0	0	0	0	
trophies		CL	0	0	0	0	0	4	0	0	0	0	
skins		CM	1	0	0	0	0	0	0	0	0	0	
derivatives		CN	18	202	85	4	0	14	0	0	0	0	
live		CZ	0	0	0	0	0	0	1	1	0	0	
bodies		DE	0	0	3	0	0	0	0	0	0	0	
derivatives		DE	0	0	3	0	0	0	0	0	0	0	
live		DE	1	0	0	0	0	0	0	0	0	0	
skins		DE	0	2	0	0	0	0	0	0	0	0	
skulls		DE	0	0	0	0	0	0	0	0	4	0	
trophies		DE	2	1	0	6	1	0	5	1	8	1	
hair	kg	DJ	0.486	0	0	0	0	0	0	0	0	0	
teeth	g	DJ	65	0	0	0	0	0	0	0	0	0	
trophies		DK	0	0	0	0	0	0	0	0	0	1	
skins		ES	0	0	0	0	0	0	0	0	0	1	
trophies		ES	0	0	1	0	0	0	0	0	0	1	
skins		ET	0	0	0	0	3	0	1	1	0	0	
skulls		ET	0	0	0	0	3	0	0	1	0	0	
trophies		ET	3	2	0	2	1	2	1	0	1	2	
bodies		FI	0	0	0	0	0	0	0	0	0	1	
trophies		FI	1	1	0	0	0	0	0	0	0	0	
bodies		FR	2	0	1	0	2	0	3	2	0	1	
claws		FR	0	0	0	0	0	0	18	0	0	0	
leather products (small)		FR	0	0	0	0	1	0	0	0	0	0	
skins		FR	1	0	0	0	0	0	3	0	0	0	
skulls		FR	0	0	0	0	3	2	5	1	0	0	
trophies		FR	6	6	9	6	9	9	24	11	16	7	
skin pieces		GA	0	0	0	0	0	0	0	5	0	0	
specimens		GA	0	0	0	0	0	0	0	0	20	0	
bodies		GB	0	0	0	0	1	0	0	0	0	0	
leather products (small)		GB	0	0	1	0	0	0	0	0	0	0	
skin pieces		GB	0	0	0	0	0	0	0	2	0	0	
skins		GB	3	2	0	0	0	1	0	0	0	0	
skulls		GB	0	0	0	0	1	1	0	0	0	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
trophies		GB	2	1	1	0	0	0	0	0	0	0	
skin pieces		GH	0	0	0	2	0	0	0	0	0	0	
specimens		GQ	0	0	0	0	0	0	5	0	0	0	
live		GT	0	0	0	0	0	0	0	1	0	0	
specimens		IL	0	0	0	0	0	0	0	1	0	0	
live		IN	2	0	0	0	0	0	0	0	0	0	
plates		IN	1	0	0	0	0	0	0	0	0	0	
live		IR	0	0	0	0	0	2	0	0	0	0	
skins		IR	1	0	0	0	0	0	0	0	0	0	
skins		IT	0	0	0	0	0	0	0	0	1	0	
trophies		IT	1	1	0	0	1	0	0	1	0	0	
live		JO	0	0	3	0	0	0	0	0	0	0	
derivatives		JP	477	0	0	0	0	0	0	0	0	0	
skins		KE	0	0	0	0	1	0	1	0	0	2	
specimens	ml	KE	0	0.5	0	0	0	0	0	0	1.5	0	
specimens		KE	0	0	0	0	0	0	0	1	0	0	
specimens		KE	0	0	0	0	0	51	0	0	0	0	
trophies		KE	0	0	0	0	1	0	1	0	0	0	
live		KG	0	0	0	0	0	0	5	1	0	0	
specimens	kg	KH	0	0	0	0	0	15	0	0	0	0	
derivatives		KW	10	0	0	0	0	0	0	0	0	0	
skin pieces		LA	1	0	0	0	0	0	0	0	0	0	
unspecified		LA	1	0	0	0	0	0	0	0	0	0	
specimens		LR	0	0	0	0	0	0	0	0	0	1	
skins		LT	0	1	0	0	0	0	0	0	0	0	
leather products (small)		LY	0	0	0	0	0	1	0	0	0	0	
skins		LY	0	0	1	0	0	0	0	0	0	0	
live		ML	0	0	0	2	0	0	0	0	0	0	
skins		MW	0	0	0	0	2	0	0	1	0	0	
trophies		MX	0	1	0	0	0	0	0	3	0	0	
bodies		MZ	0	0	0	0	0	0	0	0	0	1	
skeletons		MZ	0	0	0	0	0	0	1	0	0	0	
skin pieces		MZ	0	0	0	0	4	0	0	4	0	0	
skins		MZ	1	6	1	0	11	7	70	92	62	4	
skulls		MZ	1	5	0	0	4	7	76	92	70	13	
trophies		MZ	76	58	59	52	56	49	21	56	31	49	
bodies		NA	0	0	1	2	1	13	3	1	0	4	25
bones		NA	0	0	0	0	4	0	2	0	2	6	14
claws		NA	0	22	0	0	0	4	0	0	18	0	44
hair		NA	0	0	0	0	0	0	0	0	0	1	1
live		NA	0	0	0	0	0	0	0	6	6	0	12
skin pieces		NA	0	0	0	0	0	0	1	0	0	0	1
skins		NA	7	18	12	1	14	8	14	5	2	1	82
skulls		NA	6	12	8	2	12	5	8	6	4	4	67
specimens	ml	NA	0	0	0	0	0	6	0	60	0	0	66
specimens		NA	0	0	0	0	0	100	0	1233	1	900	2234
teeth		NA	31	0	8	0	0	18	27	0	0	0	84
trophies		NA	168	197	176	226	343	150	100	111	100	105	1676
trophies		NA	0	0	0	0	0	1	1	0	0	0	2
NA Total													4308
claws		NL	0	0	0	0	0	0	0	0	8	0	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
skins		NL	0	0	3	7	0	0	0	0	0	0	
skins		NO	0	0	0	0	0	0	0	0	2	0	
skulls		NO	0	0	0	0	0	0	0	0	2	0	
trophies		NO	0	0	0	1	1	0	0	2	0	0	
skins		NZ	1	6	1	4	0	1	0	0	0	0	
trophies		NZ	0	0	0	0	0	0	0	0	0	1	
derivatives		PH	0	13	6	0	0	0	0	0	0	0	
trophies		PT	1	0	0	0	0	0	0	0	0	0	
trophies		QA	0	0	0	0	0	0	2	0	0	0	
hair	kg	RU	0	0	0	0.2	0	0	0	0	0	0	
live		RU	0	0	0	0	2	0	0	0	0	0	
skins		RU	0	0	0	0	0	1	0	0	0	0	
specimens	g	RU	0	0	0	0	0	0	0	0	0	36	
specimens		RU	0	0	20	186	0	286	286	0	0	0	
live		SA	0	2	0	0	0	0	0	0	0	0	
skin pieces		SA	2	0	0	0	0	0	0	0	0	0	
live		SD	2	3	2	0	0	0	0	0	0	0	
shoes		SD	0	0	2	0	0	0	0	0	0	0	
skins		SD	0	0	0	0	0	0	1	0	0	0	
specimens		SN	0	0	0	0	0	0	0	0	18	0	
skins		SY	0	1	0	0	0	0	0	0	0	0	
skins		SZ	0	0	0	0	0	0	0	4	0	0	
specimens		SZ	0	0	0	0	0	0	0	2	0	0	
live		TH	0	0	0	0	2	0	0	0	0	0	
live		TM	0	0	0	0	2	0	0	0	0	0	
skins		TN	0	0	0	1	0	0	0	0	0	0	
skulls		TN	0	0	0	1	0	0	0	0	0	0	
derivatives		TW	0	13	0	0	0	0	0	0	0	0	
skin pieces		TW	1	0	0	0	0	0	0	0	0	0	
skins		TW	0	0	0	0	0	0	0	1	0	0	
trophies		TW	0	0	0	0	3	0	0	0	0	0	
bodies		TZ	0	0	0	0	0	0	0	2	3	0	5
bones		TZ	0	0	0	0	0	3	2	0	8	0	13
feet		TZ	0	2	0	0	0	0	0	0	0	0	2
hair		TZ	0	0	0	10	0	0	0	0	0	0	10
live		TZ	0	0	0	0	0	0	1	0	0	0	1
skins		TZ	11	25	1	1	135	108	56	79	39	7	462
skulls		TZ	6	19	2	1	134	114	54	73	41	6	450
skulls		TZ	0	0	0	0	1	0	0	0	0	0	1
specimens		TZ	1	0	0	0	0	0	0	0	0	0	1
tails		TZ	0	0	0	0	0	1	0	0	0	0	1
trophies		TZ	340	301	260	371	275	200	138	201	145	178	2409
TZ Total													3355
skins		UG	0	0	0	0	0	1	0	1	1	0	
skulls		UG	0	0	0	0	0	0	0	1	1	0	
specimens		UG	1	0	0	0	0	0	0	0	0	0	
trophies		UG	0	0	0	0	5	0	1	0	0	2	
bodies		US	0	0	0	4	2	0	1	0	0	0	
carvings		US	0	0	0	0	0	0	0	0	0.33	0	
hair		US	0	0	0	0	0	0	0	2	0	0	
skins		US	2	0	0	0	1	0	2	0	1	0	
skulls		US	0	0	0	4	0	0	1	1	0	1	

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
specimens	g	US	0	300	0	0	0	0	0	0	0	0	
specimens	kg	US	0	0.3	0	0	0	0	0	0	0	0	
specimens		US	0	0	0	0	1	1	0	0	0	0	
trophies		US	3	5	3	6	8	8	2	14	6	1	
bodies		UY	0	0	0	0	1	0	0	0	0	0	
skins		UY	0	0	0	0	1	0	0	0	0	0	
derivatives		VN	16	18	60	0	0	0	0	0	0	0	
skins		XX	0	0	0	0	0	1	0	0	1	0	
skulls		XX	0	0	0	0	0	0	0	0	1	0	
trophies		XX	0	0	0	0	0	0	1	0	0	5	
bodies		ZA	1	0	0	2	9	6	9	13	3	2	45
bones		ZA	0	1	0	2	0	8	35	8	2	5	61
claws		ZA	0	44	18	0	36	8	26	18	18	0	168
derivatives		ZA	0	0	0	0	20	6	50	0	0	0	76
garments		ZA	0	0	0	0	0	0	0	1	0	1	2
hair		ZA	0	0	0	0	209	0	0	0	0	0	209
leather products (large)		ZA	0	0	0	0	1	0	0	0	0	0	1
leather products (small)		ZA	0	2	0	0	0	0	0	0	0	0	2
live		ZA	0	0	0	0	0	0	6	2	0	2	10
skins		ZA	5	40	1	7	9	67	84	53	4	5	275
skulls		ZA	3	53	3	6	37	101	145	75	26	68	517
specimens		ZA	4	0	0	1	1	2	0	151	0	1	160
teeth		ZA	0	4	0	0	0	0	0	0	0	4	8
trophies		ZA	113	103	111	147	184	143	125	128	108	109	1271
ZA Total													2805
bodies		ZM	0	0	0	0	0	0	1	0	0	0	
bones		ZM	0	0	0	257	0	1	0	0	0	0	
hair		ZM	0	0	0	0	0	0	0	0	7	0	
skins		ZM	4	8	3	6	7	5	13	4	2	0	
skulls		ZM	1	7	0	2	5	7	25	5	4	1	
specimens	g	ZM	0	0	0	0	0	0	0	0	16	0	
specimens		ZM	0	104	53	44	0	0	0	0	0	0	
trophies		ZM	74	62	69	92	88	94	88	165	60	5	
trophies		ZM	0	0	0	0	0	0	2	0	0	0	
bodies		ZW	3	0	1	2	5	0	0	1	0	0	12
bones		ZW	0	0	0	0	0	0	0	8	1	2	11
claws		ZW	0	0	0	0	8	0	1	38	23	0	70
feet		ZW	0	0	0	0	0	0	0	4	0	0	4
skeletons		ZW	1	0	0	0	0	0	0	0	0	0	1
skin pieces		ZW	0	0	0	0	0	1	0	1	1	2	5
skins	kg	ZW	0	0	0	0	0	0	1	0	0	0	0
skins		ZW	2	34	2	11	18	21	95	188	101	14	486
skulls	kg	ZW	0	0	0	0	0	0	1	0	0	0	0
skulls		ZW	2	32	3	28	33	30	101	199	112	18	558
specimens		ZW	1	0	0	0	0	2	0	0	0	0	3
tails		ZW	0	0	0	0	0	0	0	0	0	10	10
teeth		ZW	0	0	0	0	0	0	0	4	4	0	8
trophies		ZW	320	284	271	251	280	217	195	219	188	175	2400
ZW Total													3568

Source: UNEP-WCMC CITES Trade Database searched by "gross exports" to U.S. of *Panthera pardus*, wild sources, all purposes, on 06/06/2016.

Table 6: International trade in "captive-bred" leopards and their parts for all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	0	0	0	0	0	0	5	2	0	1	8
live	32	38	34	39	41	70	67	53	56	43	473
skins	0	1	0	0	14	0	0	0	2	1	18
specimens	0	3	0	5	343	0	32	2	37	132	554
trophies	0	0	2	2	1	0	2	1	3	0	11
Grand Total	32	42	36	46	399	70	106	58	98	177	1064

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, captive sources, all purposes, on 03/23/2016.

Table 7: International trade in "captive-bred" leopards and their parts for all purposes: Exporting countries.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
bodies		BE	0	0	0	0	0	0	2	1	0	1
bodies		DE	0	0	0	0	0	0	3	0	0	0
bodies		NL	0	0	0	0	0	0	0	1	0	0
live		BE	4	1	1	0	1	0	2	2	6	0
live		BW	0	0	0	0	0	4	0	0	0	0
live		BY	0	0	0	0	0	1	0	0	0	0
live		CH	0	1	0	3	2	0	0	0	1	0
live		CN	3	0	0	0	0	0	0	0	0	0
live		CY	0	0	0	0	3	0	0	0	0	0
live		CZ	1	0	2	3	1	1	1	2	4	0
live		DE	1	0	1	0	1	3	5	4	0	0
live		DK	0	3	0	0	0	0	1	0	2	3
live		EE	0	0	0	0	1	0	0	1	2	0
live		ES	0	0	0	0	0	0	0	0	0	4
live		FR	1	0	2	6	0	1	1	2	2	0
live		GA	0	0	0	0	0	0	0	0	2	4
live		GB	0	2	0	2	0	0	1	1	0	0
live		GE	0	0	0	0	0	0	0	0	0	1
live		GT	0	0	0	0	0	0	0	1	1	0
live		HU	2	3	1	1	0	2	0	0	0	0
live		ID	2	0	0	0	2	1	2	0	0	0
live		IR	0	0	0	0	0	2	0	0	0	0
live		IT	0	0	0	0	0	0	0	0	0	1
live		JO	0	0	0	0	1	0	0	0	0	0
live		KG	0	0	0	0	0	0	0	0	1	0
live		KR	0	0	0	0	0	1	0	0	0	0
live		KZ	0	2	3	0	0	0	0	0	0	0
live		LB	0	0	0	0	0	0	0	1	0	0
live		LV	0	0	0	0	0	0	2	0	0	0
live		MC	1	1	2	0	0	0	0	0	0	0
live		MX	0	0	0	6	0	11	1	0	0	7
live		NL	0	0	0	0	0	0	1	0	0	0
live		PL	0	0	0	0	0	0	0	0	1	0
live		PT	0	0	0	0	3	0	0	2	0	0
live		RO	2	0	0	0	0	0	0	0	9	0
live		RS	0	0	0	0	0	3	0	0	0	2

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
live		RU	1	0	0	1	3	4	19	0	0	1
live		SE	0	0	0	0	0	0	2	0	0	0
live		SG	1	1	0	0	0	0	0	0	0	0
live		SI	0	2	0	0	0	0	0	0	0	0
live		SK	1	0	0	0	0	0	0	0	0	0
live		SZ	0	0	0	0	1	0	0	0	0	0
live		TH	0	2	0	0	0	0	0	0	0	0
live		TN	0	0	0	0	2	0	0	0	0	0
live		TR	0	0	0	1	0	0	0	5	1	0
live		UA	0	2	1	0	3	0	0	0	0	0
live		US	0	1	4	0	0	0	0	0	0	0
live		UZ	0	0	0	0	0	0	0	0	2	0
live		XX	0	0	1	3	1	0	0	1	0	0
live		ZA	0	1	0	5	0	7	0	2	0	3
live		ZW	0	0	0	0	0	0	0	0	0	3
skins		CH	0	1	0	0	1	0	0	0	0	0
skins		MZ	0	0	0	0	2	0	0	0	0	0
skins		NL	0	0	0	0	0	0	0	0	0	1
skins		SZ	0	0	0	0	1	0	0	0	0	0
skins		ZA	0	0	0	0	0	0	0	0	2	0
specimens	flasks	SG	0	3	0	0	0	0	0	0	0	0
specimens		AE	0	0	0	5	0	0	20	0	2	2
specimens		DK	0	0	0	0	0	0	0	2	0	0
specimens		NA	0	0	0	0	0	0	0	0	33	128
specimens		RU	0	0	0	0	343	0	0	0	0	0
specimens		US	0	0	0	0	0	0	5	0	0	0
trophies		NA	0	0	1	0	0	0	0	0	0	0
trophies		NL	0	0	0	0	0	0	0	1	0	0
trophies		TZ	0	0	0	1	0	0	0	0	1	0
trophies		ZA	0	0	1	1	1	0	0	0	2	0
trophies		ZW	0	0	0	0	0	0	1	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, captive sources, all purposes, on 06/06/2016.

Table 8: International trade in "captive-born" leopards and their parts for all purposes.

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	3	1	9	1	1	5	0	2	2	1	25
skulls	0	0	0	0	1	0	0	0	0	0	1
trophies	0	0	1	1	0	0	0	0	4	0	6
Grand Total	3	1	10	2	2	5	0	2	6	1	32

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, F1 sources, all purposes, on 03/23/2016.

Table 9: International trade in "pre-Convention" leopards and their parts from "pre-Convention" for all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	0	0	1	0	1	0	1	2	0	0	5
carvings	0	1	1	0	4	1	1	2	1	0	11
claws	0	0	2	0	0	4	0	0	1	0	7
derivatives	0	0	5	2	0	2	0	2	1	1	13
garments	1	2	1	1	0	3	0	1	2	0	11

leather products (large)	0	0	0	0	1	1	0	1	0	0	3
leather products (small)	3	0	2	0	0	0	0	2	1	0	8
skin pieces	3	0	0	2	2	0	1	2	2	1	13
skins	10	6	14	14	7	8	4	21	10	7	101
skulls	1	0	0	0	0	3	0	1	1	1	7
specimens	0	0	0	0	0	1	1	0	0	0	2
tails	0	0	0	0	0	1	0	0	0	0	1
teeth	0	0	0	0	0	1	2	0	6	5	14
trophies	2	0	1	1	3	1	6	3	2	2	21
Grand Total	20	9	27	20	18	26	16	37	27	17	217

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, pre-Convention sources, all purposes, on 03/23/2016.

Table 10: International trade in "ranched" leopards and their parts for all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	0	0	0	0	0	0	0	8	4	0	8
skins	0	1	0	0	0	0	0	0	0	0	1
skulls	0	1	0	0	0	0	0	0	0	0	1
trophies	0	1	0	1	0	0	0	0	0	0	1
Grand Total	0	3	0	1	0	0	0	8	4	0	16

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, ranched sources, all purposes, on 03/23/2016.

Table 11: International trade in leopards and their parts from "confiscations/seizures" and for all purposes.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	1	0	0	0	0	0	0	0	0	0	1
bone pieces	0	0	0	2	0	0	0	0	0	0	2
bones	0	0	2	40	4	0	0	0	4	0	50
carvings	1	0	0	0	0	0	0	0	0	0	1
claws	0	4	0	3	2	2	2	0	0	1	14
cloth	0	0	0	0	0	0	0	1	0	0	1
derivatives	2939	1504	2987.5	1712	1573	799	1392	0	0	0	12906.5
feet	0	0	0	29	0	0	0	0	0	0	29
garments	1	0	2	0	2	2	0	1	2	1	11
hair	0	0	0	0	0	0	2	0	1	0	3
hair products	0	0	0	0	0	0	0	1	0	0	1
leather products (large)	0	8	0	0	0	0	0	0	0	0	8
leather products (small)	0	0	0	2	1	4	2	0	260	0	269
medicine	0	0	0	0	0	0	0	383	56	99	538
plates	1	0	0	0	0	0	0	0	0	0	1
shoes	0	0	2	0	0	0	0	0	0	0	2
skin pieces	2	1	1	61	1	1	0	3	4	0	74

skins	10	4	4	8	2	5	1	1	2	1	38
skulls	0	2	1	1	2	3	0	1	0	1	11
specimens	0	0	0	0	0	0	0	1	0	0	1
teeth	0	0	1	2	1	21	2	0	1	0	28
trophies	22	35	19	31	15	11	14	18	10	5	180
Grand Total	2977	1558	3019.5	1891	1603	848	1415	410	340	108	14169.5

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, seized/confiscated sources, all purposes, on 03/23/2016.

