

of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);

- Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

- Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);

- Does not have federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);

- Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

- Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

- Is not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and

- Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, the SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed rule does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Carbon monoxide, Greenhouse gases, Incorporation by reference, Intergovernmental relations, Lead, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

(Authority: 42 U.S.C. 7401 *et seq.*)

Dated: March 18, 2022.

KC Becker,

Regional Administrator, Region 8.

[FR Doc. 2022-06172 Filed 3-22-22; 8:45 am]

BILLING CODE 6560-50-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R3-ES-2021-0140; FF09E21000 FXES1111090FEDR 223]

RIN 1018-BG14

Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to reclassify the northern long-eared bat (*Myotis septentrionalis*), a bat species found in all or portions of 37 U.S. States, the District of Columbia, and much of Canada, as an endangered species under the Endangered Species Act of 1973, as amended (Act). The northern long-eared bat is currently listed as a threatened species with an accompanying rule issued under section 4(d) of the Act ("4(d) rule"). This document complies with a court order, which requires the Service to make a new listing decision for the northern long-eared bat. After a review of the best available scientific and commercial information, we find that the northern long-eared bat meets the Act's definition of an endangered species. Accordingly, we propose to list the northern long-eared bat as an endangered species under the Act. If we finalize this rule as proposed, it would reclassify this species as an endangered species on the List of Endangered and Threatened Wildlife and remove its species-specific 4(d) rule. Additionally, this proposed rule serves as our 5-year review of the species. We also are notifying the public that we have scheduled an informational meeting followed by a public hearing on the proposed rule.

DATES: We will accept comments received or postmarked on or before May 23, 2022. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date.

Public informational meeting and public hearing: We will hold a public informational meeting from 6:00 p.m. to 7:30 p.m., Central Time, followed by a public hearing from 7:30 p.m. to 8:30 p.m., Central Time, on April 7, 2022.

ADDRESSES: You may submit comments by one of the following methods:

(1) **Electronically:** Go to the Federal eRulemaking Portal: [https://](https://www.regulations.gov)

www.regulations.gov. In the Search box, enter FWS-R3-ES-2021-0140. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment."

(2) **By hard copy:** Submit by U.S. mail to: Public Comments Processing, Attn: FWS-R3-ES-2021-0140, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

We request that you send comments only by the methods described above. We will post all comments on <https://www.regulations.gov>. This generally means that we will post any personal information you provide us (see Information Requested, below, for more information).

Public informational meeting and public hearing: The public informational meeting and the public hearing will be held virtually using the Zoom platform. See **Public Hearing**, below, for more information.

FOR FURTHER INFORMATION CONTACT: Shauna Marquardt, Field Supervisor, U.S. Fish and Wildlife Service, Minnesota Wisconsin Ecological Services Field Office, 4101 American Boulevard East, Bloomington, MN 55425; telephone 952-252-0092.

Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:
Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule.

We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;
 (c) Historical and current range, including distribution patterns;
 (d) Historical and current population levels, and current and projected trends; and
 (e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) Factors that may affect the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors.

(3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

(4) Additional information concerning the historical and current status, range, distribution, and population size of this species, including the locations of any additional populations of this species.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made "solely on the basis of the best scientific and commercial data available."

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via <https://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on <https://www.regulations.gov>.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on <https://www.regulations.gov>.

Because we will consider all comments and information we receive

during the comment period, our final determination may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that the species should remain listed as a threatened species instead of reclassified as an endangered species, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. For the immediate future, we will provide these public hearings using webinars that will be announced on the Service's website, in addition to the **Federal Register**. The use of these virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3). See **DATES** and **ADDRESSES** for information on a public hearing that we have scheduled for this rulemaking action.

Previous Federal Actions

On October 2, 2013, we proposed to list the northern long-eared bat as an endangered species under the Act (78 FR 61046); please refer to that proposed rule for a detailed description of previous Federal actions concerning this species.

