

**Testimony of Martha Williams, Director, U.S. Fish and Wildlife Service, Department of the Interior, Before the House Committee on Natural Resources, Subcommittee on Water, Wildlife, and Fisheries on “ESA at 50: The Destructive Cost of the ESA”**

July 18, 2023

**Introduction**

Good afternoon, Chairman Bentz, Ranking Member Huffman, and Members of the Subcommittee. I am Martha Williams, Director of the U.S. Fish and Wildlife Service (Service) within the Department of the Interior (Department). I appreciate the opportunity to testify before you today on the Endangered Species Act (ESA or the Act).

The Service’s mission is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. For more than 150 years, the Service has collaborated with partners across the country and around the world to carry out this mission.

Congress directed the Secretaries of the Interior and Commerce to implement the ESA, and the Service takes on that role for the Department. The ESA is a cornerstone of the Service’s mission. Through this law, Congress set a public policy to address the loss of biodiversity and prevent species extinctions. The ESA turns 50 this year. A look back at our country’s accomplishments under the Act demonstrates that the ESA achieves its fundamental purpose. Moreover, the Federal government and its partners are continually evolving and improving how we implement the law for people and species. The ESA remains as important today as it was when it was enacted, arguably even more so.

The ESA’s history, and what led Congress to enact it nearly unanimously and President Nixon to sign it into law, provides context for both how we implement it now and for its future. The ESA built upon previously enacted laws like the Lacey Act, Migratory Bird Treaty Act, Pittman-Robertson Act, National Wildlife Refuge Administration Act of 1966, Endangered Species Preservation Act of 1966, and Endangered Species Conservation Act of 1969. A groundswell of public concern over the steady and precipitous decline of wildlife and habitat from overharvest and habitat loss and degradation catalyzed the ESA. In addition to recognizing the decline of species, these laws considered the migratory nature of many species and how conservation in one part of a species’ range might be ineffectual without similar efforts in other areas of the species’ range.

From the founding of the United States through the enactment of the ESA in 1973, a number of species were reduced to extinction. A notable example is the extinction of the migratory passenger pigeon, a species that once numbered in the billions and was thought to be an unlimited food resource that could never be extinguished. Although local protective laws were adopted as the species’ severe decline became clear in the latter 1800s, habitat destruction and commercial hunting eventually eliminated wild passenger pigeons. The last known individual died in a zoo in 1914. Similarly, populations of birds like storks, herons, and whooping cranes were drastically reduced due to hunting for their plumage, as well as widespread habitat loss. Raptors like bald eagles and peregrine falcons declined due to toxins in the environment.

Mammals like sea otters, bison, bears, and wolves were reduced through hunting or predator control efforts to remnant populations in the lower 48 States.

Over time, and through the actions of citizens, there was a growing understanding that the effects of generations of unregulated take and ecosystem degradation led to species extinctions, and that the loss of biodiversity harms our country. Growing public awareness and action led to Congressional action. Not only was the ESA an important step forward for the United States, but it is also one of the most comprehensive wildlife conservation laws enacted by any Nation in the world.

At its core, the purpose of the ESA is to conserve imperiled species and the ecosystems upon which they depend. Congress noted in the findings of the ESA that: (1) various species of fish, wildlife, and plants in the U.S. have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation; (2) other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction; (3) these species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people; and (4) the United States has pledged itself as a sovereign State in the international community to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction, pursuant to relevant international agreements.<sup>1</sup> The ESA requires our Nation to be cognizant of the effects of human activities on imperiled species.

Looking forward, the ESA is an essential tool in conserving America's wildlife heritage. The law enables us to prevent catastrophic harm to species and provides the foundation to do the long work of redressing past harms to species. The ESA has been successful in stemming the tide of species extinctions. Almost every single species that has been protected by the ESA is still with us today, and hundreds are on the path to recovery. However, the threats to biodiversity conservation and to maintaining the rich array of fish, wildlife, and plants that help make our Nation so special have only increased. It takes a collaborative, and, most often, long-term effort to create the right conditions for recovery. The Service and our partners do that work in the context of economic and communities' needs. The law allows for a flexible, measured approach that incorporates species protections in the course of development activities that help our economy prosper. It is important to note the value of the protection of our precious wildlife and ecosystems, which are treasured national resources and economic assets in their own right. Successful recovery of species, and conservation of biodiversity and the ecosystems that support biodiversity, benefit our society in many ways. These benefits range from tourism to natural ecosystem services such as pollination, water filtration, or helping protect coastal communities from storm surges.