Table 12: International trade in leopards and their parts from "source unknown" and for all purposes.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	BE	0	0	0	0	0	0	1	0	0	0	1
derivatives	CN	0	0	7	4	0	14	0	0	0	0	25
leather products (small)	GB	0	0	1	0	0	0	0	0	0	0	1
live	KG	0	0	0	0	0	0	5	1	0	0	6
plates	IN	1	0	0	0	0	0	0	0	0	0	1
skin pieces	GB	0	0	0	0	0	0	0	2	0	0	2
skins	CH	0	0	7	0	0	0	0	0	0	0	7
skins	GB	2	0	0	0	0	0	0	0	0	0	2
skins	LT	0	1	0	0	0	0	0	0	0	0	1
skins	NL	0	0	0	7	0	0	0	0	0	0	7
skins	RU	0	0	0	0	0	1	0	0	0	0	1
skulls	GB	0	0	0	0	0	1	0	0	0	0	1
specimens	AE	0	0	35	0	0	0	0	0	0	0	35
trophies	GB	0	0	1	0	0	0	0	0	0	0	1
Grand Total												91

Source: UNEP-WCMC CITES Trade Database searched by "gross exports" of *Panthera pardus*, unknown sources, all purposes, on 03/23/2016.

Table 13: International trade in leopards and their parts for "commercial" purposes and from all sources.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	0	0	1	0	1	0	5	3	0	1	11
carvings	0	1	1	0	1	0	1	3	0	0	7
claws	0	4	0	2	0	0	0	0	1	0	7
cloth	0	0	0	0	0	0	0	1	0	0	1
derivatives	512	244	847	568	317	147	0	2	1	0	2638
feet	0	0	0	29	0	0	0	0	0	0	29
garments	1	2	1	0	1	2	0	4	3	0	14
leather products (large)	0	0	0	0	1	0	0	0	0	0	1
leather products (small)	0	0	2	1	1	1	1	0	260	0	266
live	6	4	4	5	2	5	1	1	7	4	39
medicine	0	0	0	0	0	0	0	260	26	45	331
skin pieces	4	0	0	55	2	0	0	3	4	1	69
skins	7	5	24	5	4	4	3	10	6	4	72
skulls	3	0	0	0	2	1	1	1	0	0	8

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
specimens	0	0	0	0	0	0	2	0	0	0	2
teeth	0	0	0	2	0	1	1	0	8	2	14
trophies	1	1	2	3	2	1	0	1	1	1	13
Grand Total	534	261	882	670	334	162	15	289	317	58	3522

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, hunting trophy purpose, on 03/23/2016.

Table 14: International trade in leopards and their parts for "commercial" purposes and from all sources: Importing countries (range States in bold).

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AE	2	2	1	0	2	1	0	0	4	1	13
AL	0	0	1	0	0	0	0	0	0	0	1
AU	0	0	0	2	0	0	2	1	5	0	10
CA	4	0	0	0	0	1	0	1	0	0	6
CH	2	0	7	1	0	1	2	5	1	0	19
CN	0	0	2	1	2	0	4	3	4	1	17
DE	0	1	7	0	1	1	0	0	1	1	12
EG	0	0	0	0	0	3	0	0	0	0	3
ES	0	0	0	0	2	1	0	0	0	0	3
FR	0	0	0	0	0	0	0	4	5	0	9
GB	0	1	0	1	0	1	0	0	0	0	3
HK	0	0	0	0	2	0	0	2	0	0	4
HU	0	0	0	0	0	0	0	0	1	0	1
ID	0	0	0	0	1	0	0	0	2	0	3
IN	0	1	0	0	0	1	0	0	0	0	2
IS	0	0	1	0	0	0	0	0	0	0	1
JP	3	0	0	0	0	0	0	0	0	0	3
KR	0	0	0	0	0	0	1	1	0	2	4
LY	0	0	1	0	1	0	0	0	0	0	2
MO	0	0	0	0	1	0	0	0	0	0	1
MX	0	0	1	1	1	0	0	0	0	0	3
NZ	0	0	0	3	0	0	0	0	0	0	3
PK	0	0	0	1	0	0	0	0	0	0	1
QA	0	0	0	0	0	0	0	1	3	3	7
RU	0	0	0	0	0	0	0	4	0	0	4
SA	0	0	0	2	0	0	0	0	0	0	2
SG	0	0	0	0	0	0	0	0	0	1	1
SY	0	0	3	0	0	0	0	0	0	0	3
TR	0	0	7	0	0	0	0	0	0	0	7
TW	0	0	1	0	0	0	0	0	0	0	1
UA	0	1	0	0	0	0	0	0	0	0	1
UG	0	0	0	0	0	1	0	0	0	0	1
US	522	253	850	657	320	151	5	265	289	46	3358
ZA	0	2	0	1	1	0	1	2	2	3	12
ZW	1	0	0	0	0	0	0	0	0	0	1
Grand Total	534	261	882	670	334	162	15	289	317	58	3522

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, commercial purposes, on 03/23/2016.

Table 15. International trade in leopards and their parts for commercial purposes, where specimens were confiscated or seized, by importing country.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
claws		US	0	4	0	2	0	0	0	0	0	0	
cloth		US	0	0	0	0	0	0	0	1	0	0	
derivatives	g	US	0	562	0	0	0	435	0	0	0	0	997
derivatives		US	35	238	847	568	317	146	0	0	0	0	2151
feet		US	0	0	0	29	0	0	0	0	0	0	
garments		AU	0	0	0	0	0	0	0	0	1	0	
garments		DE	0	0	0	0	0	0	0	0	1	0	
garments		US	1	0	0	0	1	0	0	1	0	0	
leather products (small)		US	0	0	0	1	0	0	1	0	260	0	
medicine		US	0	0	0	0	0	0	0	260	26	45	331
skin pieces		AU	0	0	0	0	0	0	0	0	1	0	
skin pieces		US	1	0	0	55	0	0	0	1	1	0	
skins		IS	0	0	1	0	0	0	0	0	0	0	
skins		NZ	0	0	0	3	0	0	0	0	0	0	
skins		US	2	0	0	0	0	2	0	1	0	0	
skulls		US	0	0	0	0	0	1	0	0	0	0	
teeth		US	0	0	0	2	0	1	0	0	1	0	

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus*, commercial purposes, purpose is confiscated or seized, on 06/06/2016.

Table 16. Gross exports of *Panthera pardus* derivatives and medicines to the U.S., commercial purposes, where the source is confiscated or seized.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
derivatives	CH	0	0	0	0	10	0	0	0	0	0	10
derivatives	CN	0	201	847	568	307	146	0	0	0	0	2069
derivatives	KR	0	7	0	0	0	0	0	0	0	0	7
derivatives	VN	29	0	0	0	0	0	0	0	0	0	29
derivatives	XX	6	30	0	0	0	0	0	0	0	0	36
medicine	CN	0	0	0	0	0	0	0	260	26	0	286
medicine	HK	0	0	0	0	0	0	0	0	0	45	45
Totals		35	238	847	568	317	146	0	260	26	45	2482

Source: UNEP-WCMC CITES Trade Database searched by "gross exports" of *Panthera pardus* to the U.S. for commercial purposes, where the specimens were confiscated or seized, on 03/23/2016.

Table 17. International trade in leopards and their parts for commercial purposes, where specimens were confiscated or seized, by exporting country.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
cloth		AE	0	0	0	0	0	0	0	1	0	0	
garments		CA	0	0	0	0	1	0	0	0	0	0	
skins		CD	0	0	0	0	0	1	0	0	0	0	
derivatives		CH	0	0	0	0	10	0	0	0	0	0	
skins		CH	0	0	1	0	0	0	0	0	0	0	
skin pieces		CI	0	0	0	0	0	0	0	0	1	0	
teeth		CI	0	0	0	0	0	1	0	0	1	0	
derivatives	g	CN	0	0	0	0	0	435	0	0	0	0	435
derivatives		CN	0	201	847	568	307	146	0	0	0	0	2069

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
leather products (small)		CN	0	0	0	0	0	0	0	0	260	0	260
medicine		CN	0	0	0	0	0	0	0	260	26	0	286
skins		CN	0	0	0	3	0	0	0	0	0	0	3
garments		FR	1	0	0	0	0	0	0	0	0	0	
skins		FR	2	0	0	0	0	0	0	0	0	0	
garments		GB	0	0	0	0	0	0	0	1	0	0	
skin pieces		GB	0	0	0	1	0	0	0	0	0	0	
skins		GB	0	0	0	0	0	0	0	1	0	0	
medicine		HK	0	0	0	0	0	0	0	0	0	45	
leather products (small)		IR	0	0	0	0	0	0	1	0	0	0	
derivatives		KR	0	7	0	0	0	0	0	0	0	0	
claws		NA	0	4	0	0	0	0	0	0	0	0	
skins		NA	0	0	0	0	0	1	0	0	0	0	
skulls		NA	0	0	0	0	0	1	0	0	0	0	
skin pieces		NG	0	0	0	0	0	0	0	1	0	0	
derivatives	g	TW	0	562	0	0	0	0	0	0	0	0	
skin pieces		UG	1	0	0	0	0	0	0	0	0	0	
teeth		UG	0	0	0	2	0	0	0	0	0	0	
garments		US	0	0	0	0	0	0	0	0	2	0	
skin pieces		US	0	0	0	0	0	0	0	0	1	0	
derivatives		VN	29	0	0	0	0	0	0	0	0	0	
derivatives		XX	6	30	0	0	0	0	0	0	0	0	
claws		ZA	0	0	0	2	0	0	0	0	0	0	
feet		ZA	0	0	0	29	0	0	0	0	0	0	
leather products (small)		ZA	0	0	0	1	0	0	0	0	0	0	
skin pieces		ZA	0	0	0	54	0	0	0	0	0	0	

Source: UNEP-WCMC CITES Trade Database searched by "gross exports" of *Panthera pardus*, commercial purposes, purpose is confiscated or seized, on 06/06/2016.

Table 18: International trade in leopards and their parts for "commercial" purposes and from all sources: Exporting countries (range States in bold).

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AE	0	0	1	0	2	0	0	1	0	0	4
AR	0	2	0	0	0	0	0	0	0	0	2
AT	0	0	1	0	0	0	0	0	0	0	1
AU	0	1	0	1	0	0	0	1	1	0	4
BE	2	1	1	0	1	0	2	1	6	1	15
CA	0	0	0	0	1	0	0	0	0	0	1
CD	0	0	0	0	0	1	0	0	0	0	1
CH	0	0	15	0	11	1	0	0	2	0	29
CI	0	0	0	0	0	1	0	0	2	0	3

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
CN	0	207	847	571	307	146	0	260	286	0	2624
CZ	0	0	0	1	0	0	1	1	0	0	3
DE	7	4	8	1	1	1	5	2	1	1	31
ES	0	0	0	0	0	0	0	0	0	1	1
ET	0	0	0	1	0	0	0	0	0	0	1
FR	3	0	0	1	3	2	2	5	0	3	19
GB	1	0	4	1	2	0	2	13	7	0	30
HK	0	0	0	0	0	0	0	0	0	45	45
ID	3	0	0	0	0	0	0	0	0	0	3
IN	0	1	0	0	0	0	0	0	0	0	1
IR	0	0	0	0	0	0	1	0	0	0	1
JO	0	0	3	0	1	0	0	0	0	0	4
JP	477	0	0	0	0	0	0	0	0	0	477
KR	0	7	0	0	0	0	0	0	0	0	7
KZ	0	1	0	0	0	0	0	0	0	0	1
LT	0	1	0	0	0	0	0	0	0	0	1
LY	0	0	1	0	0	1	0	0	0	0	2
MZ	1	0	0	1	0	0	0	0	1	0	3
NA	0	5	0	0	0	2	0	0	0	0	7
NG	0	0	0	0	0	0	0	1	0	0	1
NL	0	0	0	0	0	0	0	0	3	1	4
TZ	4	0	1	0	3	0	2	1	0	0	11
UA	0	1	0	0	0	0	0	0	0	0	1
UG	1	0	0	2	0	1	0	0	0	0	4
US	0	0	0	2	0	0	0	3	8	2	15
VN	29	0	0	0	0	0	0	0	0	0	29
XX	6	30	0	0	0	0	0	0	0	0	36
ZA	0	0	0	88	0	5	0	0	0	0	93
ZM	0	0	0	0	0	1	0	0	0	1	2
ZW	0	0	0	0	2	0	0	0	0	3	5
Grand Total	534	261	882	670	334	162	15	289	317	58	3522

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, commercial purposes, on 03/23/2016.

Table 19: International trade in leopards and their parts for "hunting trophy" purposes from all sources.

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	2	0	3	8	15	18	12	14	4	8	84
bones	0	1	0	2	6	12	41	16	13	13	104
claws	0	66	18	0	62	12	45	72	59	0	334
derivatives	0	0	0	0	20	6	0	0	0	0	26
feet	0	2	0	0	0	0	0	4	0	0	6
garments	0	0	0	0	0	0	0	0	0	1	1
hair	0	0	0	0	0	0	0	0	0	1	1
leather products (large)	0	8	0	0	0	0	0	0	0	0	8
leather products (small)	0	1	0	0	0	0	0	0	0	0	1
live	0	0	0	0	0	2	0	0	0	0	2
plates	0	0	0	2	0	0	0	0	0	0	2

Term	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skeletons	1	0	0	0	0	0	1	0	0	0	2
skin pieces	0	0	0	0	4	1	1	5	1	2	14
skins	22	112	6	23	191	215	336	423	209	27	1564
skulls	11	131	6	42	229	267	431	473	273	111	1974
tails	0	0	0	0	0	1	0	0	0	10	11
teeth	31	4	0	0	0	18	27	4	4	4	92
trophies	1202	1099	1010	1115	1277	929	696	888	645	634	9495
Grand Total	1269	1424	1043	1192	1804	1481	1590	1899	1208	811	13721

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, hunting trophy purpose, on 03/23/2016.

Table 20: International trade in leopards and their parts for "hunting trophy" purposes and from all sources: Importing countries (range States in bold).

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AE	0	1	1	2	1	0	10	0	3	2	20
AR	1	4	7	1	8	4	4	17	10	5	61
AT	23	26	9	21	23	19	19	24	20	13	197
AU	0	4	0	2	0	6	4	3	0	1	20
BE	11	6	11	10	14	15	4	6	2	1	80
BG	4	6	7	3	1	8	3	8	1	2	43
BH	0	1	0	0	0	0	0	0	0	0	1
BR	1	10	0	1	3	2	0	0	0	4	21
BW	1	0	0	0	0	0	2	4	5	0	12
BY	0	0	0	1	0	0	0	0	0	0	1
CA	33	59	3	70	97	44	43	31	20	24	424
CH	14	2	12	2	11	2	9	15	12	5	84
CL	4	0	0	0	0	2	0	0	3	0	9
CN	1	1	0	1	0	3	0	1	1	0	8
CO	0	1	0	0	2	6	0	2	0	1	12
CR	2	1	0	2	0	0	1	1	0	0	7
CS	1	0	0	0	0	0	0	0	0	0	1
CZ	9	7	2	5	4	6	16	14	15	3	81
DE	96	64	39	38	95	38	55	86	54	39	604
DK	7	11	11	14	26	32	91	9	7	9	217
EC	0	0	2	0	0	0	0	0	0	0	2
EE	1	3	0	1	0	0	0	0	1	1	7
EG	0	1	0	0	0	0	0	0	0	0	1
ES	90	98	101	76	109	111	110	56	33	26	810
FI	6	4	3	3	24	5	10	7	3	5	70
FR	191	73	42	47	114	114	47	72	38	39	777
GB	6	11	7	16	27	18	22	23	18	8	156
HN	0	0	0	0	0	0	0	0	2	0	2
HR	6	3	3	3	4	1	1	0	0	1	22
HU	0	0	6	11	37	11	18	20	23	12	138
ID	0	0	0	0	0	0	0	0	0	1	1
IE	1	0	3	0	0	0	0	0	0	0	4
IS	0	0	0	1	2	0	1	1	7	2	14
IT	20	12	15	18	34	32	38	27	21	8	225
JM	1	0	1	0	0	0	4	0	0	0	6
KW	0	0	2	1	1	0	0	0	0	0	4
LB	1	0	0	0	0	0	2	0	1	0	4
LT	1	1	2	2	5	3	0	4	4	4	26

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
LU	2	1	6	4	0	4	7	0	1	3	28
LV	2	4	3	4	2	3	0	1	3	3	25
MA	0	2	0	1	0	0	0	0	0	0	3
MC	0	0	0	0	0	0	0	0	0	1	1
MG	0	0	0	0	0	0	2	2	0	0	4
MU	0	0	0	0	0	0	0	2	0	0	2
MX	39	70	53	63	56	61	61	76	60	34	573
MZ	0	0	0	0	0	2	2	1	0	2	7
NA	3	2	0	2	0	1	4	5	0	0	17
NC	0	0	0	0	0	1	0	0	0	1	2
NI	0	0	0	0	0	0	0	1	0	0	1
NL	5	1	0	1	4	3	4	0	0	2	20
NO	2	5	2	8	8	11	12	5	3	10	66
NP	0	0	1	0	0	0	0	0	0	0	1
NZ	2	0	0	1	4	6	4	7	3	3	30
PA	0	0	0	0	0	1	0	2	6	0	9
PH	1	0	0	3	2	4	4	0	0	0	14
PK	3	1	1	0	2	0	6	5	0	0	18
PL	5	10	8	8	12	6	10	8	6	6	79
PT	18	13	12	7	19	13	24	17	6	1	130
QA	2	0	0	0	0	2	1	6	5	4	20
RO	1	0	4	2	1	1	0	2	2	1	14
RS	0	1	1	2	1	1	1	0	2	0	9
RU	15	8	21	31	48	48	46	53	11	40	321
SA	0	0	4	0	1	0	0	0	0	0	5
SB	0	0	0	0	0	0	2	0	0	0	2
SD	0	0	0	0	0	0	0	0	0	2	2
SE	2	6	9	5	29	31	7	34	14	4	141
SG	0	1	0	0	0	0	0	0	3	0	4
SI	1	4	5	1	2	1	0	2	0	0	16
SK	3	3	2	8	5	2	5	5	5	11	49
SL	0	1	0	0	1	2	1	2	0	0	7
SV	0	0	1	0	0	0	0	0	0	0	1
SZ	2	0	3	2	1	0	0	0	0	2	10
TR	0	0	0	1	1	0	1	0	0	0	3
TZ	1	1	1	1	1	11	1	0	0	0	17
UA	0	1	2	2	1	2	0	0	2	3	13
US	522	693	538	606	840	663	707	1074	644	408	6695
VG	0	1	0	0	0	0	0	0	0	0	1
XX	15	2	0	0	0	5	0	1	0	2	25
YU	0	0	0	0	0	0	0	0	2	0	2
ZA	87	178	74	75	117	112	158	148	114	50	1113
ZM	0	0	0	0	0	0	2	3	0	1	6
ZW	4	5	3	2	4	2	4	6	12	1	43
Grand Total	1269	1424	1043	1192	1804	1481	1590	1899	1208	811	13,721

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, hunting trophy purpose, on 03/23/2016.

Table 21: International trade in leopards and their parts for "hunting trophy" purposes from all sources: Exporting countries (range States in bold).

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
AE	2	0	0	0	0	0	0	0	0	0	2
AR	0	0	0	0	0	0	2	0	3	0	5
AT	3	0	0	1	1	0	2	1	1	1	10
AU	0	0	1	0	0	0	0	0	0	0	1
BE	0	0	0	0	0	0	0	0	1	0	1
BH	0	0	2	0	0	0	0	0	0	0	2
BR	0	0	0	0	1	0	0	0	0	0	1
BW	54	51	59	58	40	34	42	66	28	4	436
CA	0	0	0	4	0	0	0	4	0	0	8
CF	38	28	29	17	110	70	29	23	3	0	347
CH	4	0	0	0	0	0	0	0	0	0	4
CL	0	0	0	0	0	4	0	0	0	0	4
DE	2	0	3	1	0	0	0	1	8	1	16
DK	0	0	0	0	0	0	0	0	0	1	1
ES	0	0	1	0	0	0	0	0	0	2	3
ET	3	2	0	1	6	2	2	2	1	2	21
FI	1	1	0	0	0	0	0	0	0	1	3
FR	4	1	2	1	3	0	0	3	0	0	14
GB	2	0	0	0	2	0	0	0	0	0	4
IR	0	0	0	0	0	2	0	0	0	0	2
IT	1	1	0	0	1	0	0	1	0	0	4
MX	0	0	0	0	0	2	0	3	0	0	5
MZ	73	68	58	42	71	60	168	241	161	67	1009
NA	208	236	174	216	362	202	154	122	122	121	1917
NZ	0	0	0	0	0	0	0	0	0	1	1
PT	1	0	0	0	0	0	0	0	0	0	1
QA	0	0	0	0	0	0	2	0	0	0	2
TN	0	0	0	2	0	0	0	0	0	0	2
TW	0	0	0	0	3	0	0	0	0	0	3
TZ	351	344	239	294	511	394	235	310	222	188	3088
UG	0	0	0	0	5	0	1	2	0	2	10
US	2	5	3	12	10	8	5	15	6	2	68
UY	0	0	0	0	1	0	0	0	0	0	1
XX	0	0	0	0	0	1	1	0	0	2	4
ZA	114	254	131	160	242	331	422	286	159	192	2291
ZM	77	77	72	96	101	105	128	170	65	4	895
ZW	329	356	269	287	334	266	397	649	428	220	3535
Grand Total	1269	1424	1043	1192	1804	1481	1590	1899	1208	811	13721

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, hunting trophy purpose, on 03/23/2016.

Table 22: International trade in leopards trophies for "personal" purposes from all sources: Importing countries (range States in bold).