On January 16, 2015, we proposed to create a 4(d) rule to provide measures that are necessary and advisable to provide for the conservation of the northern long-eared bat should we determine the species warrants listing as a threatened species under the Act (80 FR 2371). That document also reopened the public comment period on the October 2, 2013, proposed rule for another 60 days, ending on March 17, 2015.

On April 2, 2015, we finalized a rule listing the northern long-eared bat as a threatened species and established an interim 4(d) rule for the species (80 FR 17974). We solicited public comment on the interim 4(d) rule for 90 days, ending on July 1, 2015. On January 14, 2016, we finalized the 4(d) rule for the northern long-eared bat (81 FR 1900). On April 27, 2016, we published a not-prudent determination for critical habitat (81 FR 24707).

A January 28, 2020, court order requires the Service to make a new listing decision for the northern long-eared bat (*Center for Biological Diversity v. Everson*, 435 F. Supp. 3d. 69 (D.D.C. 2020)). The court order remanded our April 2, 2015, listing decision (80 FR 17974) but did not vacate that rule. This

document complies with the court order.

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for the northern long-eared bat (Service 2021, entire). The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species. In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we sought the expert opinions of five species experts regarding the SSA report. We received responses from three of the five experts. We also sent the SSA report to approximately 150 State, Federal, Tribal, and other (for example, nongovernmental organizations) partners with expertise in bat biology or threats to the species for review. We received reviews from approximately 35 partners.

Proposed Listing Determination

Background

A thorough review of the taxonomy, life history, and ecology of the northern long-eared bat is presented in the SSA report (Service 2021, entire).

The northern long-eared bat is a wide-ranging bat species found in 37 States (Alabama, Arkansas, Connecticut, Delaware, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming), the District of Columbia, and 8 Canadian provinces. The species typically overwinters in caves or mines and spends the remainder of the year in forested habitats. As its name suggests, the northern long-eared bat is distinguished by its long ears, particularly as compared to other bats in its genus, *Myotis*. The bat is medium to dark brown on its back, with dark brown ears and wings, and tawny to pale-brown fur on its ventral side. Its weight ranges from approximately 5 to 8 grams (0.2 to 0.3 ounces). Female northern long-eared bats produce a maximum of one pup per year;

therefore, loss of one pup results in missing one year of recruitment for a female.

The individual, population-level, and species-level needs of the northern long-eared bat are summarized below in

tables 1–3. For additional information, please see the SSA report (Service 2021, chapter 2).

TABLE 1—THE ECOLOGICAL REQUISITES FOR SURVIVAL AND REPRODUCTIVE SUCCESS OF NORTHERN-LONG-EARED BAT INDIVIDUALS

Life stage	Season			
	Spring	Summer	Fall	Winter
Pups (non-flying juveniles)		Roosting habitat with suitable conditions for lactating females and for pups to stay warm and protected from predators while adults are foraging.		
Juveniles		Other maternity colony members (colony dynamics, thermoregulation), and suitable roosting and foraging habitat near abundant food and water resources.	Suitable roosting and foraging habitat near abundant food and water resources.	Habitat with suitable conditions for prolonged bouts of torpor and shortened periods of arousal.
All adults	Suitable roosting and foraging habitat near abundant food and water resources, and habitat connectivity and open-air space for safe migration between winter and summer habitats.	Summer roosts and foraging habitat near abundant food and water resources.	Suitable roosting and foraging habitat near abundant food and water resources, cave and/or mine entrances or other similar locations (for example, culvert, tunnel) for conspecifics to swarm and mate, and habitat connectivity and open-air space for safe migration between winter and summer habitats.	Habitat with suitable conditions for prolonged bouts of torpor and shortened periods of arousal.
Reproductive females		Other maternity colony members (colony dynamics), a network of suitable roosts (i.e., multiple summer roosts in close proximity) near conspecifics, and foraging habitat near abundant food and water resources.		