### **Discussion of the Endangered Species Act**

The ESA provides a multi-faceted and well-outlined system for protecting our Nation's wildlife, ecosystems, and biodiversity. The Act has prevented the extinction of hundreds of species and continues to protect and preserve some of our Nation's most beloved animals and plants. The Act accomplishes this through science-based processes that identify species that are threatened and endangered. The Act identifies prohibitions for endangered species, which can be applied to

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<sup>1</sup> The Endangered Species Act of 1973 (16 U.S.C. §§ 1531).

threatened species through a 4(d) rule, and requires that Federal agencies both use their authorities to conserve listed species and ensure that their actions are not likely to jeopardize the continued existence of listed species or destroy or adversely modify their designated critical habitat.

The Act also provides the basis to develop and implement a road map for recovery of each species. These processes occur day in and day out, year after year, and cumulatively have protected, stabilized, and recovered a myriad of species.

For example, through the ESA, we have recovered our national symbol, the bald eagle. We have also recovered the American alligator, which after surviving for millions of years, became endangered due to market hunting and loss of habitat and required protection under the ESA. Each of these species is a part of their ecosystem, each with a unique biological community, performing services that are essential to our combined well-being. By conserving them, guided by the best-available science, we help protect healthy air, land, and water for everyone. The ESA mandates or supports collaboration, rigorous science-based processes, recovery of species, comprehensive environmental reviews, and ongoing commitment, all hallmarks of effective environmental conservation in the United States.

### *Collaboration*

A key component of the Service's work is to proactively conserve at-risk species before they require the protections of the ESA. This includes encouraging voluntary conservation, educating the public about wildlife, and monitoring species. Implementing conservation efforts before species are listed and their habitats become imperiled increases the likelihood that simpler, more cost-effective non-regulatory conservation options are available, and that conservation efforts will succeed. In other words, preventative care can be both less difficult and less expensive than emergency care of a species in many cases. Removing or reducing identified threats to a declining species can, in some cases, head off the need to list the species. States, which have primary jurisdiction over wildlife and plants before ESA listing, are critical partners in at-risk species conservation.

Through innovation and building upon decades of experience implementing the ESA and conservation actions in general on the ground, the Service has developed a number of programs that encourage voluntary conservation of declining, candidate, or listed species. These voluntary programs also provide regulatory predictability to landowners. For example, Safe Harbor Agreements are voluntary agreements with the Service or National Marine Fisheries Service (NMFS) involving private or other non-Federal property owners whose actions contribute to the recovery of species listed as endangered or threatened under the ESA. In exchange for taking actions that contribute to the recovery of listed species on non-Federal lands, participating property owners receive formal assurances from the Service that if they fulfill the conditions of the Safe Harbor Agreement, the Service will not require any additional or different management activities by the participants without their consent. Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements that provide incentives for non-Federal landowners to conserve unlisted species that either are, or are likely to become, candidates for listing in the future. For the length of the agreement, landowners agree to undertake specific activities that address the identified threats to the target species. In return for the participant's voluntary conservation action(s), the Service issues an Enhancement of Survival Permit under

section 10(a)(1)(A) of the ESA. The permit, which goes into effect if the covered species is later listed as endangered or threatened under the ESA, provides assurances that, if the species is subsequently listed, the Service will not require the permittee to conduct any additional conservation measures without consent. Additionally, the permit authorizes a specific level of incidental take of the covered species, should listing occur.

Partnerships are key to all the Service's work, including our proactive efforts. We prioritize coordination with the NMFS, other Federal, State, and local agencies, Tribes, nongovernmental organizations, companies, and private citizens. We work with our many partners to find collaborative solutions to help address any human-wildlife conflicts or differing species needs. In some cases, these collaborative efforts are sufficient to prevent a species from being listed, such as in the case of the Virgin River spinedace in Arizona, Nevada and Utah, the New England cottontail in New York and Maine, and the Cumberland sandwort in Tennessee and Kentucky. Other examples of successful collaborations are relayed in the recovery section below.