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	AE	4	7	5	0	0	4	0	1	2	0	
trophies	AT	3	2	6	12	4	1	2	0	2	2	34
trophies	AU	2	0	0	0	1	0	1	0	0	1	
trophies	BG	0	1	0	0	1	0	0	0	0	0	
trophies	BH	0	2	0	0	0	0	0	0	0	0	
trophies	BS	0	1	0	1	1	0	0	0	0	0	
trophies	CA	3	0	0	0	1	0	0	1	0	2	

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	CH	0	0	0	2	0	0	20	0	1	0	23
trophies	CL	0	0	1	1	0	0	0	0	0	0	
trophies	CN	0	0	0	0	0	0	0	2	0	0	
trophies	CR	0	2	0	0	0	0	0	0	0	0	
trophies	CS	0	0	0	1	0	0	0	0	0	0	
trophies	DE	4	0	3	0	3	3	0	1	0	0	
trophies	EC	0	0	0	0	0	0	1	0	0	0	
trophies	EE	0	0	0	1	0	0	0	0	0	0	
trophies	ES	0	0	0	0	0	0	3	1	11	0	15
trophies	FI	0	1	0	0	0	1	0	0	0	0	
trophies	FR	0	0	34	141	75	62	16	75	28	27	458
trophies	GB	0	0	0	1	0	0	0	0	0	0	
trophies	IM	0	0	0	0	0	0	0	0	0	1	
trophies	IS	0	0	0	0	1	0	0	0	0	0	
trophies	IT	0	0	0	0	0	0	0	0	2	0	
trophies	LB	0	0	1	3	2	2	2	0	0	0	
trophies	LI	1	0	0	0	0	0	0	0	0	0	
trophies	MA	0	0	0	1	1	1	2	0	0	1	
trophies	MX	1	0	1	2	0	0	0	1	0	0	
trophies	NG	0	0	0	0	0	0	0	4	0	0	
trophies	NL	0	0	1	0	1	0	0	0	0	0	
trophies	NZ	0	1	0	0	0	1	0	0	0	0	
trophies	PH	0	0	0	0	41	5	0	0	0	0	46
trophies	PK	0	0	0	0	0	0	1	0	0	0	
trophies	PL	0	0	0	0	0	0	0	1	0	0	
trophies	QA	0	0	0	0	0	0	1	0	0	0	
trophies	RU	0	0	0	5	5	2	2	4	14	5	37
trophies	SE	0	1	0	0	0	0	0	3	0	0	
trophies	SG	0	0	0	0	1	0	0	0	1	0	
trophies	SI	0	0	0	1	2	0	0	0	0	0	
trophies	SZ	4	0	0	0	0	0	0	0	0	0	
trophies	US	3	3	3	2	1	0	0	11	7	1	31
trophies	**ZA**	0	0	0	0	0	0	2	9	0	0	
Total		25	21	55	174	141	82	53	114	68	40	773

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus* trophies, all sources, hunting trophy purpose, on 06/06/2016.

Table 23: International trade in leopards trophies for "personal" purposes from all sources: Exporting countries (range States in bold).

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	AE	0	0	0	0	0	0	1	0	0	0	
trophies	AR	0	0	0	0	0	0	2	0	0	0	
trophies	AU	0	0	0	0	0	0	0	1	0	0	
trophies	BH	0	0	0	0	0	0	0	0	1	0	
trophies	**BW**	0	0	0	2	4	0	3	22	21	1	53
trophies	**CF**	0	0	13	16	19	18	10	8	1	0	85
trophies	DE	0	0	0	5	0	0	3	0	5	1	
trophies	**ET**	0	4	0	0	1	0	0	0	0	1	
trophies	FR	0	3	0	0	0	0	0	0	0	0	
trophies	GB	0	1	0	0	0	0	0	1	0	0	
trophies	**KE**	0	0	0	0	1	0	1	0	0	0	
trophies	MX	0	1	0	0	0	0	0	0	0	0	

trophies	**MZ**	4	0	1	12	2	4	2	6	1	6	38
trophies	**NA**	3	2	8	27	19	7	6	4	7	3	86
trophies	NL	0	0	0	0	0	0	0	1	0	0	
trophies	NO	0	0	0	1	1	0	0	2	0	0	
trophies	NZ	0	0	0	0	0	0	0	0	0	1	
trophies	**TZ**	6	4	22	94	36	35	16	54	17	19	303
trophies	**UG**	0	0	0	0	1	0	0	0	0	0	
trophies	US	0	0	0	0	0	1	0	0	0	0	
trophies	**ZA**	3	4	2	7	44	11	0	0	4	2	77
trophies	**ZM**	2	0	2	2	5	2	3	4	4	1	
trophies	**ZW**	7	2	7	8	8	4	6	11	7	5	65

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus* trophies, all sources, hunting trophy purpose, on 06/06/2016.

Table 24: International trade in leopards and their parts for "scientific" purposes from all sources

Term	Unit	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		0	0	0	0	0	0	1	0	0	0	1
bones		0	0	0	257	0	0	0	0	0	0	257
derivatives		0	0	0	0	0	0	50	0	0	0	50
hair	kg	0.486	0	0	0.2	0	0	0	0	0	0	0.686
hair		0	6	0	10	209	0	0	2	7	0	234
live		2	0	0	0	1	1	0	0	0	0	4
skin pieces		0	0	0	1	0	0	0	0	0	0	1
skins		0	0	0	7	0	0	0	0	0	0	7
specimens	flasks	0	3	0	0	0	0	0	0	0	0	3
specimens	g	0	300	0	0	0	0	0	0	16	36	352
specimens	kg	0	0.3	0	0	0	15	0	0	0	0	15.3
specimens	ml	0	5.5	0	0	0	6	0	60	1.5	0	73
specimens		126	108	99	260	360	437	311	1384	140	1034	4259
teeth	g	65	0	0	0	0	0	0	0	0	0	65

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, scientific purpose, on 06/06/2016.

Table 25: International trade in leopards and their parts for "scientific" purposes from all sources: Importing countries (range States in bold).

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
hair		AU	0	0	0	0	0	0	0	2	0	0
hair		CH	0	6	0	0	0	0	0	0	0	0
specimens	ml	CH	0	5	0	0	0	0	0	0	0	0
specimens		CH	0	100	46	30	0	0	0	0	6	3
specimens	g	CN	0	0	0	0	0	0	0	0	0	36
bones		DE	0	0	0	257	0	0	0	0	0	0
specimens	ml	DE	0	0	0	0	0	0	0	60	0	0
specimens		DE	126	0	53	44	1	100	30	1233	0	901
hair	kg	FR	0.486	0	0	0	0	0	0	0	0	0
teeth	g	FR	65	0	0	0	0	0	0	0	0	0
derivatives		GB	0	0	0	0	0	0	50	0	0	0
hair		GB	0	0	0	0	209	0	0	0	0	0
specimens	flasks	GB	0	3	0	0	0	0	0	0	0	0
specimens		GB	0	8	0	0	343	0	0	0	0	0
live		GT	0	0	0	0	0	1	0	0	0	0
specimens	ml	IL	0	0	0	0	0	0	0	0	1.5	0

live		JO	0	0	0	0	1	0	0	0	0	0
hair	kg	JP	0	0	0	0.2	0	0	0	0	0	0
live		JP	2	0	0	0	0	0	0	0	0	0
specimens	g	JP	0	300	0	0	0	0	0	0	0	0
specimens	kg	JP	0	0.3	0	0	0	15	0	0	0	0
bodies		KR	0	0	0	0	0	0	1	0	0	0
hair		NL	0	0	0	10	0	0	0	0	0	0
specimens		NO	0	0	0	0	0	0	0	1	0	0
hair		US	0	0	0	0	0	0	0	0	7	0
skin pieces		US	0	0	0	1	0	0	0	0	0	0
skins		US	0	0	0	7	0	0	0	0	0	0
specimens	g	US	0	0	0	0	0	0	0	0	16	0
specimens	ml	US	0	0	0	0	0	6	0	0	0	0
specimens		US	0	0	0	186	0	286	281	150	39	0
specimens		US	0	0	0	0	0	51	0	0	0	0
specimens	ml	**ZA**	0	0.5	0	0	0	0	0	0	0	0
specimens		**ZA**	0	0	0	0	16	0	0	0	95	130

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, scientific purpose, on 06/06/2016.

Table 26: International trade in leopards and their parts for "scientific" purposes from all sources: Exporting countries (range States in bold).

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
live		AE	0	0	0	0	1	0	0	0	0	0
specimens		AE	0	0	35	5	0	0	20	0	2	0
bodies		BE	0	0	0	0	0	0	1	0	0	0
hair		**BW**	0	6	0	0	0	0	0	0	0	0
specimens	ml	**BW**	0	5	0	0	0	0	0	0	0	0
specimens		**BW**	0	4	11	25	16	0	0	0	60	0
specimens		**CF**	0	0	0	0	0	0	0	0	6	3
specimens		CH	125	0	0	0	0	0	0	0	0	0
hair	kg	DJ	0.486	0	0	0	0	0	0	0	0	0
teeth	g	DJ	65	0	0	0	0	0	0	0	0	0
specimens		DK	0	0	0	0	0	0	0	2	0	0
specimens		GA	0	0	0	0	0	0	0	0	20	0
specimens		GQ	0	0	0	0	0	0	5	0	0	0
live		ID	2	0	0	0	0	0	0	0	0	0
specimens	ml	**KE**	0	0.5	0	0	0	0	0	0	1.5	0
specimens		**KE**	0	0	0	0	0	51	0	0	0	0
specimens	kg	KH	0	0	0	0	0	15	0	0	0	0
specimens		LR	0	0	0	0	0	0	0	0	0	1
live		MX	0	0	0	0	0	1	0	0	0	0
specimens	ml	**NA**	0	0	0	0	0	6	0	60	0	0
specimens		**NA**	0	0	0	0	0	100	0	1233	34	1030
skin pieces		NL	0	0	0	1	0	0	0	0	0	0
skins		NL	0	0	0	7	0	0	0	0	0	0
hair	kg	RU	0	0	0	0.2	0	0	0	0	0	0
specimens	g	RU	0	0	0	0	0	0	0	0	0	36
specimens		RU	0	0	0	186	343	286	286	0	0	0
specimens	flasks	SG	0	3	0	0	0	0	0	0	0	0
specimens		SN	0	0	0	0	0	0	0	0	18	0
hair		**TZ**	0	0	0	10	0	0	0	0	0	0
specimens		**UG**	1	0	0	0	0	0	0	0	0	0
hair		US	0	0	0	0	0	0	0	2	0	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
specimens	g	US	0	300	0	0	0	0	0	0	0	0
specimens	kg	US	0	0.3	0	0	0	0	0	0	0	0
specimens		US	0	0	0	0	1	0	0	0	0	0
derivatives		**ZA**	0	0	0	0	0	0	50	0	0	0
hair		**ZA**	0	0	0	0	209	0	0	0	0	0
specimens		**ZA**	0	0	0	0	0	0	0	149	0	0
bones		**ZM**	0	0	0	257	0	0	0	0	0	0
hair		**ZM**	0	0	0	0	0	0	0	0	7	0
specimens	g	**ZM**	0	0	0	0	0	0	0	0	16	0
specimens		**ZM**	0	104	53	44	0	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, scientific purpose, on 06/06/2016.

Table 26: International trade in leopards and their parts for "breeding in captivity" purposes from all sources: Exporting countries (range States in bold).

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	AE	0	0	0	1	0	5	0	1	0	0	7
live	BE	0	1	0	0	1	0	0	0	4	0	6
live	CA	0	0	0	1	0	0	0	0	0	0	1
live	CZ	0	0	0	0	0	0	0	1	3	0	4
live	DE	1	0	0	0	1	0	1	0	0	0	3
live	FR	0	0	0	0	0	0	0	1	0	0	1
live	GB	0	0	0	0	0	0	1	0	0	0	1
live	ID	0	0	0	0	0	0	2	0	0	0	2
live	ML	0	0	0	2	0	0	0	0	0	0	2
live	**SZ**	0	0	0	0	1	0	0	0	0	0	1
live	UA	0	0	0	0	1	0	0	0	0	0	1
live	YE	0	0	6	0	0	0	0	0	0	0	6
live	**ZA**	1	2	2	1	0	0	1	1	0	0	8
Total												43

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, breeding in captivity purpose, on 06/06/2016.

Table 27: International trade in leopards and their parts for "breeding in captivity" purposes from all sources: Importing countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	AE	2	3	8	0	0	0	0	0	3	0	16
live	AM	0	0	0	0	1	5	0	0	0	0	6
live	BH	0	0	0	0	0	0	1	0	0	0	1
live	EG	0	0	0	0	0	0	0	1	0	0	1
live	GA	0	0	0	0	0	0	3	1	0	0	4
live	GM	0	0	0	2	0	0	0	0	0	0	2
live	JP	0	0	0	0	0	0	1	0	0	0	1
live	PK	0	0	0	1	0	0	0	0	0	0	1
live	RU	0	0	0	0	0	0	0	2	0	0	2
live	SA	0	0	0	0	0	0	0	0	4	0	4
live	SY	0	0	0	0	1	0	0	0	0	0	1
live	TH	0	0	0	2	1	0	0	0	0	0	3
live	ZA	0	0	0	0	1	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, breeding in captivity purpose, on 06/06/2016.

Table 28: International trade in leopards and their parts for "educational" purposes from all sources: Exporting countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	BW	0	0	1	0	0	0	0	0	0	0	1
bodies	ZA	1	0	0	0	0	1	2	4	1	0	9
bodies	ZW	0	0	1	0	0	0	0	0	0	0	1
derivatives	DK	0	0	635	0	0	0	0	0	0	0	635
derivatives	SL	0	0	5	0	0	0	0	0	0	0	5
leather products (small)	AE	0	0	0	0	0	1	0	0	0	0	1
live	CY	0	0	0	0	3	0	0	0	0	0	3
live	GT	0	0	0	0	0	0	0	1	0	0	1
skins	AE	0	1	1	1	3	1	0	0	0	0	7
skins	CH	0	1	1	0	0	0	0	0	0	0	2
skins	TZ	0	0	0	0	0	0	0	1	0	0	1
skins	US	0	0	0	0	0	0	1	0	1	0	2
skulls	GB	0	0	0	0	0	1	0	0	0	0	1
skulls	TN	0	0	0	1	0	0	0	0	0	0	1
skulls	TZ	0	0	0	0	0	0	0	1	0	0	1
skulls	ZA	1	0	0	0	0	0	0	2	0	0	3
specimens	AE	0	0	0	1	0	0	0	0	0	0	1
specimens	TH	0	0	0	0	0	0	1	0	0	0	1
specimens	ZA	4	0	0	1	1	2	0	0	0	1	9
specimens	ZW	0	0	0	0	0	2	0	0	0	0	2
teeth	SY	0	0	0	0	0	12	0	0	0	0	12
trophies	ZA	2	0	1	1	1	1	0	1	2	0	9
trophies	ZW	0	0	2	0	0	2	0	0	0	0	4
Total												712

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, breeding in educational purpose, on 06/06/2016.

Table 29: International trade in leopards and their parts for "law enforcement/judicial/forensic" purposes from all sources: Exporting countries.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
skin pieces		GA	0	0	0	0	0	0	0	5	0	0
skins	kg	GA	0	0	0	0	0	0	0	0.19	0	0
skins		GB	1	0	0	0	0	0	0	0	0	0
skins		NL	0	0	3	0	0	0	0	0	0	0
skins		SZ	0	0	0	0	0	0	0	2	0	0
specimens		SZ	0	0	0	0	0	0	0	2	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, law enforcement/judicial/forensic purpose, on 06/06/2016.

Table 29: International trade in leopards and their parts for "medical" purposes from all sources: Exporting countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
specimens	AE	0	0	0	0	0	0	0	0	0	2
specimens	BW	0	0	0	0	0	0	0	27	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, medical purpose, on 06/06/2016.

Table 30: International trade in leopards and their parts for "reintroduction or introduction into the wild" purposes from all sources: Exporting countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
live	TM	0	0	0	0	2	0	0	0	0	0
live	ZA	0	0	0	0	0	0	6	6	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, reintroduction or introduction into the wild purpose, on 06/06/2016.

Table 31: International trade in leopards and their parts for "personal" purposes from all sources.

Term	Unit	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		3	0	3	2	5	0	4	3	4	2	26
bone pieces		0	0	0	2	0	0	0	0	0	0	2
bones		0	0	2	40	2	0	0	0	6	0	50
carvings		1	0	0	0	3	1	0	0	0	0	5
claws		0	0	2	1	2	6	20	0	0	1	32
derivatives	kg	0	0	0.04	0.062	2.9562	11.35	0	0	0	0	14.4082
derivatives	g	0	0	0	0	120	2315	0	0	0	0	2435
derivatives		1091	1386	1588.5	1096	1256	666	1392	0	0	1	8476.5
garments		1	0	2	0	1	4	0	1	2	1	12
hair		0	0	0	0	0	0	2	0	1	0	3
hair products		0	0	0	0	0	0	0	1	0	0	1
leather products (large)		0	0	0	0	1	1	0	1	0	0	3
leather products (small)		3	1	2	1	0	4	1	2	1	0	15
live		3	0	0	0	4	0	0	0	0	0	7
medicine	kg	0	0	0	0	0	0	0	0	0	1.45	1.45
medicine		0	0	0	0	0	0	0	123	30	54	207
plates		2	0	0	0	0	0	0	0	0	0	2
shoes		0	0	4	0	0	0	0	0	0	0	4
skin pieces	kg	0	0	0	0	10	0	0	0	0	0	10
skin pieces		5	0	1	8	1	1	1	4	3	1	25
skins	kg	0	0	0	0	0	0	0	0	0	1.9	1.9
skins		24	34	27	22	16	12	10	25	11	10	191
skulls	kg	0	0	0	0	0	0	0	0	0	0.65	0.65
skulls		10	1	11	3	6	6	7	2	3	3	52
specimens		2	0	0	0	0	1	0	5	1	0	9
tails		0	0	0	0	0	1	0	0	0	0	1
teeth		0	0	9	0	1	9	3	0	0	1	23
trophies		25	21	55	174	141	82	53	114	68	40	773
unspecified		1	0	0	0	0	0	0	0	0	0	1
Total #		1171	1443	1706.5	1349	1439	794	1493	281	130	114	9920.5
Total g		0	0	0	0	120	2315	0	0	0	0	2435
Total kg		0	0	0.04	0.062	12.9562	11.35	0	0	0	4	28.4082

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, personal purpose, on 06/06/2016.