TABLE 2—POPULATION-LEVEL REQUISITES FOR A HEALTHY NORTHERN LONG-EARED BAT POPULATION

Parameter	Requirements
Population growth rate, λ	At a minimum, λ must be ≥ 1 for a population to remain stable over time.
Population size, N	Sufficiently large N to allow for essential colony dynamics and to be adequately resilient to environmental fluctuations.
Winter roosting habitat	Safe and stable winter roosting sites with suitable microclimates.
Migration habitat	Safe space to migrate between spring/fall habitat and winter roost sites.
Spring and fall roosting, foraging, and commuting (i.e., traveling between habitat types) habitat.	A matrix of habitat of sufficient quality and quantity to support bats as they exit hibernation (lowest body condition) or as they enter hibernation (need to put on body fat).
Summer roosting, foraging, and commuting habitat	A matrix of habitat of sufficient quality and quantity to support maternity colonies.

TABLE 3—SPECIES-LEVEL ECOLOGY: REQUISITES FOR LONG-TERM VIABILITY

[Ability to maintain self-sustaining populations over a biologically meaningful timeframe]

3 Rs	Requisites for long-term viability	Description
Resiliency (populations able to withstand stochastic events).	Healthy populations across a diversity of environmental conditions.	Self-sustaining populations are demographically, genetically, and physiologically robust, and have enough suitable habitat.
Redundancy (number and distribution of populations to withstand catastrophic events).	Multiple and sufficient distribution of populations within areas of unique variation (representation units).	Sufficient number and distribution of populations to guard against population losses.
Representation (genetic and ecological diversity to maintain adaptive potential).	Maintain adaptive diversity of the species Maintain evolutionary processes	Populations maintained across a range of behavioral, physiological, ecological, and environmental diversity. Maintain evolutionary drivers—gene flow, natural selection—to mimic historical patterns.

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species is an endangered species or a threatened species. The Act defines an “endangered species” as a species that is in danger of extinction throughout all or a significant portion of its range, and a “threatened species” as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether any species is an endangered species or a threatened species because of any of the following factors:

- (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; or
- (E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term “threat” to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term “threat” includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term “threat” may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an “endangered species” or a “threatened species.” In determining whether a species meets either definition, we must evaluate all identified threats by considering the expected response by the species, and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an

individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an “endangered species” or a “threatened species” only after conducting this cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

The Act does not define the term “foreseeable future,” which appears in the statutory definition of “threatened species.” Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term “foreseeable future” extends only so far into the future as the Service can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. “Reliable” does not mean “certain”; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

It is not always possible or necessary to define foreseeable future as a particular number of years. Analysis of the foreseeable future uses the best scientific and commercial data available and should consider the timeframes applicable to the relevant threats and to the species' likely responses to those threats in view of its life-history characteristics. Data that are typically relevant to assessing the species' biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the northern long-eared bat, including an assessment of the potential threats to the species. The SSA report does not represent a decision by the Service on whether the species should be proposed for listing as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the

further application of standards within the Act and its implementing regulations and policies. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS-R3-ES-2021-0140 on <https://www.regulations.gov>.

To assess the northern long-eared bat's viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry or warm or cold years), redundancy supports the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation supports the ability of the species to adapt over time to long-term changes in the environment (for example, climate changes). In general, the more resilient and redundant a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species' life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decision.

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the northern long-eared bat and its resources, and the threats that influence the species' current and future condition, in order to assess the species' overall viability and the risks to that viability. For a full description, see the SSA report (Service 2021, entire).

Although there are other stressors affecting the northern long-eared bat, the primary factor influencing its viability is white-nose syndrome (WNS), a disease of bats caused by a fungal pathogen. Some of the other factors that influence the northern long-eared bat's viability (though to a far lesser extent than the influence of WNS) include wind energy mortality, effects from climate change, and habitat loss. These stressors and their effects to the northern long-eared bat are summarized below:

- WNS has been the foremost stressor on the northern long-eared bat for more than a decade. The fungus that causes the disease, *Pseudogymnoascus destructans* (*Pd*), invades the skin of bats. Infection leads to increases in the frequency and duration of arousals during hibernation and eventual depletion of fat reserves needed to survive winter, and results in mortality. Since its discovery in New York in 2006, *Pd* has been confirmed (or presumed) in 37 States and 7 Canadian provinces. There is no known mitigation or treatment strategy to slow the spread of *Pd* or to treat WNS in bats. WNS has caused estimated northern long-eared bat population declines of 97–100 percent across 79 percent of the species' range.