### *Science-based Processes*

Implementation of the ESA is grounded in science. The Act requires the Service use the best available scientific and commercial data to make its determinations. For example, when the Service receives a petition to list or reclassify a species, we follow a comprehensive, science-based process mandated by the ESA and the Administrative Procedure Act to evaluate the petition and determine whether a species may warrant listing under the ESA. We (or the NMFS for most marine species) must make a finding within 90 days of receiving a petition (to the extent practicable) as to whether or not there is "substantial information" indicating that the petitioned listing may be warranted. If this preliminary finding is positive, a scientific status review is conducted to inform a 12-month finding (i.e., within 12 months of receipt of the petition). The 12-month finding may result in a "not warranted" finding, a "warranted but precluded" finding (meaning the species is identified as a candidate species but listing is precluded at that time by higher priority actions), or a "warranted" finding. If the Service makes a finding that listing is warranted, we publish a concurrent proposed rule to list the species under the ESA with a public comment period of 60 days. The ESA directs the Service to make a final listing determination within one year of the proposed rule.

In addition to the petition process, under the ESA, the listing, delisting, and reclassification process may be initiated by a status review such as candidate assessment, five-year review, or discretionary review. Through these reviews, we may identify species for which the best scientific and commercial data available indicate that a proposal for listing or reclassification is appropriate, which would be available for public comment prior to a final rule.

Public engagement, through the ability to petition the Service and the public comment process, is an important component of the ESA. The public may also request the Service hold a public hearing on a proposed rule.

A species is added to the List of Endangered and Threatened Wildlife or the List of Endangered and Threatened Plants when it is determined, following a science-based process, to be an endangered species or threatened species because of any of the following 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; the inadequacy of existing regulatory mechanisms; other natural or manmade factors affecting its survival.

Due to the number of petitioned species and the time required to carefully conduct our scientific assessments and public engagement process, the Service has a methodology for prioritizing status reviews and accompanying 12-month findings on petitions for listing species under the ESA. This methodology is intended to allow us to address our outstanding workload strategically, as our resources allow, and to provide transparency to our partners and other stakeholders as to how we establish priorities within our upcoming workload.

The Service is also cognizant of the importance of tailoring protections for threatened species where appropriate. For example, when the Service is developing 4(d) rules for protecting threatened species, in some cases it is most appropriate to apply the full prohibitions afforded to endangered species under section 9 of the ESA, along with a standard set of exceptions for the Service, NMFS, and State agencies, to benefit threatened species. In other cases, the 4(d) rule may be tailored to provide additional exceptions, and we may incentivize known beneficial actions for the species or remove prohibitions on forms of take that are considered inconsequential to the conservation of the species. We put in place protections that will both prevent the species from becoming endangered and promote the recovery of species. The exact exceptions are science-based; they may depend on the species' biology, conservation needs, and threats affecting the species.

In addition, for both endangered and threatened species, section 10 of the ESA provides a permitting process to authorize take incidental to non-Federal activities. The cumulative effect of such take authorizations is considered through science-based processes to ensure it does not jeopardize the continued existence of the species. Permits may authorize take of listed species incidental to, and not the purpose of, an otherwise lawful activity, such as residential or commercial development. Non-Federal entities must develop a conservation plan that meets specific requirements as identified in the ESA, apply for an incidental take permit, and once issued, implement the project as specified in their permit. The Habitat Conservation Plan (HCP) program creates creative partnerships that allow public and private sectors to work with the Service to address listed and at-risk species in an ecosystem context, generate long-term commitments to conserve such species, and deliver regulatory assurances to project proponents. HCPs can also include conservation measures for vulnerable plant and animal species that are not listed federally as endangered or threatened.

Effectively protecting listed species requires addressing their habitat needs, including designation of critical habitat. A critical habitat designation follows a science-based process to identify those specific areas that are essential for species conservation. Because habitat loss or degradation is frequently a key threat for many species that face extinction, a critical habitat designation is an important tool for species recovery. Critical habitat is also an important tool to educate the public and other Federal agencies regarding the conservation needs of listed species. Critical habitat designations do not create a park or preserve, nor do they affect activities by private landowners where there is no Federal funding or authorization involved. They only affect Federal agency actions or federally funded or permitted activities, as the ESA requires Federal

agencies to ensure their actions are not likely to destroy or adversely modify designated critical habitat.