Table 32: International trade in leopards and their parts for "personal" purposes from all sources: Exporting countries.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
bodies		BE	0	0	0	0	0	0	0	0	0	1
bodies		CA	0	0	0	0	0	0	1	1	0	0
bodies		CH	0	0	1	0	0	0	0	0	3	0
bodies		FR	3	0	1	0	0	0	3	1	0	1
bodies		NA	0	0	1	1	0	0	0	0	0	0
bodies		NL	0	0	0	0	0	0	0	1	0	0
bodies		US	0	0	0	1	0	0	0	0	0	0
bodies		ZA	0	0	0	0	5	0	0	0	1	0
bone pieces		ZA	0	0	0	2	0	0	0	0	0	0
bones		CN	0	0	2	40	0	0	0	0	0	0
bones		NA	0	0	0	0	0	0	0	0	2	0
bones		TZ	0	0	0	0	0	0	0	0	4	0
bones		ZA	0	0	0	0	2	0	0	0	0	0
carvings		JE	0	0	0	0	0	1	0	0	0	0
carvings		NZ	0	0	0	0	3	0	0	0	0	0
carvings		ZA	1	0	0	0	0	0	0	0	0	0
claws		CR	0	0	0	0	0	0	1	0	0	0
claws		FR	0	0	0	0	0	0	18	0	0	0
claws		KH	0	0	0	0	0	0	1	0	0	0
claws		NP	0	0	0	0	0	0	0	0	0	1
claws		US	0	0	2	0	0	0	0	0	0	0
claws		VN	0	0	0	1	1	2	0	0	0	0
claws		ZA	0	0	0	0	1	4	0	0	0	0
derivatives		AU	0	0	0	4	0	0	0	0	0	0
derivatives		CA	0	61	0	0	0	1	0	0	0	0
derivatives		CI	0	5	0	0	0	0	0	0	0	0
derivatives	g	CN	0	0	0	0	120	2200	0	0	0	0
derivatives	kg	CN	0	0	0.04	0.026	2.9562	11.35	0	0	0	0
derivatives		CN	1019	1166	1344.5	858	1241	632	1392	0	0	0
derivatives		DE	0	1	3	0	0	0	0	0	0	0
derivatives		GB	0	0	0	6	0	0	0	0	0	0
derivatives		HK	0	30	5	65	6	25	0	0	0	0
derivatives	kg	ID	0	0	0	0.036	0	0	0	0	0	0
derivatives		ID	0	0	0	2	0	0	0	0	0	0
derivatives		JP	0	0	1	0	0	0	0	0	0	0
derivatives		KH	0	0	49	24	0	7	0	0	0	0
derivatives		KR	15	0	0	0	2	0	0	0	0	0
derivatives		LA	0	10	0	0	0	0	0	0	0	0
derivatives	g	MY	0	0	0	0	0	115	0	0	0	0
derivatives		MY	0	0	0	13	2	0	0	0	0	0
derivatives		NG	0	0	3	0	0	0	0	0	0	0
derivatives		PH	0	13	6	0	0	0	0	0	0	0
derivatives		PT	0	0	3	0	0	0	0	0	0	0
derivatives		SG	0	0	0	62	2	0	0	0	0	0
derivatives		TH	0	0	0	16	0	0	0	0	0	0
derivatives		TW	0	13	0	0	0	0	0	0	0	0
derivatives		US	0	0	0	0	0	0	0	0	0	1
derivatives		VN	16	37	60	20	3	0	0	0	0	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
derivatives		XX	41	50	114	26	0	1	0	0	0	0
garments		AT	0	0	1	0	0	0	0	0	0	0
garments		CA	0	0	0	0	1	3	0	0	0	0
garments		DK	0	0	0	0	0	0	0	0	1	0
garments		GB	0	0	0	0	0	0	0	0	1	1
garments		MX	0	0	1	0	0	0	0	0	0	0
garments		ZA	1	0	0	0	0	1	0	1	0	0
hair		GB	0	0	0	0	0	0	0	0	1	0
hair		KH	0	0	0	0	0	0	2	0	0	0
hair products		NG	0	0	0	0	0	0	0	1	0	0
leather products (large)		CA	0	0	0	0	0	1	0	0	0	0
leather products (large)		GB	0	0	0	0	0	0	0	1	0	0
leather products (large)		ZA	0	0	0	0	1	0	0	0	0	0
leather products (small)		AU	0	0	1	0	0	0	0	0	0	0
leather products (small)		GB	3	0	1	0	0	0	0	1	0	0
leather products (small)		GH	0	0	0	1	0	0	0	0	0	0
leather products (small)		LR	0	0	0	0	0	0	1	0	0	0
leather products (small)		NZ	0	0	0	0	0	0	0	1	0	0
leather products (small)		SD	0	0	0	0	0	4	0	0	0	0
leather products (small)		ZA	0	1	0	0	0	0	0	0	1	0
live		BE	2	0	0	0	0	0	0	0	0	0
live		SD	1	0	0	0	0	0	0	0	0	0
live		UA	0	0	0	0	2	0	0	0	0	0
live		ZA	0	0	0	0	2	0	0	0	0	0
medicine	kg	CN	0	0	0	0	0	0	0	0	0	1.45
medicine		CN	0	0	0	0	0	0	0	123	29	6
medicine		HK	0	0	0	0	0	0	0	0	1	48
plates		CH	1	0	0	0	0	0	0	0	0	0
plates		IN	1	0	0	0	0	0	0	0	0	0
shoes		SD	0	0	4	0	0	0	0	0	0	0
skin pieces		CH	0	0	0	0	0	0	0	0	0	1
skin pieces		CN	0	0	1	0	0	0	0	0	0	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
skin pieces	kg	FR	0	0	0	0	10	0	0	0	0	0
skin pieces		GB	0	0	0	0	0	0	0	2	0	0
skin pieces		GH	0	0	0	2	0	0	0	0	0	0
skin pieces		LA	1	0	0	0	0	0	0	0	0	0
skin pieces		NG	0	0	0	0	1	1	0	0	0	0
skin pieces		NI	1	0	0	0	0	0	0	0	0	0
skin pieces		NZ	0	0	0	0	0	0	1	0	0	0
skin pieces		PH	0	0	0	0	0	0	0	0	1	0
skin pieces		SA	2	0	0	0	0	0	0	0	0	0
skin pieces		TH	0	0	0	0	0	0	0	1	0	0
skin pieces		TW	1	0	0	0	0	0	0	0	0	0
skin pieces		ZA	0	0	0	6	0	0	0	1	2	0
skins		AE	6	0	0	0	0	0	0	0	0	0
skins		AU	0	0	0	0	0	0	2	0	0	0
skins	kg	BE	0	0	0	0	0	0	0	0	0	1.9
skins		CA	0	0	0	2	0	2	0	1	2	0
skins		CD	1	0	0	3	1	0	0	5	0	0
skins		CH	0	0	0	0	0	0	1	0	0	0
skins		CI	2	0	0	0	0	0	0	0	0	0
skins		CM	1	0	0	0	0	0	0	0	0	0
skins		CY	0	0	1	0	0	0	0	0	0	0
skins		DE	0	2	0	0	0	0	0	0	0	0
skins		FR	0	0	0	1	0	0	2	0	0	0
skins		GB	3	4	4	0	0	0	0	2	1	1
skins		GH	1	0	0	0	0	0	0	0	0	0
skins		HK	0	0	0	1	0	0	0	0	0	0
skins		IE	0	0	1	0	0	0	0	0	0	0
skins		IR	1	0	0	0	0	0	0	0	0	0
skins		KE	0	0	0	0	1	0	0	0	0	0
skins		LR	0	0	0	1	0	0	0	0	0	0
skins		ML	0	1	0	0	0	0	0	0	0	0
skins		MW	0	0	0	0	2	0	0	1	0	0
skins		MZ	0	1	0	0	5	0	0	0	0	0
skins		NA	2	8	12	0	0	1	1	0	0	0
skins		NG	1	2	0	0	0	1	0	0	1	0
skins		NL	0	0	0	0	0	0	0	0	0	2
skins		NO	0	0	0	0	1	0	0	0	1	0
skins		NP	2	0	0	0	0	0	0	0	0	0
skins		NZ	0	4	0	6	1	2	0	4	0	0
skins		PT	0	0	0	0	0	0	1	0	0	0
skins		SA	0	0	1	0	0	0	0	0	0	0
skins		SD	0	0	0	0	0	0	1	0	0	0
skins		SG	0	0	0	0	0	1	0	0	0	0
skins		SZ	0	0	0	0	1	0	0	2	0	0
skins		TZ	0	3	1	0	0	0	0	0	0	2
skins		UY	0	0	0	0	1	0	0	0	0	0
skins		XX	0	0	0	0	1	0	0	0	0	0
skins		ZA	0	5	2	3	0	5	2	0	4	4
skins		ZM	2	2	3	4	0	0	0	0	0	0
skins		ZW	2	2	2	1	2	0	0	10	2	1
skulls		AE	6	0	0	0	0	0	0	0	0	0
skulls		AT	0	0	0	1	0	0	0	0	0	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
skulls		CA	0	0	0	1	0	0	0	0	0	0
skulls		CG	0	0	0	0	1	0	0	0	0	0
skulls		CH	0	0	0	0	0	1	0	0	0	0
skulls		FR	0	0	0	0	1	2	5	1	0	0
skulls		MX	0	0	0	0	0	1	0	0	0	0
skulls		NA	1	0	8	0	0	0	0	1	0	0
skulls		NO	0	0	0	0	0	0	0	0	2	0
skulls		TZ	0	0	1	0	0	0	0	0	0	1
skulls	kg	ZA	0	0	0	0	0	0	0	0	0	0.65
skulls		ZA	0	1	0	0	3	1	2	0	1	1
skulls		ZM	1	0	0	0	0	0	0	0	0	0
skulls		ZW	2	0	2	1	1	1	0	0	0	1
specimens		AE	0	0	0	0	0	0	0	2	0	0
specimens		CH	0	0	0	0	0	0	0	2	1	0
specimens		TZ	1	0	0	0	0	0	0	0	0	0
specimens		US	0	0	0	0	0	1	0	0	0	0
specimens		ZA	0	0	0	0	0	0	0	1	0	0
specimens		ZW	1	0	0	0	0	0	0	0	0	0
tails		ZA	0	0	0	0	0	1	0	0	0	0
teeth		FR	0	0	0	0	0	1	1	0	0	0
teeth		KE	0	0	0	0	0	0	1	0	0	0
teeth		NA	0	0	8	0	0	0	0	0	0	0
teeth		NG	0	0	0	0	0	8	0	0	0	0
teeth		US	0	0	0	0	0	0	0	0	0	1
teeth		VN	0	0	0	0	1	0	1	0	0	0
teeth		ZW	0	0	1	0	0	0	0	0	0	0
trophies		AE	0	0	0	0	0	0	1	0	0	0
trophies		AR	0	0	0	0	0	0	2	0	0	0
trophies		AU	0	0	0	0	0	0	0	1	0	0
trophies		BH	0	0	0	0	0	0	0	0	1	0
trophies		BW	0	0	0	2	4	0	3	22	21	1
trophies		CF	0	0	13	16	19	18	10	8	1	0
trophies		DE	0	0	0	5	0	0	3	0	5	1
trophies		ET	0	4	0	0	1	0	0	0	0	1
trophies		FR	0	3	0	0	0	0	0	0	0	0
trophies		GB	0	1	0	0	0	0	0	1	0	0
trophies		KE	0	0	0	0	1	0	1	0	0	0
trophies		MX	0	1	0	0	0	0	0	0	0	0
trophies		MZ	4	0	1	12	2	4	2	6	1	6
trophies		NA	3	2	8	27	19	7	6	4	7	3
trophies		NL	0	0	0	0	0	0	0	1	0	0
trophies		NO	0	0	0	1	1	0	0	2	0	0
trophies		NZ	0	0	0	0	0	0	0	0	0	1
trophies		TZ	6	4	22	94	36	35	16	54	17	19
trophies		UG	0	0	0	0	1	0	0	0	0	0
trophies		US	0	0	0	0	0	1	0	0	0	0
trophies		ZA	3	4	2	7	44	11	0	0	4	2
trophies		ZM	2	0	2	2	5	2	3	4	4	1
trophies		ZW	7	2	7	8	8	4	6	11	7	5
unspecified		LA	1	0	0	0	0	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, personal purpose, on 06/06/2016.

Table 33: International trade in leopards and their parts for "personal" purposes from all sources: Importing countries.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
bodies		CA	0	0	0	1	1	0	0	0	0	1
bodies		CH	2	0	0	0	0	0	0	0	0	1
bodies		CN	0	0	0	0	0	0	0	1	0	0
bodies		DE	0	0	1	1	0	0	0	0	0	0
bodies		FR	0	0	0	0	1	0	0	0	0	0
bodies		GB	0	0	0	0	0	0	0	0	3	0
bodies		IS	0	0	1	0	0	0	0	0	0	0
bodies		LB	0	0	1	0	0	0	0	1	0	0
bodies		MA	0	0	0	0	0	0	1	0	0	0
bodies		NG	0	0	0	0	0	0	2	0	0	0
bodies		NZ	0	0	0	0	2	0	0	0	0	0
bodies		PL	0	0	0	0	0	0	0	0	1	0
bodies		RU	0	0	0	0	1	0	0	0	0	0
bodies		US	1	0	0	0	0	0	1	1	0	0
bone pieces		US	0	0	0	2	0	0	0	0	0	0
bones		NZ	0	0	2	40	0	0	0	0	0	0
bones		SG	0	0	0	0	0	0	0	0	2	0
bones		US	0	0	0	0	2	0	0	0	4	0
carvings		GB	0	0	0	0	3	0	0	0	0	0
carvings		US	1	0	0	0	0	0	0	0	0	0
carvings		XX	0	0	0	0	0	1	0	0	0	0
claws		CA	0	0	2	0	0	0	0	0	0	0
claws		CH	0	0	0	0	0	0	18	0	0	0
claws		GB	0	0	0	0	0	4	0	0	0	0
claws		NZ	0	0	0	0	1	0	0	0	0	0
claws		US	0	0	0	1	1	2	2	0	0	1
derivatives	g	NZ	0	0	0	0	120	1815	0	0	0	0
derivatives	g	US	0	0	0	0	0	500	0	0	0	0
derivatives	kg	NZ	0	0	0.04	0.062	0.6262	11.35	0	0	0	0
derivatives	kg	US	0	0	0	0	2.33	0	0	0	0	0
derivatives		CA	0	0	0	2	0	0	0	0	0	0
derivatives		DE	0	0	0	0	0	0	0	0	0	1
derivatives		NZ	0	0	454.5	745	817	427	0	0	0	0
derivatives		US	1091	1386	1134	349	439	239	1392	0	0	0
garments		GB	0	0	0	0	0	0	0	1	0	0
garments		IT	0	0	0	0	0	1	0	0	0	0
garments		NO	0	0	0	0	0	0	0	0	1	0
garments		NZ	1	0	0	0	0	0	0	0	0	0
garments		US	0	0	2	0	1	3	0	0	1	1
hair		US	0	0	0	0	0	0	2	0	1	0
hair products		US	0	0	0	0	0	0	0	1	0	0
leather products (large)		NZ	0	0	0	0	0	0	0	1	0	0
leather products (large)		PH	0	0	0	0	1	0	0	0	0	0
leather products (large)		US	0	0	0	0	0	1	0	0	0	0
leather products		AU	0	1	0	0	0	0	0	0	1	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
(small)												
leather products (small)		NZ	3	0	1	0	0	0	0	0	0	0
leather products (small)		RU	0	0	1	0	0	0	0	0	0	0
leather products (small)		US	0	0	0	1	0	4	1	2	0	0
live		AE	2	0	0	0	4	0	0	0	0	0
live		SA	1	0	0	0	0	0	0	0	0	0
medicine	kg	US	0	0	0	0	0	0	0	0	0	1.45
medicine		US	0	0	0	0	0	0	0	123	30	54
plates		US	2	0	0	0	0	0	0	0	0	0
shoes		US	0	0	4	0	0	0	0	0	0	0
skin pieces	kg	US	0	0	0	0	10	0	0	0	0	0
skin pieces		GR	0	0	0	0	0	0	1	0	0	0
skin pieces		NZ	0	0	0	6	1	0	0	0	0	0
skin pieces		US	5	0	1	2	0	1	0	4	3	1
skins	kg	AU	0	0	0	0	0	0	0	0	0	1.9
skins		AE	0	0	0	0	0	0	1	5	0	0
skins		AR	0	2	0	0	0	0	0	0	0	0
skins		AT	4	14	15	0	0	0	0	0	1	0
skins		AU	3	10	2	5	1	6	0	1	0	0
skins		BE	0	0	0	0	1	0	0	0	0	0
skins		CA	2	1	0	0	1	0	0	0	0	1
skins		CG	0	0	0	0	0	0	0	0	0	2
skins		CH	0	0	0	2	0	0	0	3	1	0
skins		CN	0	0	0	1	0	0	1	2	0	2
skins		DE	1	0	0	0	0	1	2	0	1	0
skins		DK	0	0	0	0	1	0	0	0	0	0
skins		FR	2	0	0	0	1	1	0	1	2	2
skins		GB	0	0	0	2	4	1	1	0	0	0
skins		IN	2	0	0	0	0	0	0	0	0	0
skins		IT	0	0	0	1	0	0	0	0	0	0
skins		LK	0	0	0	0	2	0	0	0	0	0
skins		MA	0	0	0	0	0	0	3	0	0	0
skins		NC	1	0	0	0	0	0	0	0	0	0
skins		NG	0	0	0	0	0	0	0	6	0	0
skins		NL	0	0	0	0	1	0	0	1	0	0
skins		NZ	2	0	3	0	0	0	0	0	0	0
skins		PF	0	0	0	1	0	0	0	0	0	0
skins		PT	0	0	1	0	0	0	0	0	0	0
skins		RU	0	0	0	0	0	0	0	0	2	0
skins		SE	0	0	0	0	0	0	0	0	1	0
skins		SZ	0	2	4	4	0	0	0	0	0	0
skins		TR	1	0	0	0	0	0	0	0	0	0
skins		US	4	5	2	6	2	3	2	6	3	1
skins		XX	0	0	0	0	0	0	0	0	0	2
skins		ZA	2	0	0	0	2	0	0	0	0	0
skulls	kg	BE	0	0	0	0	0	0	0	0	0	0.65
skulls		AE	0	0	0	0	0	0	1	0	0	0
skulls		AT	3	0	11	0	0	0	0	0	0	0
skulls		AU	0	0	0	0	0	1	0	0	0	0
skulls		BE	0	0	0	0	0	0	0	0	0	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
skulls		BS	0	0	0	0	2	0	0	0	0	0
skulls		CA	0	0	0	0	2	0	0	0	0	1
skulls		CH	0	0	0	1	0	0	0	0	0	0
skulls		DE	0	0	0	0	0	0	1	0	0	0
skulls		FI	0	0	0	0	0	1	0	0	0	0
skulls		FR	1	0	0	0	0	0	0	0	0	1
skulls		LB	0	0	0	0	0	2	0	1	0	0
skulls		MA	0	0	0	0	0	0	2	0	0	0
skulls		NA	0	1	0	0	0	0	0	0	0	0
skulls		NG	0	0	0	0	0	0	2	0	0	0
skulls		NZ	0	0	0	0	1	0	0	0	0	0
skulls		RU	0	0	0	0	0	0	1	0	0	0
skulls		SE	0	0	0	0	0	0	0	0	2	0
skulls		SG	0	0	0	0	0	0	0	0	1	0
skulls		US	1	0	0	1	1	2	0	1	0	0
skulls		ZA	5	0	0	1	0	0	0	0	0	0
specimens		CN	1	0	0	0	0	1	0	0	0	0
specimens		GB	0	0	0	0	0	0	0	4	1	0
specimens		KW	1	0	0	0	0	0	0	0	0	0
specimens		US	0	0	0	0	0	0	0	1	0	0
tails		GB	0	0	0	0	0	1	0	0	0	0
teeth		AT	0	0	8	0	0	0	0	0	0	0
teeth		NZ	0	0	1	0	0	0	0	0	0	0
teeth		SG	0	0	0	0	0	0	0	0	0	1
teeth		US	0	0	0	0	1	9	3	0	0	0
trophies		AE	4	7	5	0	0	4	0	1	2	0
trophies		AT	3	2	6	12	4	1	2	0	2	2
trophies		AU	2	0	0	0	1	0	1	0	0	1
trophies		BG	0	1	0	0	1	0	0	0	0	0
trophies		BH	0	2	0	0	0	0	0	0	0	0
trophies		BS	0	1	0	1	1	0	0	0	0	0
trophies		CA	3	0	0	0	1	0	0	1	0	2
trophies		CH	0	0	0	2	0	0	20	0	1	0
trophies		CL	0	0	1	1	0	0	0	0	0	0
trophies		CN	0	0	0	0	0	0	0	2	0	0
trophies		CR	0	2	0	0	0	0	0	0	0	0
trophies		CS	0	0	0	1	0	0	0	0	0	0
trophies		DE	4	0	3	0	3	3	0	1	0	0
trophies		EC	0	0	0	0	0	0	1	0	0	0
trophies		EE	0	0	0	1	0	0	0	0	0	0
trophies		ES	0	0	0	0	0	0	3	1	11	0
trophies		FI	0	1	0	0	0	1	0	0	0	0
trophies		FR	0	0	34	141	75	62	16	75	28	27
trophies		GB	0	0	0	1	0	0	0	0	0	0
trophies		IM	0	0	0	0	0	0	0	0	0	1
trophies		IS	0	0	0	0	1	0	0	0	0	0
trophies		IT	0	0	0	0	0	0	0	0	2	0
trophies		LB	0	0	1	3	2	2	2	0	0	0
trophies		LI	1	0	0	0	0	0	0	0	0	0
trophies		MA	0	0	0	1	1	1	2	0	0	1
trophies		MX	1	0	1	2	0	0	0	1	0	0
trophies		NG	0	0	0	0	0	0	0	4	0	0

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
trophies		NL	0	0	1	0	1	0	0	0	0	0
trophies		NZ	0	1	0	0	0	1	0	0	0	0
trophies		PH	0	0	0	0	41	5	0	0	0	0
trophies		PK	0	0	0	0	0	0	1	0	0	0
trophies		PL	0	0	0	0	0	0	0	1	0	0
trophies		QA	0	0	0	0	0	0	1	0	0	0
trophies		RU	0	0	0	5	5	2	2	4	14	5
trophies		SE	0	1	0	0	0	0	0	3	0	0
trophies		SG	0	0	0	0	1	0	0	0	1	0
trophies		SI	0	0	0	1	2	0	0	0	0	0
trophies		SZ	4	0	0	0	0	0	0	0	0	0
trophies		US	3	3	3	2	1	0	0	11	7	1
trophies		ZA	0	0	0	0	0	0	2	9	0	0
unspecified		US	1	0	0	0	0	0	0	0	0	0

Source: UNEP-WCMC CITES Trade Database searched by "net imports" of *Panthera pardus*, all sources, personal purpose, on 06/06/2016.

Table 34: International trade in leopards and their parts for "circus and travelling exhibition" purposes from all sources: Exporting countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Totals
bodies	BE	0	0	0	0	0	0	1	1	0	1	3
bodies	ZW	3	0	0	0	0	0	0	0	0	0	3
claws	NL	0	0	0	0	0	0	0	0	8	0	8
garments	US	0	0	0	1	0	0	0	0	0	0	1
leather products (small)	AU	0	0	0	0	0	0	0	0	1	0	1
live	BW	0	0	0	0	0	4	0	0	0	0	4
live	BY	0	0	0	0	0	2	0	0	0	0	2
live	CH	0	1	0	0	0	0	0	0	0	0	1
live	DE	0	0	1	0	0	0	3	0	0	0	4
live	FR	2	0	0	0	0	0	0	0	0	0	2
live	GE	0	0	0	0	0	0	0	0	0	1	1
live	GT	0	0	0	0	0	0	0	1	0	0	1
live	HU	0	0	0	0	0	2	0	0	0	0	2
live	JP	1	0	1	0	0	0	0	0	0	0	2
live	KG	0	0	0	0	0	0	5	1	1	0	7
live	LB	0	0	0	0	0	0	0	1	0	0	1
live	LV	0	0	0	0	0	0	2	0	0	0	2
live	MX	0	0	0	6	0	9	1	0	0	7	23
live	NL	0	0	0	0	0	0	1	0	0	0	1
live	RO	2	0	0	0	0	0	0	0	9	0	11
live	RU	1	0	2	0	3	6	15	0	0	1	28
live	TH	0	2	0	0	0	0	0	0	0	0	2
live	TR	0	0	0	1	0	0	0	5	1	0	7
live	UA	0	2	1	1	0	0	0	1	0	0	5
live	US	0	0	2	0	0	0	0	0	0	0	2
live	UZ	0	0	0	0	0	0	0	0	2	0	2
live	XX	0	0	0	2	1	0	0	0	0	0	3
skin pieces	BR	0	0	0	0	2	0	0	0	0	0	2
skin pieces	DE	0	0	0	1	0	0	0	0	0	0	1
skins	AT	0	0	0	2	0	0	0	0	0	0	2
skins	AU	0	0	0	0	0	0	0	1	0	0	1

skins	CH	0	0	0	0	1	0	0	0	0	0	1
skins	DE	0	0	0	1	0	0	0	0	0	0	1
skins	GB	0	0	0	0	0	0	0	1	0	0	1
skins	IT	0	0	0	0	0	0	0	0	1	0	1
skins	RU	0	0	0	0	0	1	0	0	0	0	1
skins	TW	0	0	0	0	0	0	0	1	0	0	1
specimens	NA	0	0	0	0	0	1	0	0	0	0	1
specimens	RU	0	0	20	0	0	0	0	0	0	0	20
teeth	FR	0	0	0	0	0	0	0	0	0	5	5
trophies	CH	0	0	0	1	0	0	0	0	0	0	1
Total												168

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, circus and travelling exhibition purpose, on 06/06/2016.