- Wind energy-related mortality of the northern long-eared bat is a stressor at local and regional levels, where northern long-eared bat populations have been impacted by WNS. In 2020, northern long-eared bats were at risk from wind mortality in approximately 49 percent of their range, based on the areas where wind turbines were in place

and operating (using known northern long-eared bat occurrences, average migration distance, and the spatial distribution of wind turbines) (Service 2021, p. iv). Most bat mortality at wind energy projects is caused by direct collisions with moving turbine blades.

- Climate change variables, such as changes in temperature and precipitation, may influence the northern long-eared bat's resource needs, such as suitable roosting habitat for all seasons, foraging habitat, and prey availability. Although a changing climate may provide some benefit to the northern long-eared bat, overall negative impacts are anticipated, especially at local levels.

- Habitat loss (including but not limited to forest conversion or hibernacula disturbance or destruction) may include loss of suitable roosting or foraging habitat, resulting in longer flights between suitable roosting and foraging habitats due to habitat fragmentation, fragmentation of maternity colony networks, and direct injury or mortality. Loss or modification of winter roosts (*i.e.*, making hibernaculum no longer suitable) can result in impacts to individuals or at the population level. However, habitat loss alone is not considered to be a key stressor at the species level, and habitat does not appear to be limiting.

In evaluating current conditions of the northern long-eared bat, we used the best available data. Winter hibernacula counts provide the most consistent, long-term, reliable trend data and provide the most direct measure of WNS impacts. We also used summer data in evaluating population trends, although

the availability and quality of summer data varies temporally and spatially.

Available evidence, including both winter and summer data, indicates northern long-eared bat abundance has and will continue to decline substantially under current demographic and stressor conditions, primarily driven by the effects of WNS. As part of our assessment of the current condition of northern long-eared bat's representation, we identified and delineated the variation across the northern long-eared bat's range into geographical representation units (RPUs) using the following proxies: Variation in biological traits, genetic diversity, peripheral populations, habitat niche diversity, and steep environmental gradients.

Winter abundance (from known hibernacula) has declined rangewide (49 percent) and declined across all but one RPU (declines range from 0 to 90 percent). The number of extant winter colonies also declined rangewide (by 81 percent) and across all RPUs (40–88 percent). There has also been a noticeable shift towards smaller colony sizes, with a 96–100 percent decline in the number of large hibernacula (≥ 100 individuals) across the RPUs (figure 1.). We created projections (highest plausible and lowest plausible scenarios) for the species using its current condition and the current rates of mortality from WNS effects and wind energy. Rangewide abundance is projected to decline by 95 percent and the spatial extent to decline by 75 percent from historical conditions by 2030. Declines continue to be driven by the catastrophic effects of WNS.

