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Presented to
The House Committee on Natural Resources
Oversight Field Hearing
"The Northern Long Eared Bat: The Federal Endangered Species Act and Impacts of a Listing on Pennsylvania and 37 Other States."

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Introduction

The northern long-eared bat faces a grave crisis. Its plummeting populations over the last eight years have put it on the fast track to extinction. It is the very kind of wildlife that needs the protection of the Endangered Species Act, just like the wide-ranging bald eagle, peregrine falcon, grizzly bear, and other emblematic species of our nation that have benefited greatly from the crucial protection of the Endangered Species Act in the past.

Prior to the advent of the fungal disease, white-nose syndrome, the northern long-eared bat was rare, patchily distributed throughout its range, and almost never found in large numbers anywhere. Scientists recognized the species as vulnerable to a number of threats, such as habitat loss, and it may have been in decline even before the arrival of the disease.[1]

However, since 2006, when white-nose syndrome was first documented in North America, the trends have been clear: the population of the northern long-eared bat has plummeted. In the Northeast, once a stronghold for the species, the population has declined by an estimated 99 percent. In many bat caves, it has disappeared altogether. The disease is now in 25 states, ravaging bat populations from New England, to the Mid-Atlantic and Midwest, to the South. These affected areas take in all of the most important territory for the species. White-nose syndrome continues to advance, and according to scientific models, will eventually spread across most of North America.

Prominent bat experts have referred to the precipitous loss of the northern long-eared bat, and six other bat species also affected by white-nose syndrome, as the "worst wildlife health crisis in memory." The Endangered Species Act offers the best and perhaps only means for saving the northern long-eared bat. The Act has a 99% success rate at keeping species from the brink of extinction. Further, the scale of the problem is not something that any one state has the capacity to address. Only the Endangered Species Act provides the long-term and broad scale framework for conservation and recovery that is required to restore the northern long-eared bat to healthy numbers once again.

[1] Ingersoll, T.E., B.J. Sewall and S.K. Amelon. 2013. Improved analysis of long-term monitoring data demonstrates marked regional declines of bat populations in the eastern United States. PLoS ONE 8(6): e65907. doi:10.1371/journal.pone.0065907.

The Endangered Species Act is already working to recover hundreds of species in the eastern and central United States, including the Indiana bat and Virginia big-eared bat, as well as birds, fish, turtles, and many other creatures that not only add to the richness and beauty of this part of the world, but also are vital to environmental health and ultimately the long-term social and economic well-being of our society. As with those other federally listed species, the rules protecting the northern long-eared bat will have built-in flexibility that allows sustainable and responsible development.

Scientists estimate that bats provide billions of dollars in crop protection services across the United States. The insect-eating northern long-eared bat provides a valuable population check on moths and beetles that may attack timber and crops. Without this bat, the challenges farmers and the timber industry face will grow, not lessen. Because the northern long-eared bat is so depleted, it is important that we safeguard survivors from as much harm as possible, including harm to their critical habitat. Responsible environmental stewardship calls for this approach. That is what the Endangered Species Act is designed to promote, and for the majority of Americans, this is what they wish the Act to do—to protect for future generations the diverse and magnificent natural treasures of this nation.

Path to Endangerment

Since 2006, the northern long-eared bat (*Myotis septentrionalis*) has declined dramatically as a result of the exotic, invasive fungal disease known as white-nose syndrome (WNS). In the Northeast, where the disease has been present the longest, the species has plummeted 99 percent.[2] However, WNS is not the only threat the species faces. Scientists have evidence that the northern long-eared bat was in decline prior to the onset of WNS, possibly due to factors such as habitat destruction and fragmentation, environmental toxins, and climate change.[3] Now, WNS may be interacting with these other dangers to cause a downward spiral that may soon become irreversible. For the perpetuation of the species it is vital that the scarce survivors are safeguarded from as many harms as possible. WNS has caused the sudden and dramatic shrinkage of the northern long-eared bat population, but it may well be these other factors, if left unaddressed and unmitigated, that could finish the species off. The northern long-eared bat is clearly in danger of extinction throughout all or a significant portion of its range, and as a matter of both law and responsible conservation policy, the FWS must designate the species as endangered.