Table 35: International trade in leopards and their parts for "zoo" purposes from all sources: Exporting countries.

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	BE	2	0	0	0	0	0	2	2	0	0	6
live	CH	0	0	0	3	2	0	0	0	0	0	5
live	CN	3	0	0	0	0	0	0	0	0	0	3
live	CZ	1	0	2	2	1	1	0	1	4	0	12
live	DE	0	0	0	0	1	3	0	4	0	0	8
live	DK	0	1	0	0	0	0	1	0	2	3	7
live	EE	0	0	0	0	1	0	1	1	2	0	5
live	ES	0	0	0	0	0	0	0	0	0	4	4
live	FR	0	0	2	6	0	1	1	2	2	1	15
live	GA	0	0	0	0	0	0	0	0	0	4	4
live	GB	0	2	1	2	0	0	0	1	0	0	6
live	GT	0	0	0	0	0	0	0	0	1	0	1
live	HU	2	3	1	1	0	0	1	0	0	0	8
live	ID	1	0	0	0	2	1	2	0	0	0	6
live	IN	2	0	0	0	0	0	0	0	0	0	2
live	IR	0	0	0	0	0	2	0	0	0	0	2
live	IT	0	0	0	0	0	0	0	0	0	1	1
live	JO	0	0	3	0	0	0	0	0	0	0	3
live	KR	0	0	0	0	0	1	0	0	0	0	1
live	KZ	0	2	3	0	1	0	0	1	0	0	7
live	MC	1	1	2	0	0	0	0	0	0	0	4
live	MX	0	0	0	0	0	2	0	0	0	0	2
live	NA	0	0	0	0	0	0	0	6	6	0	12
live	PL	0	0	0	0	0	0	0	0	1	0	1
live	PT	0	0	0	0	3	0	0	2	0	0	5
live	RS	0	0	0	0	0	3	0	0	0	2	5
live	RU	0	0	0	1	0	0	0	0	0	0	1
live	SD	1	3	2	0	0	0	0	0	0	0	6
live	SE	0	0	0	0	0	0	2	0	0	0	2
live	SG	1	1	0	0	0	0	0	0	0	0	2
live	SI	0	2	0	0	0	0	0	0	0	0	2
live	SK	1	0	0	0	0	0	0	0	0	0	1
live	TH	0	0	0	0	2	0	0	0	0	0	2
live	TN	0	0	0	0	2	0	0	0	0	0	2
live	UA	0	0	0	0	2	1	0	0	0	0	3
live	US	0	2	2	0	0	0	0	0	0	0	4

Term	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	XX	0	0	1	1	0	0	0	1	0	0	3
live	ZA	0	0	0	3	2	3	0	1	3	6	18
trophies	ZA	0	0	1	0	0	0	0	0	0	0	1
Total												182

Source: UNEP-WCMC CITES Trade Database searched by "net exports" of *Panthera pardus*, all sources, zoo purpose, on 06/06/2016.

Table 36. Gross Imports of *Panthera pardus* from Botswana, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		CN	0	0	1	0	0	0	0	0	0	0	1
claws		SE	0	0	0	0	0	0	0	16	0	0	16
hair		CH	0	6	0	0	0	0	0	0	0	0	6
live		ZA	0	0	0	0	0	4	0	0	0	0	4
skins		CH	0	0	2	0	0	0	0	0	0	0	2
skins		DK	0	0	0	0	0	0	1	0	0	0	1
skins		ES	0	0	0	0	0	0	1	0	0	0	1
skins		GB	0	0	0	0	1	0	0	0	0	0	1
skins		SE	0	0	0	0	0	0	0	1	0	0	1
skins		US	0	0	0	0	0	0	0	5	0	0	5
skins		ZA	0	2	0	0	2	0	1	0	0	0	5
skulls		DK	0	0	0	0	0	0	1	0	0	0	1
skulls		ES	0	0	0	0	0	0	4	1	0	0	5
skulls		FR	0	0	0	0	0	0	0	0	4	1	5
skulls		GB	0	0	0	0	1	0	0	0	0	0	1
skulls		IT	0	0	0	0	0	0	0	0	2	0	2
skulls		SE	0	0	0	0	0	0	0	1	0	0	1
skulls		US	0	0	0	0	0	0	1	11	6	0	18
skulls		ZA	0	1	0	0	1	0	15	9	1	0	27
specimens	ml	CH	0	5	0	0	0	0	0	0	0	0	5
specimens		CH	0	4	11	25	0	0	0	27	0	0	67
specimens		ZA	0	0	0	0	16	0	0	0	60	0	76
trophies	kg	FR	0	0	4	0	0	0	0	0	0	0	4
trophies		AE	0	0	0	2	0	0	0	0	0	0	2
trophies		DE	4	1	0	0	0	1	0	0	1	0	7
trophies		DK	0	0	0	0	0	0	1	0	0	0	1
trophies		ES	6	3	3	6	1	4	3	1	11	0	38
trophies		FR	3	1	1	2	4	0	0	0	5	1	17
trophies		GB	1	0	0	0	0	0	0	0	0	0	1
trophies		HU	0	0	0	1	1	0	0	0	4	0	6
trophies		IT	1	0	0	0	0	0	0	1	3	0	5
trophies		MX	3	4	6	2	1	0	0	0	0	0	16
trophies		RO	1	0	0	0	0	0	0	0	0	0	1
trophies		RU	1	0	0	3	1	1	2	2	0	0	10
trophies		SA	0	0	0	0	1	0	0	0	0	0	1
trophies		SE	0	0	3	0	0	0	0	1	0	0	4
trophies		US	21	35	35	33	28	15	1	13	8	2	191
trophies		ZA	13	4	5	11	2	13	12	12	1	0	73
bodies total			0	0	1	0	0	0	0	0	0	0	1
claws total			0	0	0	0	0	0	0	16	0	0	16
hair total			0	6	0	0	0	0	0	0	0	0	6

live total			0	0	0	0	0	4	0	0	0	0	4
skins total			0	2	2	0	3	0	3	6	0	0	16
skulls total			0	1	0	0	2	0	21	22	13	1	60
specimens total			0	4	11	25	16	0	0	27	60	0	143
specimens total	ml		0	5	0	0	0	0	0	0	0	0	5
trophies total			54	48	53	60	39	34	19	30	33	3	373
trophies total	kg		0	0	4	0	0	0	0	0	0	0	4
Grand Total	no		108	146	168	220	162	76	134	312	358	10	1084

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Botswana, all sources, all purposes, on 03/23/2016.

Table 37. Gross Imports of *Panthera pardus* from Cameroon, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		DE	1	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Cameroon, all sources, all purposes, on 03/23/2016.

Table 38. Gross Imports of *Panthera pardus* from Central African Republic, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bones		DE	0	0	0	0	2	0	0	0	0	0	2
bones		ZA	0	0	0	0	0	0	2	0	0	0	2
claws		DE	0	0	0	0	18	0	0	0	0	0	18
claws		ZA	0	0	0	0	0	0	18	0	0	0	18
skins		FR	1	0	1	0	0	0	0	0	0	0	2
skins		ZA	0	0	0	0	0	1	1	0	0	0	2
skulls		FR	0	0	0	0	0	2	0	0	0	0	2
skulls		ZA	0	0	0	0	0	1	1	0	0	0	2
specimens		CH	0	0	0	0	0	0	0	0	6	3	9
trophies		AT	0	0	0	0	0	4	1	0	1	0	6
trophies		AU	0	0	0	0	0	0	0	1	0	0	1
trophies		BE	2	1	0	1	0	2	0	1	0	0	7
trophies		CH	2	0	2	0	0	0	0	0	0	0	4
trophies		CO	0	1	0	0	0	0	0	0	0	0	1
trophies		DE	0	0	0	0	2	0	0	1	1	0	4
trophies		DK	0	0	1	1	0	4	0	0	0	0	6
trophies		ES	0	1	0	1	0	0	1	0	0	0	3
trophies		FI	0	0	0	0	22	0	0	0	0	0	22
trophies		FR	31	19	22	27	34	44	10	12	1	0	200
trophies		HU	0	0	0	0	0	0	0	1	0	0	1
trophies		IT	0	1	0	0	2	0	0	0	0	0	3
trophies		LU	0	0	0	0	0	4	3	0	0	0	7
trophies		MA	0	2	0	0	0	0	0	0	0	0	2
trophies		MX	1	2	1	2	0	0	0	5	0	0	11
trophies		NZ	0	0	0	0	0	0	1	1	0	0	2
trophies		RU	0	1	2	1	0	2	1	0	0	0	7

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		SE	1	0	0	0	22	4	0	0	0	0	27
trophies		US	0	0	0	0	2	0	0	0	0	0	2
trophies		ZA	0	0	0	0	6	2	0	1	1	0	10
Bones total			0	0	0	0	2	0	2	0	0	0	4
Claws total			0	0	0	0	18	0	18	0	0	0	36
Skins total			1	0	1	0	0	1	1	0	0	0	4
Skulls total			0	0	0	0	0	3	1	0	0	0	4
Specimens total			0	0	0	0	0	0	0	0	6	3	9
Trophies total			37	28	28	33	90	66	17	23	4	0	326
Grand Total			38	28	29	33	110	70	39	23	10	3	383

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Central African Republic, all sources, all purposes, on 03/23/2016.

Table 39. Gross Imports of *Panthera pardus* from Congo, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		GB	0	0	0	2	0	0	0	0	0	0	2
skulls		US	0	0	0	0	1	0	0	0	0	0	1
Grand Total			0	0	0	2	1	0	0	0	0	0	3

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Congo, all sources, all purposes, on 03/23/2016.

Table 40. Gross Imports of *Panthera pardus* from Côte d'Ivoire, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
derivatives		US	0	5	0	0	0	0	0	0	0	0	5
skin pieces		US	0	0	0	0	0	0	0	0	1	0	1
skins		FR	2	0	0	0	0	0	0	0	0	0	2
teeth		US	0	0	0	0	0	1	0	0	1	0	2
Grand Total			2	5	0	0	0	1	0	0	2	0	10

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Côte d'Ivoire, all sources, all purposes, on 03/23/2016.

Table 41. Gross Imports of *Panthera pardus* from the Democratic Republic of the Congo, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		AE	0	0	0	0	0	0	0	5	0	0	5
skins		BE	0	0	0	0	1	0	0	0	0	0	1
skins		CH	0	0	0	1	0	0	0	0	0	0	1
skins		GB	0	0	0	2	0	0	0	0	0	0	2
skins		US	1	0	0	0	0	1	0	0	0	0	2
skins		XX	0	0	0	0	1	0	0	0	0	0	1
Grand Total			1	0	0	3	2	1	0	5	0	0	12

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from the Democratic Republic of the Congo, all sources, all purposes, on 03/23/2016.

Table 42. Gross Imports of *Panthera pardus* from Ethiopia, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		CA	0	0	0	0	3	0	0	0	0	0	3
skins		NO	0	0	0	0	0	0	0	0	0	1	1
skins		TZ	0	0	0	0	0	0	1	0	0	0	1
skins		ZA	0	0	0	0	0	0	0	1	0	0	1
skulls		CA	0	0	0	0	3	0	0	0	0	0	3
skulls		ZA	0	0	0	0	0	0	0	1	0	0	1
trophies		AE	0	2	0	0	0	0	0	0	0	0	2
trophies		BH	0	2	0	0	0	0	0	0	0	0	2
trophies		DE	2	0	0	0	0	0	0	0	1	0	3
trophies		DK	0	1	0	0	0	0	0	0	0	0	1
trophies		FR	1	1	0	0	1	0	0	0	0	1	4
trophies		IT	0	0	0	0	0	1	0	0	0	0	1
trophies		MX	0	0	0	1	0	0	1	0	0	1	3
trophies		TZ	0	0	0	0	0	1	0	0	0	0	1
trophies		ZA	0	0	0	1	0	0	0	0	0	0	1
Skins Total			0	0	0	0	3	0	1	1	0	1	6
Skulls Total			0	0	0	0	3	0	0	1	0	0	4
Trophies Total			3	6	0	2	1	2	1	0	1	2	18
Grand Total			3	6	0	2	7	2	2	2	1	3	28

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Ethiopia, all sources, all purposes, on 03/23/2016.

Table 43. Gross Imports of *Panthera pardus* from Gabon, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live		TN	0	0	0	0	0	0	0	0	4	4	8
skin pieces		GB	0	0	0	0	0	0	0	5	0	0	5
skins		HU	2	0	0	0	0	0	0	0	0	0	2
specimens		US	0	0	0	0	0	0	0	0	20	0	20
Grand Total			2	0	0	0	0	0	0	5	24	4	35

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Gabon, all sources, all purposes, on 03/23/2016.

Table 44. Gross Imports of *Panthera pardus* from Ghana, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
leather products (small)		US	0	0	0	1	0	0	0	0	0	0	1
skin pieces		US	0	0	0	2	0	0	0	0	0	0	2
skins		US	1	0	0	0	0	0	0	0	0	0	1
Grand Total			1	0	0	3	0	0	0	0	0	0	4

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Ghana, all sources, all purposes, on 03/23/2016.

Table 45. Gross Imports of *Panthera pardus* from Kenya, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		AU	0	0	0	0	1	0	0	0	0	0	1
skins		GB	0	0	0	0	0	0	1	0	0	0	1
skins		XX	0	0	0	0	0	0	0	0	0	2	2
specimens	ml	IL	0	0	0	0	0	0	0	0	1.5	0	1.5
specimens	ml	ZA	0	0.5	0	0	0	0	0	0	0	0	0.5
specimens		IL	0	0	0	0	0	0	0	1	0	0	1
specimens		US	0	0	0	0	0	51	0	0	0	0	51
teeth		US	0	0	0	0	0	0	1	0	0	0	1
trophies		AU	0	0	0	0	1	0	1	0	0	0	2
Skins Total			0	0	0	0	1	0	1	0	0	2	4
Specimens Total			0	0	0	0	0	51	0	1	0	0	52
Specimens Total	ml		0	0.5	0	0	0	0	0	0	1.5	0	2
Teeth Total			0	0	0	0	0	0	1	0	0	0	1
Trophies Total			0	0	0	0	1	0	1	0	0	0	2
Grand Total	no		0	0	0	0	2	51	3	1	0	2	59

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Kenya, all sources, all purposes, on 03/23/2016.

Table 46. Gross Imports of *Panthera pardus* from Liberia, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
leather products (small)		US	0	0	0	0	0	0	1	0	0	0	1
skins		US	0	0	0	1	0	0	0	0	0	0	1
specimens		DE	0	0	0	0	0	0	0	0	0	1	1
Grand Total			0	0	0	1	0	0	1	0	0	1	3

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Liberia, all sources, all purposes, on 03/23/2016.

Table 47. Gross Imports of *Panthera pardus* from Malawi, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		LK	0	0	0	0	2	0	0	0	0	0	2
skins		NL	0	0	0	0	0	0	0	1	0	0	1
Grand Total			0	0	0	0	2	0	0	1	0	0	3

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Malawi, all sources, all purposes, on 03/23/2016.

Table 48. Gross Imports of *Panthera pardus* from Mali, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live		GM	0	0	0	2	0	0	0	0	0	0	2
skins		US	0	1	0	0	0	0	0	0	0	0	1
Grand Total			0	1	0	2	0	0	0	0	0	0	3

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Mali, all sources, all purposes, on 03/23/2016.

Table 49. Gross Imports of *Panthera pardus* from Mozambique, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		NO	0	0	0	0	0	0	0	0	0	1	1
skeletons		ES	0	0	0	0	0	0	1	0	0	0	1
skin pieces		DE	0	0	0	0	2	0	0	0	0	0	2
skin pieces		ZA	0	0	0	0	2	0	0	4	0	0	6
skins		AR	0	0	0	0	0	0	0	0	1	0	1
skins		CA	0	0	0	0	0	0	0	0	0	1	1
skins		CH	1	0	0	0	0	0	3	2	0	0	6
skins		DE	0	0	0	0	0	0	3	2	0	0	5
skins		ES	0	0	0	0	0	0	7	1	5	1	14
skins		FR	0	0	0	0	0	1	2	8	1	1	13
skins		GB	0	0	0	0	0	0	4	2	0	0	6
skins		HU	0	0	0	0	0	0	1	0	0	0	1
skins		IS	0	0	0	0	0	0	0	0	3	1	4
skins		IT	0	0	0	0	0	0	0	1	0	0	1
skins		MX	0	0	0	0	0	0	0	1	1	0	2
skins		MZ	0	0	0	0	1	0	0	0	0	0	1
skins		NA	0	0	0	0	0	0	2	2	0	0	4
skins		NL	0	0	0	0	0	0	2	0	0	0	2
skins		NO	0	0	0	0	1	1	0	0	0	0	2
skins		PT	1	0	0	0	0	0	3	4	2	0	10
skins		RU	0	0	0	0	0	0	1	0	0	0	1
skins		SE	0	0	0	0	0	0	0	1	0	0	1
skins		SZ	0	0	1	0	2	0	0	0	0	0	3
skins		US	0	0	0	0	0	1	34	48	22	0	105
skins		XX	0	0	0	0	0	1	0	0	0	0	1
skins		ZA	0	5	0	0	9	3	6	17	22	0	62
skins		ZW	0	1	0	0	0	0	2	3	5	0	11
skulls		AR	0	0	0	0	0	0	0	1	1	0	2
skulls		CA	0	0	0	0	0	0	0	0	0	1	1
skulls		CH	1	0	0	0	0	0	3	2	0	0	6
skulls		DE	0	0	0	0	0	0	3	2	0	0	5
skulls		ES	0	0	0	0	0	0	8	2	5	1	16
skulls		FR	0	0	0	0	0	1	2	8	1	1	13
skulls		GB	0	0	0	0	0	0	4	4	0	0	8
skulls		HU	0	0	0	0	0	0	1	0	0	0	1
skulls		IS	0	0	0	0	0	0	0	0	3	1	4
skulls		IT	0	0	0	0	0	0	0	1	1	0	2
skulls		MX	0	0	0	0	0	0	0	1	1	0	2
skulls		NA	0	0	0	0	0	0	2	2	0	0	4
skulls		NL	0	0	0	0	0	0	2	0	0	0	2
skulls		NO	0	0	0	0	1	1	0	0	0	1	3
skulls		PT	0	0	0	0	0	0	3	5	2	0	10
skulls		RU	0	0	0	0	0	0	1	0	0	0	1
skulls		SE	0	0	0	0	0	0	0	1	0	0	1
skulls		US	0	0	0	0	3	1	37	41	23	0	105

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skulls		XX	0	0	0	0	0	1	0	0	0	0	1
skulls		ZA	0	5	0	0	0	3	8	19	28	8	71
skulls		ZW	0	0	0	0	0	0	2	3	5	0	10
trophies		AR	0	0	0	0	0	0	0	1	0	0	1
trophies		BG	0	0	0	0	0	0	0	1	0	0	1
trophies		CA	0	0	0	0	0	0	0	0	0	1	1
trophies		DE	0	0	1	0	0	1	0	2	1	3	8
trophies		DK	1	1	0	0	0	0	0	0	0	0	2
trophies		ES	15	11	8	4	10	5	2	7	0	3	65
trophies		FR	0	3	2	14	4	4	2	6	2	5	42
trophies		GB	0	0	0	1	1	0	0	0	0	1	3
trophies		HU	0	0	0	0	1	1	0	0	0	0	2
trophies		IS	0	0	0	0	0	0	0	0	1	0	1
trophies		LT	0	0	0	0	0	0	0	0	0	1	1
trophies		LU	0	0	0	0	0	0	0	0	0	2	2
trophies		MX	2	8	12	6	1	0	0	1	1	1	32
trophies		NA	1	1	0	0	0	0	0	1	0	0	3
trophies		NO	0	0	0	0	1	1	0	0	0	1	3
trophies		PL	0	0	0	0	0	1	0	0	1	0	2
trophies		PT	6	7	6	4	8	4	2	3	2	1	43
trophies		RU	0	0	0	0	0	2	1	0	0	0	3
trophies		SZ	4	0	0	0	0	0	0	0	0	0	4
trophies		US	6	4	14	15	21	16	7	18	12	20	133
trophies		XX	15	0	0	0	0	3	0	0	0	2	20
trophies		ZA	21	19	13	6	9	9	9	19	11	8	124
trophies		ZW	5	4	3	2	0	2	0	0	0	0	16
Bodies Total			0	0	0	0	0	0	0	0	0	1	1
Skeletons Total			0	0	0	0	0	0	1	0	0	0	1
Skin Pieces Total			0	0	0	0	4	0	0	4	0	0	8
Skins Total			2	6	1	0	13	7	70	92	62	4	257
Skulls Total			1	5	0	0	4	7	76	92	70	13	268
Trophies Total			76	58	59	52	56	49	23	59	31	49	512
Grand Total			79	69	60	52	77	63	170	247	163	67	1047

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Mozambique, all sources, all purposes, on 03/23/2016.

