Billing Code 4333–15

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2016–0138; FXES11130900000 178 FF09E42000]

RIN 1018-BB91

Endangered and Threatened Wildlife and Plants; Removal of the Lesser Long-nosed Bat From the Federal List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule and 12-month petition finding; request for comments.

SUMMARY: Under the authority of the Endangered Species Act of 1973, as amended (Act), we, the U.S. Fish and Wildlife Service (Service), propose to remove the lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae*) from the Federal List of Endangered and Threatened Wildlife (List) due to recovery. This determination is based on a thorough review of the best available scientific and commercial information, which indicates that the threats to this subspecies have been eliminated or reduced to the point that the subspecies has recovered and no longer meets the definition of endangered or threatened under the Act. This document also serves as the 12-month finding on a petition to reclassify this subspecies from endangered to threatened on the List. We are seeking information, data, and comments from the public on the proposed rule to remove the lesser long-nosed bat from the List.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Please note that if you are using the Federal eRulemaking Portal (see **ADDRESSES**), the deadline for submitting an electronic comment is 11:59 p.m. Eastern Time on this date. We must receive requests for public

hearings, in writing, at the address shown in the **FOR FURTHER INFORMATION CONTACT** section below by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

(1) *Electronically*: Go to the Federal eRulemaking Portal: *http://www.regulations.gov*. In the Search box, enter FWS–R2–ES–2016–0138, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rules link to locate this document. You may submit a comment by clicking on "Comment Now!"

(2) *By hard copy*: Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS–R2–ES–2016–0138, U.S. Fish and Wildlife Service, MS: BPHC, 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 *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see *Public Comments*, below, for more information).

Copies of documents: This proposed rule and supporting documents, including the Species Status Assessment, are available on *http://www.regulations.gov.* In addition, the supporting file for this proposed rule will be available for public inspection, by appointment, during normal business hours, at the Arizona Ecological Services Field Office, 2321 W. Royal Palm Road, Suite 103, Phoenix, AZ 85021.

FOR FURTHER INFORMATION CONTACT: Steve Spangle, Field Supervisor, U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, 2321 W. Royal Palm Road, Suite 103, Phoenix, AZ 85021; by telephone (602-242-0210); or by facsimile (602-242-2513). If you use a telecommunications device for the deaf (TDD), call the Federal Relay Service at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Information Requested

Public Comments

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 concerned governmental agencies, Native American Tribes, the scientific community, industry, or other interested parties concerning this proposed rule. The comments that will be most useful and likely to influence our decisions are those supported by data or peer-reviewed studies and those that include citations to, and analyses of, applicable laws and regulations. Please make your comments as specific as possible and explain the basis for them. In addition, please include sufficient information with your comments to allow us to authenticate any scientific or commercial data you reference or provide. In particular, we seek comments concerning the following:

(1) New information on the historical and current status, range, distribution, and population size of lesser long-nosed bats, including the locations of any additional populations;

(2) New information regarding the life history, ecology, and habitat use of the lesser long-nosed bat;

(3) New information concerning the taxonomic classification and conservation status of the lesser long-nosed bat in general; and

(4) New information related to any of the risk factors or threats to the lesser long-nosed bat identified in the Species Status Assessment or the proposed action.

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 (16 U.S.C. 1531 et seq.) directs that

determinations as to whether any species is an endangered or threatened species must be made "solely on the basis of the best scientific and commercial data available."

Prior to issuing a final rule on this proposed action, we will take into consideration all comments and any additional information we receive. Such information may lead to a final rule that differs from this proposal. All comments and recommendations, including names and addresses, will become part of the administrative record.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We will not consider comments sent by e-mail, fax, or to an address not listed in **ADDRESSES**. We will not consider hand-delivered comments that we do not receive, or mailed comments that are not postmarked by the date specified in **DATES**. If you submit information via *http://www.regulations.gov*, your entire submission—including any personal identifying information—will be posted on the Web site. Please note that comments posted to this Web site are not immediately viewable. When you submit a comment, the system receives it immediately. However, the comment will not be publicly viewable until we post it, which might not occur until several days after submission.

If you mail or hand-deliver hardcopy comments 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. To ensure that the electronic docket for this rulemaking is complete and all comments we receive are publicly available, we will post all hardcopy submissions on *http://www.regulations.gov*.

In addition, comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection in two ways:

(1) You can view them on *http://www.regulations.gov*. In the Search box, enter FWS−R2−ES−2016−0138, which is the docket number for this rulemaking.

(2) You can make an appointment, during normal business hours, to view the comments and materials in person at the U.S. Fish and Wildlife Service's Arizona Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Public Hearing

Section 4(b)(5)(E) of the Act provides for one or more public hearings on this proposed rule, if requested. We must receive requests for public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by the date shown in **DATES**, above. We will schedule at least one public hearing on this proposal, if any are requested, and announce the location(s) of any of hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** at least 15 days before any hearing.