### *Recovery*

When a species is delisted due to recovery, it is an accomplishment of great magnitude. Successful delisting most often is the result of the sustained work of multiple partners to address threats and conserve ecosystems. This work provides benefits not only to the imperiled species but often also to other fish, wildlife, plants, and the public.

The Service strives to recover listed species to delist or downlist them due to recovery. For most listed species, recovery is not a quick fix, and requires coordinated efforts and commitments from many stakeholders over many years. Thus far, more than 100 species of animals and plants have been delisted based on recovery or reclassified from endangered to threatened based on their improved conservation status. Many of these successes have resulted from collaboration with partners. For example, this June, the Service announced a final rule delisting the Okaloosa darter, in the Florida Panhandle, due to its recovery. Long-term partnerships with Federal, State, local and private citizens, contributed to the recovery of this fish, which was previously near the brink of extinction. A key partner in this effort was the U.S. Air Force, who worked to improve Okaloosa darter habitat on Eglin Air Force Base. Another example is in February 2023, the Service published a proposed rule to delist the wood stork, a large wading bird that inhabits a number of southeastern States. Since its listing in 1984, the breeding population has doubled, the number of nesting colonies have more than tripled, and their breeding range has expanded significantly. Other examples of recovered and delisted species include: the black-capped vireo, snail darter, Monito gecko, brown pelican, Borax Lake chub, Kirtland's warbler, interior least tern, San Benito evening primrose, Virginia northern flying squirrel, lesser long-nosed bat, Delmarva Peninsula fox squirrel, Hawaiian hawk, and desert milkvetch. Hundreds of species are stable or improving due to the collaborative efforts of Federal agencies, State and local governments, Tribes, and stakeholders across the country. Cumulatively, these successes are the result of an immense amount of effort, collaboration, and dedication by the Service and our partners, including individual citizens, and are essential to conserving our natural heritage for future generations of Americans.

The Service has been proactive and resourceful in utilizing specialized funds to further our recovery work. The Service is currently using Inflation Reduction Act (IRA) funds to increase recovery planning capacity and capabilities to help ensure timely, effective, and streamlined processes so we can ensure recovery plans are in place to provide the roadmaps for on-the-ground implementation actions that are necessary to recover species and remove them from the Endangered Species list. We are also using IRA funds to support strategic implementation of on the ground recovery actions for listed species. We have placed a particular emphasis on listed species pertaining to the four focal species groups identified by Congress (Hawaii and Pacific Island plants, butterflies and moths, freshwater mussels, and southwest desert fish) as well as species that have historically needed additional resource investments to achieve recovery. For example, our 2018 State and Federal expenditures report notes that no agency reported expenditures for 668 listed species, and 55 percent of listed species had reported expenditures of \$10,000 or less.

However, there is a substantial amount of work left to be done. Approximately 1,683 U.S. species remain on the Endangered Species list. These listed species require action be taken by the Service and others to protect their habitat and ensure their survival so that these populations no longer need the protections of the ESA to prevent extinction.

### *Environmental Reviews*

Environmental reviews of Federal or federally funded projects play an important role in helping to prevent extinctions and facilitate recovery. The Service plays a key role in environmental reviews for projects under multiple authorities, including the ESA, National Environmental Policy Act, Clean Water Act, Fish and Wildlife Coordination Act, and the Marine Mammal Protection Act. The Service's reviews under these laws generally serve to identify harm to fish, wildlife, and plant species and recommend or prescribe ways to eliminate, reduce, or minimize such harm. Most often, such reviews constitute a small part of the overall scope, timeline, and process of an individual project, but they are critical to providing long-term conservation benefits

Since November 2022, the Service has received more than 87,000 requests for project reviews under these authorities. The Service's current workload is composed of work related to the full gamut of industry sectors, such as communications, energy development and transmission, mining, agriculture, forestry, commercial and residential development construction, transportation, national security/military, and water resource development.