Table 50. Gross Imports of *Panthera pardus* from Namibia, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		AT	0	0	0	0	0	1	0	0	0	0	1
bodies		CA	0	0	0	0	1	0	1	1	0	2	5
bodies		DE	0	0	0	1	0	1	0	0	0	0	2
bodies		ES	0	0	0	0	0	1	0	0	0	0	1
bodies		GB	0	0	0	0	0	3	1	0	0	0	4
bodies		IS	0	0	1	0	0	0	0	0	0	0	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		IT	0	0	0	0	0	1	0	0	0	0	1
bodies		NL	0	0	0	0	0	1	0	0	0	0	1
bodies		NO	0	0	0	0	0	0	0	0	0	2	2
bodies		RU	0	0	0	0	0	2	1	0	0	0	3
bodies		UA	0	0	0	1	0	0	0	0	0	0	1
bodies		US	0	0	0	0	0	3	0	0	0	0	3
bones		CA	0	0	0	0	2	0	2	0	0	0	4
bones		DE	0	0	0	0	0	0	0	0	0	3	3
bones		SG	0	0	0	0	0	0	0	0	2	0	2
bones		US	0	0	0	0	2	0	0	0	0	3	5
claws		US	0	26	0	0	0	4	0	0	18	0	48
hair		NZ	0	0	0	0	0	0	0	0	0	1	1
live		CU	0	0	0	0	0	0	0	6	6	0	12
skin pieces		CA	0	0	0	0	0	0	1	0	0	0	1
skins		AT	5	8	12	0	0	0	1	0	1	0	27
skins		CA	2	4	0	1	6	1	3	2	0	0	19
skins		CH	0	0	0	0	2	0	0	0	0	0	2
skins		DE	0	0	0	0	1	1	2	0	1	0	5
skins		ES	0	0	0	0	1	1	0	0	0	0	2
skins		FR	0	0	0	0	0	1	1	0	0	0	2
skins		GB	0	0	1	0	1	0	1	0	0	0	3
skins		RU	0	0	0	0	1	1	0	1	0	0	3
skins		SE	0	0	0	0	0	1	0	2	0	0	3
skins		SK	0	0	0	0	0	0	0	0	0	1	1
skins		US	0	1	0	0	1	1	2	0	0	0	5
skins		ZA	0	5	0	0	1	1	4	0	0	0	11
skulls		AT	4	0	8	0	0	0	0	0	0	0	12
skulls		CA	2	4	0	1	7	1	4	2	0	1	22
skulls		CH	0	0	0	0	2	0	0	0	0	0	2
skulls		DE	0	0	0	0	0	0	0	2	0	0	2
skulls		DK	0	1	0	0	0	0	0	0	0	0	1
skulls		GB	0	0	0	0	0	2	0	0	0	0	2
skulls		NL	0	0	0	1	2	0	0	0	0	0	3
skulls		PA	0	0	0	0	0	0	0	0	1	0	1
skulls		SE	0	0	0	0	0	0	0	2	0	0	2
skulls		SG	0	0	0	0	0	0	0	0	1	0	1
skulls		SK	0	0	0	0	0	0	0	0	0	1	1
skulls		US	0	2	1	0	3	2	0	1	0	1	10
skulls		ZA	0	5	0	0	0	1	4	0	2	1	13
specimens	ml	DE	0	0	0	0	0	0	0	60	0	0	60
specimens	ml	US	0	0	0	0	0	6	0	0	0	0	6
specimens		DE	0	0	0	0	0	100	0	1233	0	900	2233
specimens		TH	0	0	0	0	0	1	0	0	0	0	1
specimens		US	0	0	0	0	0	0	0	0	1	0	1
specimens		ZA	0	0	0	0	0	0	0	0	35	130	165
teeth		AT	0	0	8	0	0	0	0	0	0	0	8
teeth		DE	31	0	0	0	0	0	0	0	0	0	31
teeth		DK	0	0	0	0	0	0	27	0	0	0	27
teeth		SE	0	0	0	0	0	18	0	0	0	0	18
trophies		AR	0	0	0	1	4	1	1	1	1	3	12
trophies		AT	12	19	8	15	14	2	3	4	11	6	94
trophies		BE	2	0	2	0	0	0	1	0	0	0	5

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		BG	4	3	3	2	1	3	1	3	0	0	20
trophies		BR	0	0	0	1	0	0	0	0	0	0	1
trophies		CA	1	3	0	1	5	3	3	3	1	6	26
trophies		CH	2	1	0	0	1	0	0	0	1	2	7
trophies		CR	1	2	0	0	0	0	0	0	0	0	3
trophies		CS	1	0	0	1	0	0	0	0	0	0	2
trophies		CZ	4	3	2	3	1	0	1	1	2	3	20
trophies		DE	38	43	29	28	43	17	3	23	16	19	259
trophies		DK	3	4	3	3	7	4	29	0	1	1	55
trophies		EE	0	0	0	1	0	0	0	0	0	0	1
trophies		EG	0	1	0	0	0	0	0	0	0	0	1
trophies		ES	5	8	14	12	15	4	3	4	0	4	69
trophies		FI	1	1	1	1	0	1	0	3	1	3	12
trophies		FR	18	2	2	18	18	7	6	4	7	2	84
trophies		GB	1	2	2	2	0	2	0	1	1	0	11
trophies		HR	1	2	3	3	4	1	1	0	0	0	15
trophies		HU	0	0	5	4	6	2	0	1	2	1	21
trophies		IT	0	1	1	2	5	4	0	2	1	0	16
trophies		LT	0	0	1	1	2	0	0	0	0	0	4
trophies		LU	1	1	0	2	0	0	1	0	0	0	5
trophies		LV	0	0	0	0	0	0	0	0	2	2	4
trophies		MX	1	6	6	4	7	0	2	2	9	4	41
trophies		NA	1	0	0	0	0	0	0	0	0	0	1
trophies		NL	0	0	0	0	2	2	0	0	0	0	4
trophies		NO	0	1	0	2	3	1	1	0	1	0	9
trophies		NZ	0	0	0	1	0	0	0	0	0	2	3
trophies		PA	0	0	0	0	0	0	0	0	1	0	1
trophies		PL	5	4	4	5	5	2	1	1	2	2	31
trophies		PT	4	1	1	0	2	0	0	0	0	0	8
trophies		RO	0	0	0	0	1	0	0	0	0	0	1
trophies		RS	0	1	0	1	0	0	0	0	0	0	2
trophies		RU	0	1	2	8	11	10	6	6	3	8	55
trophies		SE	0	2	5	3	3	0	0	2	0	1	16
trophies		SG	0	0	0	0	0	0	0	0	1	0	1
trophies		SI	1	2	2	2	4	1	0	2	0	0	14
trophies		SK	1	2	1	2	3	1	2	1	2	1	16
trophies		SL	0	0	0	0	0	2	1	2	0	0	5
trophies		SZ	2	0	0	0	0	0	0	0	0	0	2
trophies		UA	0	1	1	1	0	0	0	0	0	1	4
trophies		US	51	71	71	87	157	76	30	40	29	33	645
trophies		VG	0	1	0	0	0	0	0	0	0	0	1
trophies		XX	0	0	0	0	0	0	0	1	0	0	1
trophies		ZA	7	8	12	9	18	8	6	4	5	1	78
trophies		ZW	0	0	0	0	2	0	0	0	0	0	2
trophies		AT	0	0	0	0	0	0	1	0	0	0	1
trophies		US	0	0	0	0	0	1	0	0	0	0	1
Bodies Total			0	0	1	2	1	13	3	1	0	4	25
Bones Total			0	0	0	0	4	0	2	0	2	6	14
Claws Total			0	26	0	0	0	4	0	0	18	0	48
Hair Total			0	0	0	0	0	0	0	0	0	1	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Live Total			0	0	0	0	0	0	0	6	6	0	12
Skin Pieces Total			0	0	0	0	0	0	1	0	0	0	1
Skins Total			7	18	13	1	14	8	14	5	2	1	83
Skulls Total			6	12	9	2	14	6	8	7	4	4	72
Specimens Total			0	0	0	0	0	101	0	1233	36	1030	2400
Specimens Total	ml		0	0	0	0	0	6	0	60	0	0	66
Teeth Total			31	0	8	0	0	18	27	0	0	0	84
Trophies Total			168	197	181	226	344	155	103	111	100	105	1690
Grand Total	no		212	253	212	231	377	305	158	1363	168	1151	4430

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Namibia, all sources, all purposes, on 03/23/2016.

Table 51. Gross Imports of *Panthera pardus* from Nigeria, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
derivatives		US	0	0	3	0	0	0	0	0	0	0	3
hair products		US	0	0	0	0	0	0	0	1	0	0	1
skin pieces		US	0	0	0	0	1	1	0	1	0	0	3
skins		HU	0	1	0	0	0	0	0	0	0	0	1
skins		US	1	2	0	0	0	1	0	0	1	0	5
teeth		US	0	0	0	0	0	8	0	0	0	0	8
Skins Total			1	3	0	0	0	1	0	0	1	0	6
Grand Total			1	3	3	0	1	10	0	2	1	0	21

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Nigeria, all sources, all purposes, on 03/23/2016.

Table 52. Gross Imports of *Panthera pardus* from Senegal, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
specimens		US	0	0	0	0	0	0	0	0	18	0	18

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Senegal, all sources, all purposes, on 03/23/2016.

Table 53. Gross Imports of *Panthera pardus* from Sierra Leone, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
derivatives		DK	0	0	5	0	0	0	0	0	0	0	5

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Sierra Leone, all sources, all purposes, on 03/23/2016.

Table 54. Gross Imports of *Panthera pardus* from South Africa, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		CA	0	0	0	1	1	0	4	2	1	2	11
bodies		CN	1	0	0	0	0	1	2	2	1	0	7
bodies		CZ	0	0	0	0	0	0	1	1	0	0	2
bodies		DK	0	0	0	0	0	1	1	0	0	0	2
bodies		ES	0	0	0	0	0	1	0	1	0	0	2
bodies		FR	0	0	0	0	2	0	0	0	0	0	2
bodies		GB	0	0	0	0	2	0	0	2	0	0	4
bodies		KW	0	0	0	0	1	0	0	0	0	0	1
bodies		MX	0	0	0	0	1	0	0	0	0	0	1
bodies		NA	0	0	0	1	0	0	0	0	0	0	1
bodies		NZ	0	0	0	0	2	0	0	1	0	0	3
bodies		PL	0	0	0	0	0	0	0	0	1	0	1
bodies		US	0	0	0	0	0	3	1	4	0	0	8
bone pieces		US	0	0	0	2	0	0	0	0	0	0	2
bones		CA	0	1	0	2	0	0	0	0	0	0	3
bones		DE	0	0	0	0	0	0	0	2	0	0	2
bones		DK	0	0	0	0	0	2	4	0	0	0	6
bones		MX	0	0	0	0	0	2	2	1	0	0	5
bones		SK	0	0	0	0	0	0	0	0	0	1	1
bones		US	0	0	0	0	2	4	29	5	2	4	46
carvings		US	1	0	0	0	0	0	0	0	0	0	1
claws		GB	0	0	0	0	0	4	0	0	0	0	4
claws		NZ	0	0	0	0	1	0	0	0	0	0	1
claws		US	0	44	18	2	36	8	26	18	18	0	170
derivatives		GB	0	0	0	0	0	0	50	0	0	0	50
derivatives		LV	0	0	0	0	0	2	0	0	0	0	2
derivatives		MX	0	0	0	0	0	2	0	0	0	0	2
derivatives		US	0	0	0	0	20	2	0	0	0	0	22
feet		US	0	0	0	29	0	0	0	0	0	0	29
garments		GB	0	0	0	0	0	0	0	1	0	0	1
garments		IT	0	0	0	0	0	1	0	0	0	0	1
garments		NZ	1	0	0	0	0	0	0	0	0	0	1
garments		US	0	0	0	0	0	0	0	0	0	1	1
hair		GB	0	0	0	0	209	0	0	0	0	0	209
leather products (large)		PH	0	0	0	0	1	0	0	0	0	0	1
leather products (small)		AU	0	1	0	0	0	0	0	0	1	0	2
leather products (small)		PT	0	1	0	0	0	0	0	0	0	0	1
leather products (small)		US	0	0	0	1	0	0	0	0	0	0	1
live		AE	2	2	2	0	2	0	0	0	0	0	8
live		BE	0	0	0	1	0	0	0	0	0	0	1
live		CA	0	0	0	0	0	0	0	0	0	2	2

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live		EG	0	0	0	0	0	7	0	2	1	2	12
live		ES	0	0	0	0	0	1	0	0	0	0	1
live		GA	0	0	0	0	0	0	3	3	4	0	10
live		JP	0	0	0	0	0	2	2	0	0	0	4
live		MW	0	0	0	0	0	0	6	6	0	0	12
live		PK	0	0	0	0	0	0	0	0	0	2	2
live		SA	0	0	0	2	0	0	0	0	0	0	2
live		TH	0	0	0	2	1	0	0	0	0	0	3
live		UG	0	0	0	0	0	1	0	0	0	0	1
skin pieces		NZ	0	0	0	6	0	0	0	0	0	0	6
skin pieces		US	0	0	0	54	0	0	0	1	2	0	57
skins		AT	0	0	0	0	0	0	0	0	1	0	1
skins		AU	2	3	0	1	0	3	1	0	0	0	10
skins		BE	0	0	0	0	0	0	0	1	0	0	1
skins		BR	0	1	0	0	0	0	0	0	0	0	1
skins		BW	0	0	0	0	0	0	0	1	0	0	1
skins		CA	1	5	0	6	4	0	0	2	0	1	19
skins		CG	0	0	0	0	0	0	0	0	0	2	2
skins		CH	0	0	0	1	0	0	0	0	0	0	1
skins		CR	1	0	0	0	0	0	0	0	0	0	1
skins		CZ	0	0	0	0	0	1	3	1	0	0	5
skins		DE	0	0	0	0	0	1	1	5	1	0	8
skins		DK	0	0	0	1	0	2	1	0	0	0	4
skins		EE	0	1	0	0	0	0	0	0	0	0	1
skins		ES	0	3	0	0	0	11	12	3	0	0	29
skins		FI	0	0	0	0	0	0	1	1	0	0	2
skins		FR	2	0	0	0	0	3	3	0	0	0	8
skins		GB	2	0	0	0	2	1	1	0	0	1	7
skins		IT	0	0	0	1	0	0	0	0	0	0	1
skins		MX	0	0	0	0	0	3	3	0	0	0	6
skins		MZ	0	0	1	0	0	0	1	0	0	0	2
skins		NL	1	0	0	0	1	0	0	0	0	0	2
skins		NO	0	0	0	0	0	1	2	1	0	0	4
skins		PA	0	0	0	0	0	0	0	0	1	0	1
skins		PL	0	0	0	0	0	0	0	1	0	0	1
skins		PT	0	0	1	0	0	1	2	0	0	0	4
skins		RU	0	0	0	0	0	1	2	0	2	0	5
skins		SE	0	0	0	0	0	1	0	0	0	0	1
skins		SK	0	0	0	0	0	0	0	0	0	1	1
skins		SZ	0	2	0	0	4	0	0	0	0	0	6
skins		TZ	0	0	0	0	0	1	0	0	0	0	1
skins		US	0	27	0	0	2	40	52	37	3	2	163
skulls	kg	BE	0	0	0	0	0	0	0	0	0	0.65	0.65
skulls		AE	0	0	0	0	0	0	3	0	0	1	4
skulls		AR	0	0	0	0	0	0	0	0	3	1	4
skulls		AU	0	0	0	0	0	1	1	1	0	0	3
skulls		BE	0	0	0	0	0	0	0	1	0	1	2
skulls		BR	0	0	0	0	0	1	0	0	0	0	1
skulls		BW	0	0	0	0	0	0	0	1	0	0	1
skulls		CA	1	2	0	4	5	0	4	4	1	2	23
skulls		CN	1	0	0	0	0	0	0	0	0	0	1
skulls		CO	0	0	0	0	1	1	0	1	0	0	3

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skulls		CZ	0	0	0	0	0	1	3	1	0	0	5
skulls		DE	0	0	0	0	0	0	1	6	1	0	8
skulls		DK	0	0	0	1	1	4	3	0	0	2	11
skulls		EE	0	1	0	0	0	0	0	0	0	0	1
skulls		ES	0	4	1	0	1	13	15	3	0	2	39
skulls		FI	0	0	0	0	0	0	2	1	1	0	4
skulls		FR	1	0	0	0	2	4	3	0	2	6	18
skulls		GB	0	1	0	1	2	3	2	2	0	0	11
skulls		HU	0	0	0	0	0	0	0	0	0	1	1
skulls		IT	0	0	0	0	1	1	4	3	2	1	12
skulls		MG	0	0	0	0	0	0	1	0	0	0	1
skulls		MX	0	2	0	0	1	4	7	0	0	0	14
skulls		MZ	0	0	0	0	0	0	1	0	0	2	3
skulls		NA	0	1	0	0	0	0	0	0	1	0	2
skulls		NO	0	0	0	0	1	2	4	0	0	1	8
skulls		NZ	0	0	0	0	1	1	1	1	0	0	4
skulls		PA	0	0	0	0	0	0	0	0	1	0	1
skulls		PH	0	0	0	0	1	2	2	0	0	0	5
skulls		PK	0	0	0	0	1	0	1	2	0	0	4
skulls		PT	0	0	0	0	3	6	7	0	0	0	16
skulls		QA	0	0	0	0	0	0	0	2	2	4	8
skulls		RU	0	0	0	0	0	1	4	0	0	6	11
skulls		SE	0	0	0	0	0	2	2	0	2	1	7
skulls		SK	0	0	0	0	0	0	0	0	0	1	1
skulls		TZ	0	0	0	0	0	5	0	0	0	0	5
skulls		UA	0	0	0	0	0	1	0	0	0	0	1
skulls		US	0	43	2	0	16	50	74	45	11	37	278
skulls		ZM	0	0	0	0	0	0	0	1	0	0	1
specimens		CN	4	0	0	1	1	2	0	0	0	1	9
specimens		NO	0	0	0	0	0	0	0	1	0	0	1
specimens		US	0	0	0	0	0	0	0	150	0	0	150
tails		GB	0	0	0	0	0	1	0	0	0	0	1
teeth		BR	0	4	0	0	0	0	0	0	0	0	4
teeth		US	0	0	0	0	0	0	0	0	0	4	4
trophies		AE	0	1	1	0	1	0	7	0	0	1	11
trophies		AR	0	0	3	0	1	0	2	1	4	1	12
trophies		AT	1	0	1	1	0	0	0	0	0	1	4
trophies		AU	2	0	0	0	0	0	0	1	0	0	3
trophies		BE	3	0	0	0	0	2	1	1	0	1	8
trophies		BR	1	1	0	0	0	1	0	0	0	2	5
trophies		BW	1	0	0	0	0	0	0	0	0	0	1
trophies		CA	1	0	1	4	1	0	2	2	6	4	21
trophies		CH	0	0	0	0	2	0	0	0	1	0	3
trophies		CL	2	0	0	0	0	0	0	0	0	0	2
trophies		CN	2	0	1	1	1	1	0	1	2	0	9
trophies		CO	0	0	0	0	1	1	0	1	0	1	4
trophies		CR	0	0	0	0	0	0	1	1	0	0	2
trophies		CZ	1	0	0	2	1	1	3	2	0	0	10
trophies		DE	2	1	1	0	2	0	4	7	5	3	25
trophies		DK	0	0	3	2	5	7	3	1	1	1	23
trophies		EE	0	1	0	0	0	0	0	0	1	0	2
trophies		ES	9	6	5	8	11	11	4	2	2	5	63

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		FI	1	0	0	0	1	2	2	0	1	1	8
trophies		FR	3	6	1	7	1	6	3	2	4	2	35
trophies		GB	1	1	2	4	3	2	2	2	0	2	19
trophies		GT	0	0	1	0	0	0	0	0	0	0	1
trophies		HU	0	0	0	0	0	0	0	1	0	2	3
trophies		ID	0	0	0	0	0	0	0	0	0	1	1
trophies		IE	1	0	0	0	0	0	0	0	0	0	1
trophies		IS	0	0	0	1	1	0	1	1	0	0	4
trophies		IT	1	0	1	1	4	2	6	3	2	1	21
trophies		KW	0	0	2	1	0	0	0	0	0	0	3
trophies		LB	1	0	0	1	1	0	2	0	0	0	5
trophies		LT	0	0	0	0	1	2	0	0	1	1	5
trophies		LV	0	0	0	0	0	1	0	0	0	0	1
trophies		MG	0	0	0	0	0	0	1	0	0	0	1
trophies		MX	2	4	3	11	3	9	7	6	2	6	53
trophies		MZ	0	0	0	0	0	2	0	1	0	0	3
trophies		NA	1	4	0	0	1	0	1	0	1	0	8
trophies		NC	0	0	0	0	0	1	0	0	0	0	1
trophies		NL	2	0	1	0	1	0	0	0	0	0	4
trophies		NO	0	1	0	1	0	0	4	2	2	1	11
trophies		NP	0	0	1	0	0	0	0	0	0	0	1
trophies		NZ	1	0	0	0	2	4	1	2	0	0	10
trophies		PH	1	0	0	1	38	4	2	0	0	0	46
trophies		PK	2	1	1	0	1	0	1	3	0	0	9
trophies		PL	0	0	0	0	0	0	0	3	2	0	5
trophies		PT	0	1	2	1	6	2	7	0	0	0	19
trophies		QA	0	0	0	0	0	0	1	3	2	0	6
trophies		RO	0	0	1	1	0	0	0	0	0	0	2
trophies		RS	0	0	0	1	1	0	0	0	1	0	3
trophies		RU	4	0	1	0	2	2	5	9	4	18	45
trophies		SA	0	0	1	0	0	0	0	0	0	0	1
trophies		SE	0	3	1	0	0	3	2	0	2	0	11
trophies		SI	0	1	0	0	0	0	0	0	0	0	1
trophies		SK	0	1	0	0	0	0	0	1	2	0	4
trophies		SV	0	0	1	0	0	0	0	0	0	0	1
trophies		SZ	0	0	0	0	1	0	0	0	0	0	1
trophies		TZ	1	1	1	1	1	4	0	0	0	0	9
trophies		UA	0	0	0	0	0	1	0	0	0	0	1
trophies		US	68	85	76	98	89	74	53	69	64	53	729
trophies		ZM	0	0	0	0	0	0	1	1	0	0	2
trophies		ZW	0	0	0	0	1	0	0	0	0	1	2
Bodies Total			1	0	0	2	9	6	9	13	3	2	44
Bone Pieces Total			0	0	0	2	0	0	0	0	0	0	2
Bones Total			0	1	0	2	2	8	35	8	2	5	63
Carvings Total			1	0	0	0	0	0	0	0	0	0	0
Claws Total			0	44	18	2	37	12	26	18	18	0	175
Derivatives			0	0	0	0	20	6	50	0	0	0	76

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Total													
Feet Total			0	0	0	29	0	0	0	0	0	0	29
Garments Total			1	0	0	0	0	1	0	1	0	1	3
Hair Total			0	0	0	0	209	0	0	0	0	0	209
Leather Products (large) Total			0	0	0	0	1	0	0	0	0	0	1
Leather Products (small) Total			0	2	0	1	0	0	0	0	1	0	4
Live Total			2	2	2	5	3	11	11	11	5	6	56
Skin Pieces Total			0	0	0	60	0	0	0	1	2	0	63
Skins Total			9	42	2	10	13	70	85	53	8	7	290
Skulls Total			3	54	3	6	37	103	145	75	27	69	519
Skulls Total	kg		0	0	0	0	0	0	0	0	0	0.65	0.65
Specimens Total			4	0	0	1	1	2	0	151	0	1	156
Tails Total			0	0	0	0	0	1	0	0	0	0	1
Teeth Total			0	4	0	0	0	0	0	0	0	4	8
Trophies Total			115	119	113	148	185	145	129	129	112	109	1189
Grand Total	no		136	268	138	268	517	365	490	460	178	204	3024

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from South Africa, all sources, all purposes, on 03/23/2016.