The Center for Biological Diversity submitted a citizen petition to list the eastern small-footed bat and the northern long-eared bat on January 21, 2010.[4] On October 2, 2013, the U.S. Fish and

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[2] US Fish and Wildlife Service. 2013. Proposed Rule: 12-Month Finding on a Petition to List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endangered Species. Docket No. FWS–R5–ES–2011–0024, 78 FR 61045. Oct. 2, 2013.

[3] Ingersoll, T.E., B.J. Sewall and S.K. Amelon. 2013. Improved analysis of long-term monitoring data demonstrates marked regional declines of bat populations in the eastern United States. PLoS ONE 8(6): e65907. doi:10.1371/journal.pone.0065907.

[4] Center for Biological Diversity. 2010. Petition to list the eastern small-footed bat *Myotis leibii* and northern long-eared bat *Myotis septentrionalis* as threatened or endangered under the Endangered Species Act. 61 pp. http://www.biologicaldiversity.org/species/mammals/eastern_small-footed_bat/pdfs/petition-Myotisleibii-Myotisseptentrionalis.pdf

Wildlife Service (FWS) proposed to list the northern long-eared bat (*Myotis septentrionalis*) as endangered.[5] The FWS then decided earlier this summer, primarily in response to listing opponents, to extend the period for final determination another six months, to April 2, 2015.

Species' Precipitous Decline Warrants Endangered Listing

Populations of the northern long-eared bat have plummeted as a result of WNS. In the northeastern United States, where WNS has been present longest in North America, winter surveys demonstrate that the northern long-eared bat has declined by 99 percent. Summer surveys are generally in line with these findings. The Northeast is also the region in which the species was historically most abundant; a decline in that region has a disproportionately large impact on the species' overall status. No solution yet exists for WNS. So long as this is the case, the disease will likely spread and cause similar mortality among northern long-eared bats in other regions. Although the primary threat to the northern long-eared bat is WNS, it is an established biological principle that small populations of a species are more vulnerable to discrete threats than large populations are. For that reason, the severely reduced northern long-eared bat population is more at risk from other threats, including those from human activities, than prior to WNS.

We take issue with the claims of those calling for FWS to list the northern long-eared bat as threatened rather than endangered. Population declines of more than 90 percent in the core of its range, with more declines predicted due to WNS, constitute a present "danger of extinction throughout all or a significant portion of its range." The decreases do not represent a mere "[likelihood] to become an endangered species within the foreseeable future throughout all or a significant portion of its range." In other words, for the northern long-eared bat, endangerment is not just a possibility on the horizon – endangerment is already here.

Non-existent or Inadequate Protective Measures

No regulations or conservation plans currently exist that address the widespread and severe decline of the northern long-eared bat, and counter the various threats the species faces. The species is listed as state endangered or threatened in several states: "endangered" in Delaware, Massachusetts, and Vermont; "threatened" in Wisconsin; proposed for endangered in Maine. However, it has no protected status or only minimal recognition as a vulnerable species in many more states within its range. Unfortunately, none of the state listings provide strong regulatory protection against threats such as destruction of forested roosting habitat that, together with WNS, could lead to the extinction of the species. State-level protections also do not provide range-wide recovery planning, habitat conservation plans for activities that may take listed bats, or federal funding for research and management.

Unfortunately, some state natural resource agencies in the upper Midwest have expressed opposition to the needed federal protection of northern long-eared bats.[6] Directors of Minnesota, Wisconsin, Michigan and Indiana natural resource agencies requested in an April 2014 letter to FWS that the agency delay protection of the northern long-eared bat because of the potential impact on timber operations and private landowners. Yet, none of these states have their own

[5] FWS, ibid.

[6] http://www.jsonline.com/news/wisconsin/states-raise-concerns-about-bat-protection-plan-b99253534z1-256378541.html

programs to conserve and recover the species that are equivalent to the protections provided by federal ESA listing.