The Service's largest role in environmental reviews is through section 7 of the ESA. Under section 7 of the ESA, Federal agencies must consult with the Service or NMFS when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered, or any critical habitat designated for it. The purpose of the consultation is to ensure that any action Federal agencies carry out, fund, or authorize will not jeopardize the continued existence of any endangered species or threatened species or destroy or adversely modify their designated critical habitat.

If a Federal agency determines its proposed action may affect a listed species or designated critical habitat, formal consultation is required (except when the Service or NMFS concurs, in writing, the proposed action "is not likely to adversely affect" listed species or designated critical habitat). Formal consultation is a process between the Service or NMFS and a Federal agency that determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat and concludes with the issuance of a biological opinion and incidental take statement by either of the Services.

Informal consultation is an optional process between the Service or NMFS and a Federal agency, prior to formal consultation, to determine whether a proposed Federal action may adversely affect listed species or critical habitat. This process allows the Federal agency to utilize the Services' expertise to evaluate the Federal agency's assessment of potential effects or to suggest possible modifications to the proposed action, which could avoid potentially adverse effects.

On average, the Service completes about 1,002 formal section 7 consultations each year, with an average of 118 days for completion, and 78 percent of consultations completed in 135 days or less. On average, the Service also completes about 11,123 informal section 7 consultations each

year, with an average of 35 days for completion. The amount of time Service staff spend reviewing and advising on a project can vary greatly depending on: (1) the completeness of information we receive from the Federal agency and applicant (i.e., whether we receive adequate information to analyze the effects of the project on listed species and critical habitat); (2) the complexity of the proposed project; and (3) the number and status of listed species and critical habitats in the project area. These environmental reviews not only help protect the species and ecosystems we are entrusted with protecting, but they can also improve the overall quality of the project itself from an environmental standpoint.

The Service can experience increases in our environmental review workload in response to program or project funding received by other agencies. For example, we anticipate that project funding under the Bipartisan Infrastructure Law (BIL) and IRA will further increase the Service's environmental review workload, primarily through additional ESA section 7 consultations. Neither the IRA nor the BIL include funding for section 7 consultations for projects funded by Federal agencies other than the Department of the Interior (DOI) (with the exception of the wildland fire management provisions of the BIL). Using this limited transfer authority, the Service has entered into transfer funding agreements with the U.S. Forest Service (USFS) and DOI's Office of Wildland Fire (OWF) to establish a dedicated workforce to carry out consultations on this vital work. These agreements will ensure dedicated Service staff can consult on USFS and OWF wildfire risk reduction projects in a timely manner. It is also enabling the development of expertise and relationships specific to USFS and OWF wildfire risk reduction activities, which is further facilitating efficient and timely environmental reviews. The President's FY 2024 budget proposes to expand existing transfer authorities by enabling Federal agencies to transfer funds provided under BIL to the Service and the National Marine Fisheries Service. This authority in concert with existing authorities will improve efficiencies and increase capacity for environmental planning and consultation. In addition, by enabling dedicated staff to engage in programmatic approaches and the development of technological solutions, the Service is further streamlining project approvals to support more efficient consultations for these priority projects.

#### *Ongoing Commitment*

To meet the needs of the species the Service stewards, and to provide clarity for our partners and stakeholders, our implementation of the ESA must be durable and responsive to changing environmental conditions and species status. To this end, our implementation remains dynamic through status reviews such as candidate assessments, five-year reviews, or discretionary reviews.

To continue to improve, evolve, and innovate within the authority granted by the ESA, the Service also reviews and, at times, adapts implementing regulations. In 2019, we conducted comprehensive reviews and revisions of the regulations governing reclassifying species, critical habitat, and environmental review consultations. More recently, in June 2023, we proposed further revision to those regulations, primarily for the purpose of incorporating lessons learned, ensuring that the regulations are clear to the public and to our practitioners, and providing a well-grounded framework for effectively achieving the purposes of the ESA. While we recently proposed changes to these 2019 regulations, it is important to recognize that much of the 2019



regulations are not proposed for revision, including the explicit recognition of programmatic consultations and other alternative consultation frameworks that provide efficiencies, and the deadline for issuing concurrence with findings on not likely to adversely affect.