Table 55. Gross Imports of *Panthera pardus* from Sudan, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
leather products (small)		US	0	0	0	0	0	4	0	0	0	0	4
live		SA	1	0	0	0	0	0	0	0	0	0	1
live		SY	1	3	0	0	0	0	0	0	0	0	4
live		ZA	0	0	2	0	0	0	0	0	0	0	2
shoes		US	0	0	4	0	0	0	0	0	0	0	4
skins		AE	0	0	0	0	0	0	1	0	0	0	1
Live Total			2	3	2	0	0	0	0	0	0	0	7
Grand Total			2	3	6	0	0	4	1	0	0	0	16

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Sudan, all sources, all purposes, on 03/23/2016.

Table 56. Gross Imports of *Panthera pardus* from Swaziland, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live		ZA	0	0	0	0	1	0	0	0	0	0	1
skins		CN	0	0	0	0	0	0	0	2	0	0	2
skins		ZA	0	0	0	0	7	0	0	2	0	0	9
specimens		ZA	0	0	0	0	0	0	0	2	0	0	2
Skins Total			0	0	0	0	7	0	0	4	0	0	11
Grand Total			0	0	0	0	8	0	0	6	0	0	14

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Swaziland, all sources, all purposes, on 03/23/2016.

Table 57. Gross Imports of *Panthera pardus* from Togo, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		ES	1	0	0	0	0	0	0	0	0	0	1

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Togo, all sources, all purposes, on 03/23/2016.

Table 58. Gross Imports of *Panthera pardus* from the United Republic of Tanzania, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		DK	0	0	0	0	0	0	0	1	2	0	3
bodies		GB	0	0	0	0	0	0	0	0	1	0	1
bodies		RU	0	0	0	0	0	0	0	1	0	0	1
bones		IT	0	0	0	0	0	2	0	0	0	0	2
bones		US	0	0	0	0	0	0	2	0	8	0	10
bones		ZA	0	0	0	0	0	1	0	0	0	0	1
feet		BR	0	2	0	0	0	0	0	0	0	0	2
hair		NL	0	0	0	10	0	0	0	0	0	0	10
live		NI	0	0	0	0	0	0	1	0	0	0	1
skin pieces		AT	0	1	0	0	0	0	0	0	0	0	1
skins		AR	0	0	0	0	0	1	0	0	0	0	1
skins		AT	0	3	1	0	3	4	0	0	1	0	12
skins		AU	0	0	0	0	0	2	1	0	0	0	3
skins		BE	0	0	0	0	2	1	0	0	0	0	3
skins		BG	0	1	0	0	0	1	0	0	0	0	2
skins		BR	0	0	0	0	1	0	0	0	0	0	1
skins		CA	8	3	0	1	8	1	1	5	0	0	27
skins		CH	0	0	0	0	0	1	1	1	1	0	4
skins		CZ	0	0	0	0	0	0	0	1	0	0	1
skins		DE	0	0	0	0	4	1	3	3	3	0	14
skins		DK	0	0	0	0	0	0	1	0	0	1	2
skins		ES	0	0	0	0	16	14	3	3	1	0	37
skins		FR	1	1	0	0	28	20	11	10	6	2	79
skins		GB	0	2	0	0	0	1	1	0	1	0	5
skins		HU	0	0	0	0	8	0	2	0	3	0	13
skins		IT	0	0	0	0	5	5	2	2	0	0	14
skins		JM	0	0	0	0	0	0	2	0	0	0	2
skins		MG	0	0	0	0	0	0	0	1	0	0	1
skins		MX	0	0	0	0	2	1	0	0	2	0	5
skins		NL	2	0	0	0	0	0	0	0	0	0	2
skins		NO	0	0	0	0	0	0	0	0	0	1	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		PA	0	0	0	0	0	0	0	0	1	0	1
skins		PL	0	0	0	0	2	0	0	0	0	0	2
skins		RU	0	0	0	0	6	4	4	1	2	0	17
skins		SB	0	0	0	0	0	0	1	0	0	0	1
skins		SE	0	0	0	0	0	0	1	0	0	0	1
skins		US	0	0	0	0	41	40	10	47	14	3	155
skins		ZA	0	15	0	0	9	11	12	5	3	0	55
skins		ZW	0	0	0	0	0	0	0	0	1	0	1
skulls		AR	0	0	0	0	0	1	0	0	0	0	1
skulls		AT	0	0	1	0	3	4	0	0	1	0	9
skulls		AU	0	0	0	0	0	2	1	0	0	0	3
skulls		BE	0	0	0	0	2	1	0	0	0	0	3
skulls		BG	0	0	0	0	0	1	0	0	0	0	1
skulls		BR	0	0	0	0	1	0	0	0	0	0	1
skulls		CA	5	3	0	1	7	1	1	3	0	0	21
skulls		CH	0	0	0	0	0	1	1	1	1	0	4
skulls		CZ	0	0	0	0	0	0	0	1	0	0	1
skulls		DE	0	0	0	0	4	1	3	3	3	0	14
skulls		DK	0	0	0	0	0	0	1	0	0	0	1
skulls		ES	0	0	0	0	16	14	3	3	1	0	37
skulls		FR	0	1	0	0	28	22	11	10	5	1	78
skulls		GB	0	0	0	0	0	1	1	0	1	0	3
skulls		HU	0	0	0	0	8	0	2	0	3	0	13
skulls		IT	0	0	0	0	5	5	2	1	0	0	13
skulls		JM	0	0	0	0	0	0	2	0	0	0	2
skulls		MG	0	0	0	0	0	0	0	1	0	0	1
skulls		MX	0	0	0	0	2	1	0	0	2	0	5
skulls		NO	0	0	0	0	0	0	0	0	0	1	1
skulls		PA	0	0	0	0	0	0	0	0	1	0	1
skulls		PL	0	0	0	0	2	0	0	0	0	0	2
skulls		RU	0	0	0	0	6	4	4	1	2	0	17
skulls		SB	0	0	0	0	0	0	1	0	0	0	1
skulls		US	1	0	1	0	41	40	10	43	14	1	151
skulls		ZA	0	15	0	0	9	15	11	6	6	4	66
skulls		ZW	0	0	0	0	0	0	0	0	1	0	1
skulls		CA	0	0	0	0	1	0	0	0	0	0	1
specimens		KW	1	0	0	0	0	0	0	0	0	0	1
tails		FR	0	0	0	0	0	1	0	0	0	0	1
trophies		AE	0	1	0	0	0	0	0	1	1	0	3
trophies		AR	0	2	2	0	2	1	0	0	0	0	7
trophies		AT	0	2	4	1	3	3	4	6	1	4	28
trophies		BE	3	3	5	7	9	3	0	0	0	0	30
trophies		BG	0	1	0	0	1	1	0	1	1	0	5
trophies		BR	0	0	0	0	1	0	0	0	0	0	1
trophies		BY	0	0	0	1	0	0	0	0	0	0	1
trophies		CA	4	2	0	1	1	0	0	0	1	0	9
trophies		CH	2	0	8	1	0	0	0	0	0	0	11
trophies		CN	1	1	0	0	0	2	0	0	0	0	4
trophies		CZ	1	1	0	0	0	0	0	3	0	0	5
trophies		DE	11	8	7	5	11	7	8	6	3	7	73
trophies		DK	0	1	1	1	2	2	2	0	0	1	10
trophies		ES	27	40	40	19	16	20	11	4	6	6	189

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		FI	2	2	0	0	0	1	0	1	0	0	6
trophies		FR	102	30	28	106	37	32	16	53	16	19	439
trophies		GB	0	0	0	0	0	0	0	0	0	2	2
trophies		HR	4	1	0	0	0	0	0	0	0	1	6
trophies		HU	0	0	0	4	9	4	8	6	5	7	43
trophies		IE	0	0	3	0	0	0	0	0	0	0	3
trophies		IT	14	8	8	7	7	7	8	9	6	5	79
trophies		JM	1	0	0	0	0	0	0	0	0	0	1
trophies		LT	0	0	0	0	2	1	0	0	0	0	3
trophies		LU	1	0	2	1	0	0	0	0	1	1	6
trophies		LV	2	0	0	1	0	0	0	1	0	0	4
trophies		MX	20	26	22	27	21	16	15	7	14	13	181
trophies		NL	0	1	0	0	0	0	0	0	0	2	3
trophies		NO	1	3	1	2	0	0	0	0	0	0	7
trophies		PL	0	1	0	1	2	0	1	0	0	0	5
trophies		PT	1	0	0	0	0	0	0	0	0	0	1
trophies		RO	0	0	2	1	0	0	0	0	1	1	5
trophies		RS	0	0	1	0	0	1	1	0	0	0	3
trophies		RU	1	3	7	8	12	10	8	9	0	4	62
trophies		SE	0	0	0	1	1	0	0	0	0	0	2
trophies		SK	0	0	0	0	0	0	0	1	0	0	1
trophies		TR	0	0	0	1	1	0	0	0	0	0	2
trophies		US	137	149	107	173	134	84	59	98	80	97	1118
trophies		ZA	7	19	13	17	8	6	0	4	12	10	96
trophies		ZM	0	0	0	0	0	0	0	0	0	1	1
Bodies Total			0	0	0	0	0	0	0	2	3	0	5
Bones Total			0	0	0	0	0	3	2	0	8	0	13
Feet Total			0	2	0	0	0	0	0	0	0	0	2
Hair Total			0	0	0	10	0	0	0	0	0	0	10
Live Total			0	0	0	0	0	0	1	0	0	0	1
Skin Pieces Total			0	1	0	0	0	0	0	0	0	0	1
Skins Total			11	25	1	1	135	108	56	79	39	7	462
Skulls Total			6	19	2	1	135	114	54	73	41	7	452
Specimens Total			1	0	0	0	0	0	0	0	0	0	1
Tails Total			0	0	0	0	0	1	0	0	0	0	1
Trophies Total			342	305	261	386	280	201	141	210	148	181	2455
Grand Total			360	352	264	398	550	427	254	364	239	195	3403

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from the United Republic of Tanzania, all sources, all purposes, on 03/23/2016.

Table 59. Gross Imports of *Panthera pardus* from Zambia, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		DK	0	0	0	0	0	0	1	0	0	0	1
bones		DE	0	0	0	257	0	0	0	0	0	0	257
bones		ZA	0	0	0	0	0	1	0	0	0	0	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
hair		US	0	0	0	0	0	0	0	0	7	0	7
skins		CA	2	3	0	0	4	1	2	0	0	0	12
skins		ES	0	0	0	0	0	0	2	0	0	0	2
skins		GB	0	1	0	2	3	1	0	1	1	0	9
skins		LU	0	0	0	0	0	0	1	0	0	0	1
skins		MX	0	0	0	0	0	0	0	0	1	0	1
skins		SZ	0	0	3	4	0	0	0	0	0	0	7
skins		US	2	0	0	0	0	0	0	0	0	0	2
skins		ZA	0	4	0	0	0	3	8	3	0	0	18
skulls		BW	0	0	0	0	0	0	0	0	1	0	1
skulls		CA	0	1	0	0	4	1	2	0	0	0	8
skulls		DK	0	0	0	0	0	0	1	0	0	0	1
skulls		GB	0	1	0	2	1	1	0	1	1	0	7
skulls		IT	0	0	0	0	0	0	2	0	0	0	2
skulls		LU	0	0	0	0	0	0	2	0	0	0	2
skulls		MX	0	0	0	0	0	0	4	0	0	0	4
skulls		US	1	1	0	0	0	0	6	0	1	0	9
skulls		ZA	0	4	0	0	0	5	8	4	1	1	23
specimens	g	US	0	0	0	0	0	0	0	0	16	0	16
specimens		CH	0	96	0	0	0	0	0	0	0	0	96
specimens		DE	0	0	53	44	0	0	0	0	0	0	97
specimens		GB	0	8	0	0	0	0	0	0	0	0	8
trophies		AT	0	0	0	1	1	1	0	6	1	1	11
trophies		AU	0	0	0	1	0	0	0	0	0	1	2
trophies		BE	0	0	2	0	0	1	1	2	1	0	7
trophies		BW	0	0	0	0	0	0	0	0	1	0	1
trophies		CA	2	1	0	0	3	14	2	0	1	0	23
trophies		CZ	0	0	0	0	0	2	0	0	1	0	3
trophies		DE	0	0	0	1	4	6	6	4	2	0	23
trophies		DK	0	0	1	1	0	0	6	2	1	0	11
trophies		ES	4	2	4	8	6	2	6	3	3	0	38
trophies		FI	0	0	1	0	0	0	0	0	0	0	1
trophies		FR	3	2	0	4	5	2	2	4	3	0	25
trophies		GB	2	2	2	3	2	1	1	2	0	0	15
trophies		HU	0	0	1	2	3	4	3	6	0	0	19
trophies		IT	0	0	1	1	1	1	2	1	2	1	10
trophies		JM	0	0	1	0	0	0	0	0	0	0	1
trophies		LT	0	0	1	1	0	0	0	0	0	0	2
trophies		LV	0	4	3	3	2	0	0	0	0	0	12
trophies		MX	1	0	0	3	7	6	11	11	1	0	40
trophies		NO	0	0	0	0	0	1	1	0	0	0	2
trophies		PK	0	0	0	0	0	0	3	0	0	0	3
trophies		PT	1	0	2	0	0	0	0	0	0	0	3
trophies		RU	1	0	3	5	1	0	0	3	0	0	13
trophies		SE	0	0	0	0	1	1	0	0	4	0	6
trophies		SI	0	0	3	0	0	0	0	0	0	0	3
trophies		SK	0	0	0	3	2	0	3	2	0	0	10
trophies		SL	0	0	0	0	1	0	0	0	0	0	1
trophies		SZ	0	0	0	2	0	0	0	0	0	0	2
trophies		UA	0	0	1	0	1	0	0	0	0	0	2
trophies		US	54	46	39	48	42	48	36	112	39	2	466
trophies		ZA	7	6	6	7	9	4	6	7	3	0	55

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		ZW	0	1	0	0	0	0	0	0	0	0	1
trophies		MX	0	0	0	0	0	0	1	0	0	0	1
trophies		PK	0	0	0	0	0	0	1	0	0	0	1
Bodies Total			0	0	0	0	0	0	1	0	0	0	1
Bones Total			0	0	0	257	0	1	0	0	0	0	258
Hair Total			0	0	0	0	0	0	0	0	7	0	7
Skins Total			4	8	3	6	7	5	13	4	2	0	52
Skulls Total			1	7	0	2	5	7	25	5	4	1	57
Specimens Total			0	104	53	44	0	0	0	0	0	0	201
Specimens Total	g		0	0	0	0	0	0	0	0	16	0	16
Trophies Total			75	64	71	94	91	94	91	165	63	5	813
Grand Total			80	183	127	403	103	107	130	174	76	6	1389

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Zambia, all sources, all purposes, on 03/23/2016.

Table 60. Gross Imports of *Panthera pardus* from Zimbabwe, 2005-2014, all purposes and all sources.

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies		CA	0	0	0	2	4	0	0	0	0	0	6
bodies		GB	0	0	0	0	1	0	0	0	0	0	1
bodies		HK	0	0	1	0	0	0	0	0	0	0	1
bodies		KR	3	0	0	0	0	0	0	0	0	0	3
bodies		SE	0	0	0	0	0	0	0	1	0	0	1
bones		US	0	0	0	0	0	0	0	4	1	2	7
bones		ZA	0	0	0	0	0	0	0	4	0	0	4
claws		GB	0	0	0	0	0	0	0	0	5	0	5
claws		MX	0	0	0	0	0	0	0	18	18	0	36
claws		US	0	0	0	0	8	0	1	20	0	0	29
derivatives		AT	0	0	1	0	0	0	0	0	0	0	1
feet		ZA	0	0	0	0	0	0	0	4	0	0	4
leather products (large)		US	0	8	0	0	0	0	0	0	0	0	8
live		ZA	0	0	0	0	0	0	0	0	0	3	3
skeletons		FR	1	0	0	0	0	0	0	0	0	0	1
skin pieces		NZ	0	0	0	0	0	0	0	1	0	0	1
skin pieces		US	0	0	0	0	0	1	0	0	1	2	4
skins	kg	IT	0	0	0	0	0	0	1	0	0	0	1
skins		AR	0	0	0	0	0	0	0	3	0	0	3
skins		AT	2	3	2	0	0	0	3	3	2	0	15
skins		BG	0	0	0	0	0	0	0	1	0	0	1
skins		BR	0	2	0	0	0	0	0	0	0	0	2
skins		BW	0	0	0	0	0	0	1	1	0	0	2
skins		CA	0	9	0	9	7	7	4	3	3	1	43
skins		CH	0	0	0	0	0	0	0	1	0	0	1
skins		CN	0	0	0	1	0	0	0	0	0	0	1

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins		CZ	0	0	0	0	0	0	1	1	4	0	6
skins		DE	0	0	0	0	0	0	5	5	4	0	14
skins		DK	0	0	0	1	0	0	2	0	1	0	4
skins		ES	0	0	0	0	2	1	7	5	1	0	16
skins		FI	0	0	0	0	0	0	1	0	0	0	1
skins		FR	0	0	0	0	0	1	2	5	4	0	12
skins		GB	0	0	0	0	2	1	2	2	3	0	10
skins		HK	0	0	0	0	1	0	0	0	0	0	1
skins		HN	0	0	0	0	0	0	0	0	1	0	1
skins		HU	0	0	0	0	0	0	0	2	2	0	4
skins		IT	0	0	0	0	0	0	2	0	2	0	4
skins		LT	0	0	0	0	0	0	0	1	1	0	2
skins		MX	0	0	0	0	1	0	0	3	1	1	6
skins		NG	0	0	0	0	0	0	0	6	0	0	6
skins		NZ	0	0	0	0	1	0	0	0	1	0	2
skins		PL	0	0	0	0	0	0	1	1	0	0	2
skins		PT	0	0	0	0	0	0	0	1	0	0	1
skins		RO	0	0	0	0	0	0	0	1	0	0	1
skins		RU	0	0	0	0	0	0	1	5	0	1	7
skins		SE	0	0	0	0	0	0	0	2	0	0	2
skins		SK	0	0	0	0	0	0	0	0	0	2	2
skins		US	0	0	0	0	3	2	55	128	68	6	262
skins		YU	0	0	0	0	0	0	0	0	1	0	1
skins		ZA	0	20	0	0	1	9	8	12	2	3	55
skulls	kg	IT	0	0	0	0	0	0	1	0	0	0	1
skulls		AR	0	0	0	0	0	0	0	3	0	0	3
skulls		AT	2	0	2	0	0	0	3	3	2	0	12
skulls		BE	0	0	0	0	0	2	0	0	0	0	2
skulls		BG	0	0	0	0	0	1	0	1	0	0	2
skulls		BW	0	0	0	0	0	0	1	1	0	0	2
skulls		CA	0	9	0	19	12	9	4	2	3	1	59
skulls		CH	0	0	0	0	1	0	0	1	0	0	2
skulls		CL	0	0	0	0	0	1	0	0	0	0	1
skulls		CZ	0	0	0	0	0	0	1	1	4	0	6
skulls		DE	0	0	0	0	1	0	6	6	4	0	17
skulls		DK	0	0	0	0	1	0	2	0	1	0	4
skulls		ES	0	0	0	0	3	1	8	5	2	0	19
skulls		FI	0	0	0	0	0	1	1	0	0	0	2
skulls		FR	0	0	0	0	0	0	2	8	5	0	15
skulls		GB	0	0	0	0	3	1	2	2	2	1	11
skulls		HK	0	0	0	0	1	0	0	0	0	0	1
skulls		HN	0	0	0	0	0	0	0	0	1	0	1
skulls		HU	0	0	0	0	0	0	0	2	2	0	4
skulls		IT	0	0	0	0	0	0	2	0	2	0	4
skulls		LT	0	0	0	0	0	0	0	1	1	0	2
skulls		MU	0	0	0	0	0	0	0	1	0	0	1
skulls		MX	0	0	0	0	0	0	0	3	1	1	5
skulls		NO	0	0	0	1	0	0	0	1	0	0	2
skulls		NZ	0	0	0	0	1	0	0	1	1	0	3
skulls		PA	0	0	0	0	0	0	0	1	0	0	1
skulls		PL	0	0	0	0	0	0	1	1	0	0	2
skulls		PT	0	0	0	0	0	0	0	2	0	0	2