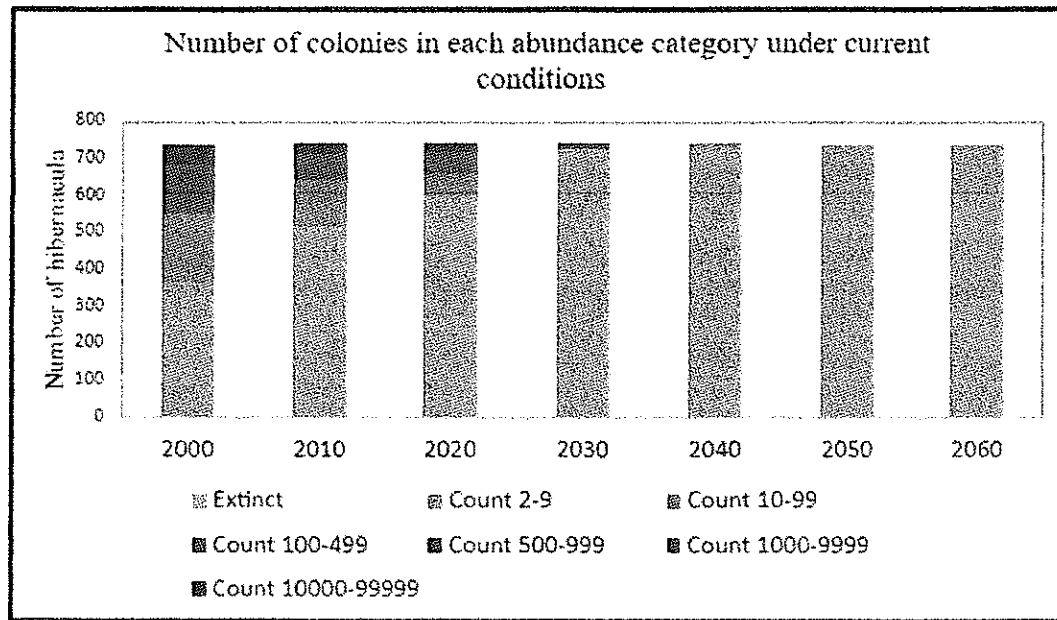


Figure 1. The number of hibernacula in each colony abundance category under current conditions.

Declining trends in abundance and extent of occurrence are also evident across much of the northern long-eared bat's summer range. Rangewide occupancy has declined by 80 percent from 2010–2019. Data collected from mobile acoustic transects found a 79 percent decline in rangewide relative abundance from 2009–2019, and summer mist-net captures declined by 43–77 percent (across RPU) compared to pre-WNS capture rates.

As discussed above, multiple data types and analyses indicate downward trends in northern long-eared bat population abundance and distribution over the last 14 years, and the best available information indicates that this downward trend will continue. Northern long-eared bat abundance (winter and summer), number of occupied hibernacula, spatial extent, and summer habitat occupancy across the range and within all RPUs are decreasing. Since the occurrence of WNS, northern long-eared bat abundance has steeply declined, leaving populations with small numbers of individuals. At these low population sizes, colonies are vulnerable to extirpation from stochastic events and the deleterious effects of reduced population sizes such as limiting natural selection processes and decreased genetic diversity. Furthermore, small populations generally cannot rescue one another from such a depressed state because of the northern long-eared bat's low

reproduction output (one pup per year) and its high philopatry (tending to return to a particular area). These inherent life-history traits limit the ability of populations to recover from low abundances. Consequently, effects of small population sizes exacerbate the effects of current and future declines due to continued exposure to WNS, mortality from wind turbines, and impacts associated with habitat loss and climate change.

Therefore, northern long-eared bat's resiliency is greatly compromised in its current condition. Because northern long-eared bat's abundance and spatial extent have so dramatically declined, it has also become more vulnerable to catastrophic events. In other words, its redundancy has also declined dramatically. The steep and continued declines in abundance have likely led to reductions in genetic diversity, and thereby reduced northern long-eared bat adaptive capacity, and a decline in the species' overall representation. Moreover, at its current low abundance, loss of genetic diversity will likely accelerate. Consequently, limited natural selection processes and decreased genetic diversity will further lessen the species' ability to adapt to novel changes and exacerbate declines due to continued exposure to WNS, mortality from wind turbines, and impacts associated with habitat loss and climate change. Thus, even without further WNS spread and additional wind energy development (northern

long-eared bat's current condition), its viability is likely to continue to rapidly decline over the next 10 years.

Future Condition

As part of the SSA, we also developed two future condition scenarios to capture the range of uncertainties regarding future threats and the projected responses by the northern long-eared bat. Our scenarios included a plausible highest impact scenario and a plausible lowest impact scenario for each primary threat. Because we determined that the current condition of the northern long-eared bat is consistent with an endangered species (see Determination of Species Status, below), we are not presenting the results of the future scenarios in this proposed rule. Please refer to the SSA report (Service 2021) for the full analysis of future scenarios.

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the species, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our SSA analysis when we characterize the current and future condition of the species. To assess the current and future condition of the species, we undertake an iterative analysis that encompasses and incorporates the threats individually and then accumulates and evaluates the effects of all the factors