The Service also reviews and adapts our guidance, internal processes, and tools for partners and stakeholders, with the goal of increasing clarity, accessibility, efficiency, and effectiveness of ESA implementation. For example, to help address our growing consultations workload, the Service has worked to update and streamline processes for project proponents, including revising the regulations governing section 7 consultations and working with Federal agencies to develop programmatic consultations. We have also developed the Information for Planning and Consultation (IPaC) system which we are utilizing to automate portions of the consultation process. In FY 2022, IPaC delivered 23,425 streamlined consultation documents and generated over 103,500 official species lists in response to user requests, saving taxpayers the equivalent of approximately 40,690 biologist hours. In addition, we are continuing to develop refined species ranges to better inform project planning and consultations while reducing the need for in-person technical assistance.

The Service requires sufficient funding, personnel, and other resources to effectively carry out its statutory obligations across all aspects of the ESA. The ESA directs the Service to submit to Congress an annual report for prior fiscal years that contains reasonably identifiable Federal expenditures by all Federal agencies made primarily for the conservation of endangered and threatened species pursuant to the ESA, and by States receiving grants under section 6 of the ESA. For FY 2020, Federal and State agencies identified domestic and foreign expenditures related to species and land totaled \$1,264,141,486. This included the Service's \$104,759,637 identified domestic and foreign expenditures related to species conservation in FY 2020.

There are many species for which the Service or other stakeholders have few resources available to engage in recovery efforts. Less than \$5,000 was reported by any Federal or State agency for 27 percent of the species listed in 2020. Federal funding is often necessary to leverage the collaborative conservation necessary to guide species back from the brink of extinction and restore populations to self-sustaining levels. The Administration's budget request provides significant resources to support the increasing costs of maintaining current recovery programs to reduce human/wildlife interactions, manage captive populations until reintroductions back to the wild are possible, and support our State, Tribal, and local partners who have insufficient resources to recover these species. These costs rise as the human population rises and as human development increasingly impacts wildlife habitat.

Other areas of ESA implementation also require sufficient resources as provided in the Administration's budget request. For example, between 2003 and 2022, Service environmental review staff decreased by 20 percent while new species were listed and economic activity, litigation, and the complexity of species analyses increased. As noted above, project funding under the IRA and BIL is expected to increase the demand for Service technical assistance and section 7 consultations, but neither law provided funding to the Service for section 7 consultations for projects funded by Federal agencies other than the DOI (except for the wildland

fire management provisions of the BIL). Our work with USFS and OWF on wildland fire risk reduction funded by the BIL, and our recovery plan updates funded by the IRA, demonstrate how effective and efficient the Service can be when provided with appropriate funding. Accordingly, the Administration's budget request provides funding necessary to significantly bolster the planning and consultation workforce and maximize the productivity and effectiveness of the program.

The ESA is critically important as we look to the future – we face an ongoing extinction crisis and serious threats to biodiversity. The extinction crisis is accelerated by climate change and invasive species, which are making many areas of historical habitat for plants and animals unsuitable for their continued survival. Scientists estimate that as many as 1 million species are in danger of extinction, many within decades.<sup>2</sup> Preventing extinctions and recovering species requires science-based conservation and investing sufficient resources to help address the growing impacts from habitat loss, climate change, and invasive species before it is too late.

### **Conclusion**

Assessing the needs of wildlife and plants, encouraging proactive voluntary conservation and partnerships, working with landowners to conserve species and their habitats while keeping working lands working, and recovering and monitoring species are some key responsibilities under the ESA that require sufficient resources. Investing in our wildlife, fish, and plants, is not only important to species and their habitats, but also provides numerous other benefits including cleaner air, cleaner water, more climate resilient landscapes, and provides places where people can recreate and be in nature, which are of innumerable intrinsic and economic value to the Nation and its people. Our investments in these species and ecosystems make all the difference to future generations – which species will they see in the wild, and which species, like the passenger pigeon, will only be known through textbooks and museums. The ESA is a critical tool in helping to conserve not only species, but also our shared natural heritage.

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<sup>2</sup> IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. Ichii, J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, S. Polasky, A. Purvis, J. Razzaque, B. Reyers, R. Roy Chowdhury, Y. J. Shin, I. J. Visseren-Hamakers, K. J. Willis, and C. N. Zayas (eds.). IPBES secretariat, Bonn, Germany. 56 pages. <https://doi.org/10.5281/zenodo.3553579>.