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skulls		RO	0	0	0	0	0	0	0	1	0	0	1
skulls		RU	0	0	0	0	0	0	1	5	0	1	7
skulls		SE	0	0	0	0	0	0	1	2	0	0	3
skulls		SK	0	0	0	0	0	0	0	0	0	2	2
skulls		US	0	3	1	7	9	5	58	134	74	9	300
skulls		YU	0	0	0	0	0	0	0	0	1	0	1
skulls		ZA	0	22	0	1	1	9	8	11	6	3	61
specimens		CN	1	0	0	0	0	2	0	0	0	0	3
tails		US	0	0	0	0	0	0	0	0	0	10	10
teeth		CH	0	0	0	0	0	0	0	4	4	0	8
teeth		NZ	0	0	1	0	0	0	0	0	0	0	1
trophies		AR	1	2	2	0	1	0	1	7	0	0	14
trophies		AT	4	6	2	4	3	1	4	2	1	2	29
trophies		AU	0	4	0	1	0	0	0	0	0	0	5
trophies		BE	1	2	2	2	1	3	1	0	1	0	13
trophies		BG	0	1	4	1	0	1	2	1	0	2	12
trophies		BR	0	0	0	0	0	0	0	0	0	2	2
trophies		CA	9	10	2	8	4	4	1	5	3	2	48
trophies		CH	0	0	0	1	1	0	0	1	1	2	6
trophies		CL	2	0	0	0	0	1	0	0	0	0	3
trophies		CN	0	0	0	1	0	2	0	1	1	0	5
trophies		CR	0	1	0	1	0	0	0	0	0	0	2
trophies		CZ	3	3	0	0	2	1	3	1	4	0	17
trophies		DE	9	12	4	4	5	5	8	8	8	4	67
trophies		DK	3	3	2	3	10	6	4	3	0	1	35
trophies		EE	1	0	0	0	0	0	0	0	0	1	2
trophies		ES	25	20	26	18	13	8	10	8	6	4	138
trophies		FI	2	2	1	2	1	2	3	1	0	1	15
trophies		FR	30	9	8	8	5	2	2	10	7	5	86
trophies		GB	1	1	1	2	0	1	1	2	2	2	13
trophies		HR	1	0	0	0	0	0	0	0	0	0	1
trophies		HU	0	0	0	0	1	0	1	1	2	1	6
trophies		IT	4	2	4	7	4	3	6	3	1	0	34
trophies		LT	1	1	0	0	0	0	0	2	1	0	5
trophies		LU	0	0	4	1	0	0	0	0	0	0	5
trophies		LV	0	0	0	0	0	0	0	0	1	1	2
trophies		MU	0	0	0	0	0	0	0	1	0	0	1
trophies		MX	8	15	2	4	6	13	8	5	5	5	71
trophies		NO	1	0	1	2	1	3	0	1	0	0	9
trophies		NZ	1	0	0	0	2	2	1	0	1	0	7
trophies		PA	0	0	0	0	0	0	0	1	0	0	1
trophies		PH	0	0	0	2	3	0	0	0	0	0	5
trophies		PK	1	0	0	0	0	0	0	0	0	0	1
trophies		PL	0	5	4	2	1	3	6	2	1	4	28
trophies		PT	2	3	1	2	0	0	0	2	0	0	10
trophies		QA	0	0	0	0	0	2	0	0	0	0	2
trophies		RO	0	0	1	0	0	1	0	0	1	0	3
trophies		RS	0	0	0	0	0	0	0	0	1	0	1
trophies		RU	5	1	3	6	7	6	4	10	0	1	43
trophies		SA	0	0	1	0	0	0	0	0	0	0	1
trophies		SD	0	0	0	0	0	0	0	0	0	2	2
trophies		SE	1	2	0	1	2	0	1	1	2	2	12

Term	Unit	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies		SG	0	1	0	0	0	0	0	0	0	0	1
trophies		SI	0	1	0	0	0	0	0	0	0	0	1
trophies		SK	2	0	1	3	0	1	0	0	1	1	9
trophies		SL	0	1	0	0	0	0	0	0	0	0	1
trophies		SZ	0	0	0	0	0	0	0	0	0	2	2
trophies		UA	0	0	0	0	0	0	0	0	2	2	4
trophies		US	185	156	178	143	180	143	126	132	129	117	1489
trophies		XX	0	2	0	0	0	0	0	0	0	0	2
trophies		ZA	30	19	23	24	28	6	11	8	10	11	170
trophies		ZM	0	0	0	0	0	0	0	1	0	0	1
Bodies Total			3	0	1	2	5	0	0	1	0	0	12
Bones Total			0	0	0	0	0	0	0	8	1	2	11
Claws Total			0	0	0	0	8	0	1	38	23	0	70
Derivatives Total			0	0	1	0	0	0	0	0	0	0	1
Feet Total			0	0	0	0	0	0	0	4	0	0	4
Leather Products (large) Total			0	8	0	0	0	0	0	0	0	0	8
Live Total			0	0	0	0	0	0	0	0	0	3	3
Skeletons Total			1	0	0	0	0	0	0	0	0	0	1
Skin Pieces Total			0	0	0	0	0	1	0	1	1	2	5
Skins Total			2	34	2	11	18	21	95	192	101	14	490
Skins Total	kg		0	0	0	0	0	0	1	0	0	0	1
Skulls Total			2	34	3	28	33	30	101	199	112	18	560
Skulls Total	kg		0	0	0	0	0	0	1	0	0	0	1
Specimens Total			1	0	0	0	0	2	0	0	0	0	3
Tails Total			0	0	0	0	0	0	0	0	0	10	10
Teeth Total			0	0	1	0	0	0	0	4	4	0	9
Trophies Total			333	285	277	253	281	220	204	220	192	177	2442
Grand Total			342	361	285	294	345	274	401	667	434	226	3629

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* from Zimbabwe, all sources, all purposes, on 03/23/2016.

Table 61: Imports of *Panthera pardus* into Austria, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	H	W	AT	0	0	0	0	0	1	0	0	0	0	1
skins	H	W	AT	3	0	0	0	3	4	4	3	4	0	21
trophies	H	W	AT	17	26	9	10	17	10	11	18	13	10	141
trophies	H	W	AT	0	0	0	0	0	0	1	0	0	0	1

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins	P	O	AT	0	0	0	0	0	0	0	0	1	0	1
skins	P	W	AT	4	14	15	0	0	0	0	0	0	0	33
trophies	P	W	AT	0	1	6	12	4	1	1	0	2	4	31
skins	Q	O	AT	0	0	0	0	1	0	0	0	0	0	1
bodies total				0	0	0	0	0	1	0	0	0	0	1
skins total				7	14	15	0	4	4	4	3	5	0	56
trophies total				17	27	15	22	21	11	13	18	15	14	173
Grand Total				24	41	30	22	25	16	17	21	20	14	**230**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Austria by individual sources and purposes, on 03/16/2016.

Table 62: Imports of *Panthera pardus* into Canada, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	E	W	CA	0	0	0	0	0	0	0	2	0	0	2
skins	E	W	CA	0	0	0	0	0	0	0	1	0	0	1
trophies	H	C	CA	0	0	0	0	0	0	0	0	2	0	2
bodies	H	W	CA	0	0	0	6	8	0	6	2	1	4	27
skins	H	W	CA	11	22	0	18	32	10	10	11	3	2	119
trophies	H	W	CA	16	17	3	15	16	22	9	10	8	13	129
trophies	H	F	CA	0	0	0	0	0	0	0	0	2	0	2
trophies	P	I	CA	0	0	0	0	0	0	0	0	0	1	1
skins	P	O	CA	0	0	0	2	1	0	1	1	0	1	6
bodies	P	W	CA	0	0	0	1	1	0	0	0	0	1	3
skins	P	W	CA	2	2	0	0	1	0	0	0	0	1	6
trophies	P	W	CA	3	0	0	0	1	0	0	1	0	1	6
bodies	T	O	CA	0	0	0	0	0	0	0	1	0	0	1
skins	T	W	CA	2	0	0	0	0	0	0	0	0	0	2
live	Z	C	CA	0	1	2	1	0	1	0	1	2	2	10
bodies total				0	1	2	7	9	1	6	5	1	5	33
live total				0	1	2	1	0	1	0	1	2	2	10
skins total				15	24	0	20	34	10	11	13	3	4	134
trophies total				34	43	3	51	69	22	32	33	21	34	141
Grand Total				34	42	5	43	60	33	26	30	18	26	**318**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Canada by individual sources and purposes, on 03/17/2016.

Table 63: Imports of *Panthera pardus* into France, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	H	W	FR	0	0	0	0	1	0	0	0	0	0	1
skins	H	W	FR	2	1	1	0	28	25	19	23	11	0	110
trophies	H	W	FR	188	74	33	47	52	44	10	11	10	4	473
skins	P	O	FR	3	0	0	1	0	0	0	1	0	0	5
bodies	P	W	FR	0	0	0	0	2	0	0	0	0	0	2
skins	P	W	FR	2	0	0	0	1	1	1	0	2	2	9
trophies	P	W	FR	4	2	33	138	60	51	32	76	33	30	459
live	Q	C	FR	0	2	0	0	0	0	0	0	0	4	6
live	Z	C	FR	0	1	3	1	0	2	0	0	0	0	7
bodies total				0	0	0	0	3	0	0	0	0	0	3
live total				0	3	3	1	0	2	0	0	0	4	13
skins total				7	1	1	1	29	26	20	24	13	2	124
trophies total				192	76	66	185	112	95	42	87	43	34	932
Grand Total				199	80	70	187	144	123	62	111	56	40	**1,072**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into France by individual sources and purposes, on 03/17/2016.

Table 64: Imports of *Panthera pardus* into Germany, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	B	C	DE	0	0	0	0	0	0	2	0	0	0	2
bodies	H	W	DE	0	0	0	0	0	1	0	0	0	0	1
skins	H	W	DE	0	0	0	0	5	2	12	15	8	0	42
trophies	H	W	DE	62	66	30	41	60	34	30	46	38	36	443
bodies	P	O	DE	0	0	1	0	0	0	0	0	0	0	1
skins	P	O	DE	0	0	0	0	0	1	0	0	1	0	2
trophies	P	O	DE	0	0	0	0	0	0	0	1	0	0	1
bodies	P	W	DE	0	0	0	1	0	0	0	0	0	0	1
skins	P	W	DE	1	0	0	0	0	0	2	0	0	0	3
trophies	P	W	DE	4	1	3	0	4	3	2	1	0	0	18
live	Q	C	DE	0	1	0	0	0	0	0	0	0	0	1
trophies	Q	O	DE	0	0	0	1	0	0	0	0	0	0	1
skins	T	O	DE	0	1	0	0	0	0	0	0	0	0	1
skins	T	U	DE	0	0	7	0	0	0	0	0	0	0	7
skins	T	W	DE	0	0	7	0	0	1	0	0	0	0	8
live	Z	C	DE	0	0	2	0	3	0	0	2	0	0	7
bodies total				0	0	1	1	0	1	0	0	0	0	3
live total				0	1	2	0	3	0	2	2	0	0	10
skins total				1	1	14	0	5	4	14	15	9	0	63
trophies total				66	67	33	42	64	37	32	48	38	36	463
Grand Total				67	69	50	43	72	42	48	65	47	36	**539**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Germany by individual sources and purposes, on 03/17/2016.

Table 65: Imports of *Panthera pardus* into Italy, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	H	R	IT	0	0	0	1	0	0	0	0	0	0	1
bodies	H	W	IT	0	0	0	0	0	1	0	0	0	0	1
skins	H	W	IT	0	0	0	0	5	5	4	3	2	0	19
trophies	H	W	IT	20	12	15	18	23	18	22	18	12	7	165
skins	P	O	IT	0	0	0	1	0	0	0	0	0	0	1
trophies	P	W	IT	0	0	0	0	0	0	0	0	3	0	3
skins	Q	O	IT	0	0	0	0	0	0	0	1	0	0	1
live	Z	C	IT	0	0	0	0	1	0	0	0	0	0	1
bodies total				0	0	0	0	0	1	0	0	0	0	1
live total				0	0	0	0	1	0	0	0	0	0	1
skins total				0	0	0	1	5	5	4	4	2	0	21
trophies total				20	12	15	19	23	18	22	18	15	7	169
Grand Total				20	12	15	20	29	24	26	22	17	7	**192**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Italy by individual sources and purposes, on 03/17/2016.

Table 66: Imports of *Panthera pardus* into Mexico, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	H	C	MX	0	0	0	0	0	0	0	0	2	0	2
trophies	H	F	MX	0	0	0	0	0	0	0	0	2	0	2
trophies	H	I	MX	0	0	0	0	0	2	0	0	0	0	2

trophies	H	O	MX	0	0	0	0	0	0	6	0	0	0	6
bodies	H	W	MX	0	0	0	0	1	0	0	0	0	0	1
skins	H	W	MX	0	0	0	0	3	4	3	4	5	0	19
trophies	H	W	MX	39	68	50	57	49	46	38	48	30	29	454
trophies	H	W	MX	0	0	0	0	0	0	1	0	0	0	1
trophies	P	W	MX	1	0	1	2	0	0	0	1	0	0	5
live	Q	C	MX	0	0	0	0	0	2	0	0	1	0	3
trophies	T	W	MX	0	0	1	1	1	0	0	0	0	0	3
live	Z	C	MX	0	0	0	4	0	0	0	0	0	1	5
bodies total				0	0	0	0	1	0	0	0	0	0	1
live total				0	0	0	4	0	2	0	0	1	1	8
skins total				0	0	0	0	3	4	3	4	6	0	20
trophies total				40	68	52	60	56	48	45	49	34	29	481
Grand Total				40	68	52	64	59	54	48	53	41	30	**510**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Mexico by individual sources and purposes, on 03/17/2016.

Table 67: Imports of *Panthera pardus* into Russia, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	B	C	RU	0	0	0	0	0	0	0	2	0	0	2
bodies	H	W	RU	0	0	3	0	0	2	1	1	0	1	8
live	H	W	RU	0	0	0	0	0	2	0	0	0	0	2
skins	H	W	RU	0	0	0	0	7	6	8	7	2	0	30
trophies	H	W	RU	15	8	20	29	36	35	23	51	15	31	263
live	N	W	RU	0	0	0	0	4	0	0	0	0	0	4
skins	P	C	RU	0	0	0	0	0	0	0	0	2	0	2
bodies	P	W	RU	0	0	0	0	1	0	0	0	0	0	1
trophies	P	W	RU	0	0	0	5	5	2	2	4	14	5	37
live	Q	U	RU	0	0	0	0	0	0	4	0	0	0	4
live	Q	W	RU	0	0	0	0	0	0	4	0	0	0	4
skins	T	O	RU	0	0	0	0	0	0	0	4	0	0	4
live	Z	C	RU	0	5	3	3	0	0	2	2	6	3	24
live	Z	F	RU	0	0	0	0	0	0	0	1	0	0	1
bodies total				0	0	3	0	1	2	1	1	0	1	9
live total				0	5	3	3	4	2	10	5	6	3	41
skins total				0	0	0	0	7	6	8	11	4	0	36
trophies total				15	8	20	34	41	37	25	55	29	36	300
Grand Total				15	13	26	37	53	47	44	72	39	40	**386**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Russia by individual sources and purposes, on 03/17/2016.

Table 68: Imports of *Panthera pardus* into South Africa, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
live	B	C	ZA	0	0	0	0	2	0	2	1	0	0	5
live	B	F	ZA	0	0	0	1	0	0	0	0	0	0	1
live	B	F	ZA	0	0	0	1	0	0	0	0	0	0	1
live	B	W	ZA	1	0	0	0	0	0	0	0	0	0	1
live	E	C	ZA	0	0	0	0	3	0	0	0	0	0	3
trophies	H	C	ZA	0	0	0	0	0	0	1	0	0	0	1
trophies	H	F	ZA	0	0	1	1	0	0	0	0	0	0	2
trophies	H	R	ZA	0	1	0	0	0	0	0	0	0	0	1
skins	H	W	ZA	0	51	0	0	22	28	41	38	27	0	207
trophies	H	W	ZA	87	74	73	76	80	43	40	46	43	25	587

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
skins	L	W	ZA	0	0	0	0	0	0	0	2	0	0	2
skins	P	C	ZA	0	0	0	0	7	0	0	0	0	0	7
skins	P	O	ZA	2	0	0	0	0	0	1	0	0	0	3
skins	P	W	ZA	6	1	0	0	3	0	0	0	0	0	10
trophies	P	W	ZA	2	0	0	0	1	0	4	12	1	0	20
live	Q	C	ZA	0	0	0	0	0	4	0	0	0	0	4
live	T	C	ZA	0	1	0	0	1	0	1	0	2	3	8
live	T	W	ZA	0	0	0	0	0	0	1	1	0	0	2
trophies	T	W	ZA	0	0	0	1	0	0	0	1	0	0	2
live	Z	C	ZA	0	1	0	2	0	0	0	2	2	2	9
live	Z	W	ZA	0	0	2	0	0	0	0	0	0	0	2
live total				1	2	2	4	6	4	4	4	4	5	36
skins total				8	52	0	0	32	28	42	40	27	0	229
trophies total				89	75	74	78	81	43	45	59	44	25	613
Grand Total				98	129	76	82	119	75	91	103	75	30	**878**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into South Africa by individual sources and purposes, on 03/17/2016.

Table 69: Imports of *Panthera pardus* into Spain, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
bodies	H	W	ES	0	0	0	0	0	2	0	1	0	0	3
skins	H	W	ES	0	3	0	0	18	27	32	12	7	0	99
trophies	H	W	ES	90	91	100	76	72	53	39	29	18	20	588
trophies	P	W	ES	0	0	0	0	0	0	3	1	11	0	15
live	Q	C	ES	0	0	0	0	0	1	1	0	0	0	2
live	T	C	ES	0	0	0	0	0	1	0	0	0	0	1
skins	T	W	ES	0	0	0	0	1	0	0	0	0	0	1
bodies total				0	0	0	0	0	2	0	1	0	0	3
live total				0	0	0	0	0	2	1	0	0	0	3
skins total				0	3	0	0	19	27	32	12	7	0	101
trophies total				90	91	100	76	72	53	42	30	29	20	602
Grand Total				90	94	100	76	91	84	75	43	36	20	**709**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into Spain by individual sources and purposes, on 03/17/2016.

Table 70: Imports of *Panthera pardus* into the United States of America, all sources, all purposes 2005-2014.

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	E	W	US	0	0	2	0	0	0	0	0	0	0	2
trophies	H	C	US	0	0	1	0	0	0	1	0	0	0	2
trophies	H	I	US	21	31	19	30	14	13	14	18	10	5	175
skins	H	R	US	0	1	0	0	0	0	0	0	0	0	1
bodies	H	W	US	1	0	0	0	0	6	1	4	0	0	12
skins	H	W	US	1	26	4	1	46	83	152	262	106	2	683
trophies	H	W	US	497	512	494	566	642	445	296	460	345	316	4,573
trophies	H	W	US	0	0	0	0	0	1	0	0	0	0	1
skins	L	W	US	0	0	3	0	0	0	0	0	0	0	3
trophies	P	I	US	0	0	0	0	0	0	0	0	1	0	1
skins	P	O	US	1	2	0	1	0	2	1	6	1	1	15
trophies	P	O	US	0	0	0	0	0	0	0	1	0	0	1
skins	P	U	US	2	0	0	0	0	0	0	0	0	0	2
bodies	P	W	US	0	0	0	0	0	0	1	1	0	0	2
skins	P	W	US	4	2	0	4	1	0	0	0	0	0	11

Term	Purpose	Source	Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
trophies	P	W	US	4	3	4	4	1	0	1	10	6	2	35
live	Q	C	US	0	0	0	1	1	2	2	0	1	0	7
skins	Q	O	US	0	0	0	2	0	0	0	0	1	0	3
skins	Q	W	US	0	0	0	0	0	0	0	0	1	0	1
skins	S	U	US	0	0	0	7	0	0	0	0	0	0	7
skins	T	I	US	2	0	0	0	0	2	0	1	0	0	5
skins	T	O	US	3	2	0	0	1	0	0	0	0	0	6
skins	T	U	US	0	1	0	0	0	0	0	0	0	0	1
trophies	T	U	US	0	0	1	0	0	0	0	0	0	0	1
skins	T	W	US	0	1	0	0	0	0	1	0	1	0	3
trophies	T	W	US	0	1	1	0	0	0	0	0	0	1	3
live	Z	C	US	0	0	0	6	3	0	1	1	3	3	17
live	Z	F	US	0	0	0	0	0	0	0	1	0	0	1
live	Z	F	US	0	0	0	0	0	0	0	1	0	0	1
bodies total				1	0	0	0	0	6	2	5	0	0	14
live total				0	0	0	7	4	2	3	3	4	3	26
skins total				13	35	7	15	48	87	154	269	110	3	741
trophies total				522	547	522	600	657	459	312	489	362	324	4,794
Grand Total				536	582	529	622	709	554	471	766	476	330	**5,575**

Source: UNEP-WCMC CITES Trade Database searched by "gross imports" of *Panthera pardus* into the United States of America by individual sources and purposes, on 03/17/2016.