WNS Continues to Spread and Northern Long-eared Bat Continues to Decline

The U.S. Geological Survey/National Wildlife Health Center reported this April[7] that WNS spread to three new states--Arkansas, Michigan, and Wisconsin--in the winter of 2013-14. The disease also continued to spread within the states where it had been previously documented, intensifying its impact in the Midwest, Southeast, and South. In Canada, the disease spread last winter within Nova Scotia, New Brunswick, Quebec and Ontario. The extent of the disease now reaches from the 49th parallel in Quebec south to Paulding County, Georgia, and from Prince Edward Island west almost to the Missouri/Kansas border.

The following information was reported at the 2014 Northeast Bat Working Group[8] annual meeting in January:

- In summer mist net surveys in New York, northern long-eared bats have notably declined over the last several years. Acoustic surveys show a dramatic decline of all *Myotis* species, which include the northern long-eared bat.
- In Pennsylvania, numbers of bats at summer roosts are down, as are numbers of bats at hibernacula. The northern long-eared bat was down by 99.2% in hibernacula surveys in 2013, as compared to pre-WNS counts. The number of contractor-conducted net surveys has grown dramatically from 390 in 2006 to 1,087 in 2012, yet the capture rate of northern long-eared bats relative to its pre-WNS numbers has continued to go down.
- In Virginia, the number of northern long-eared bats caught during summer mist net surveys has gone down by 96% compared to pre-WNS surveys.
- In West Virginia, the northern long-eared bat was the most common bat species found in summer mist net surveys prior to WNS (33%). However, now only 20% of the bats captured are northern long-eared bats. (The report did not indicate whether total number of all bats captured has also declined, but this seems likely).

A recent paper on pre and post-WNS bat activity on the Fernow Experimental Forest in West Virginia reports: "Activity of little brown myotis, northern myotis, and Indiana myotis was lower post-WNS than pre-WNS, consistent with the species' precipitous declines previously reported in WNS-affected areas in the Northeast and upper portions of the Mid-Atlantic."[9] This study was based on summer acoustic surveys.

Some opponents of endangered species listing have asserted that recent summer bat surveys, unlike hibernacula surveys, indicate that the northern long-eared bat is still abundant. However, publicly available data such as studies and surveys cited above paint a clear picture of ongoing and dramatic decline of the species.

[7] http://www.nwhc.usgs.gov/publications/wildlife_health_bulletins/WHB_2014-04_WNS_Updates.pdf
[8] http://www.nebwg.org/AnnualMeetings/2014/index.html
[9] Johnson et al. 2013. Nightly and yearly bat activity before and after WNS on the Fernow Experimental Forest in West Virginia.

Scientific Uncertainty and the Best Available Science

The best, currently available science went into the FWS' recommendation to list the northern long-eared bat as endangered, and that decision was peer-reviewed and supported by leading bat scientists. There is no genuine scientific uncertainty about whether this bat is in danger of extinction in all or a significant part of its range. To the extent that incomplete information about the species, white-nose syndrome, and other threats still exists, this is a reality of the scientific process. A listing decision cannot wait until complete scientific research has been done and no amount of uncertainty remains. To delay such a decision while threats are ongoing, as they are for the northern long-eared bat, would be ecologically and fiscally irresponsible because the status of the species would likely worsen in the meantime, and require even more aggressive, potentially expensive, action down the line to save it from extinction.

The Need for Addressing All Harms

White-nose syndrome is the primary threat to the northern long-eared bat. However, it is not the only threat. A small population is vulnerable to losses of any kind, from any source. Forest clearing and fragmentation, human disturbance of caves, and environmental toxins, among others, are other threats to the northern long-eared bat that need to be addressed if conservation and recovery efforts are to be effective. Just as a cancer patient would be ill-advised to stop wearing her seat belt, just because the major threat to her health is cancer, so too must biologists be able to address potential and likely harms to the northern long-eared bat, from other sources besides white-nose syndrome.

Conclusion

The northern long-eared bat is in current danger of extinction throughout a significant portion of its range. Based on the current, best available scientific information, it qualifies for endangered status under the Endangered Species Act, and it is in need of that level of federal protection to address the profound and various threats it faces. The Act is a tool that works, a policy that the American public supports, and in its success at preventing extinction, it is a gift that we bestow upon future generations.

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