Background

Previous Federal Actions

On September 30, 1988, we published a final rule in the **Federal Register** (53 FR 38456) to list the Mexican long-nosed bat (*Leptonycteris nivalis*) and Sanborn's long-nosed bat (*Leptonycteris sanborni* (=*L. yerbabuenae*)) as endangered species. That rule became effective on October 31, 1988, and did not include a critical habitat designation for either bat. In 1993, we amended the List by revising the entry for the Sanborn's long-nosed bat to "Bat, lesser (=Sanborn's) long-nosed" with the scientific name "*Leptonycteris curasoae yerbabuenae.*" We issued a recovery plan for the lesser long-nosed bat on March 4, 1997. The recovery plan has not been revised. In 2001, we again amended the List by revising the entry for the lesser long-nosed bat to remove the synonym of "Sanborn's"; the listing reads, "Bat, lesser long-nosed" and retains the scientific name "*Leptonycteris curasoae yerbabuenae*." Cole and Wilson (2006) recommended that *L. c. yerbabuenae* be recognized as *Leptonycteris yerbabuenae*. Additionally, Wilson and Reeder's (2005) "Mammal Species of the World (Third Edition), an accepted standard for

mammalian taxonomy, also indicates that *L. yerbabuenae* is a species distinct from *L. curasoae*. Currently, the most accepted and currently used classification for the lesser long-nosed bat is *L. yerbabuenae*, however, the Service continues to classify the listed entity as *Leptonycteris curasoae yerbabuenae*. We recommended, as part of the status review, that the Service recognize and change the taxonomic nomenclature for the lesser long-nosed bat to be consistent with the most recent classification of this species, *L. yerbabuenae*. However, throughout this proposed rule, we will refer to the lesser long-nosed bat as a subspecies. On August 30, 2007, we completed a 5-year review, in which the Service recommended reclassifying the species from endangered to threatened status (i.e., "downlisting") under the Act (USFWS 2007; available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*). The reclassification recommendation was made because information generated since the listing of the lesser long-nosed bat indicated that the subspecies is not in imminent danger of extinction throughout all or a significant portion of its range (higher population numbers, increased number of known roosts, reduced impacts from known threats, and improved protection status) and thus, does not meet the definition of endangered. On July 16, 2012, the Service received a petition from The Pacific Legal Foundation and others requesting that the Service downlist the lesser long-nosed bat as recommended in the 5-year review (as well as delist one species and downlist three other listed species). On September 9, 2013, the Service published a 90-day petition finding stating that the petition contained substantial scientific or commercial information indicating the petitioned action for the lesser long-nosed bat may be warranted (78 FR 55046). On November 28, 2014, the Service received a "60-day Notice of Intent to Bring Citizen Suit," and on November 20, 2015, the New Mexico Cattle Growers Association and others filed a complaint challenging the Service's failure to complete in a timely manner the 12-month findings on five species, including the lesser long-nosed bat (*New Mexico Cattle Growers Association, et al.* v. *United States Department of the*

Interior, et al., No. 1:15-cv-01065-PJK-LF (D.N.M)), asking the Court to compel the Service to make 12-month findings on the five species. On September 29, 2016, the parties settled the lawsuit with the requirement that the Service submit a 12-month finding for the lesser long-nosed bat to the **Federal Register** for publication on or before December 30, 2016, among other obligations. This document fulfills the portion of the settlement agreement that concerns the lesser long-nosed bat.

Species Information

A thorough review of the taxonomy, life history, ecology, and overall viability of the lesser long-nosed bat is presented in the Species Status Assessment (SSA) report for the lesser long-nosed bat (USFWS 2016), which is available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*, or in person at the Arizona Ecological Services Field Office (see **ADDRESSES**, above). The SSA report documents the results of the biological status review for the lesser long-nosed bat and provides an account of the subspecies' overall viability through forecasting of the subspecies' condition in the future (USFWS 2016; entire). In the SSA report, we summarize the relevant biological data and a description of past, present, and likely future stressors to the subspecies, and conduct an analysis of the viability of the subspecies. The SSA report provides the scientific basis that informs our regulatory determination regarding whether this subspecies should be listed as an endangered or a threatened species under the Act. This determination involves the application of standards within the Act, its implementing regulations, and Service policies (see **Delisting Proposal**, below) to the scientific information and analysis in the SSA. The following discussion is a summary of the results and conclusions from the SSA report. We solicited expert review of the draft SSA report from lesser long-nosed bat experts, as well as experts in climate change modeling and plant phenology (the scientific study of periodic biological phenomena, such as flowering, in relation to climatic conditions). Additionally, and in compliance with our policy, "Notice of Interagency Cooperative Policy for Peer Review of

Endangered Species Act Activities," which was published on July 1, 1994 (59 FR 34270), we solicited peer reviews on the draft SSA report from four objective and independent scientific experts in November 2016.

The lesser long-nosed bat (*Leptonycteris curasoae yerbabuenae)* is one of three nectar-feeding bats in the United States; the others are the Mexican long-nosed bat (*L. nivalis*) and the Mexican long-tongued bat (*Choeronycteris mexicana*). The lesser long-nosed bat is a migratory pollinator and seed disperser that provides important ecosystem services in arid forest, desert, and grassland systems throughout its range in the United States and Mexico, contributing to healthy soils, diverse vegetation communities, and sustainable economic benefits for communities. The range of the lesser long-nosed bat extends from the southwestern United States southward through Mexico.

The Service has assigned a recovery priority number of 8 to the lesser long-nosed bat. This recovery priority number means that the lesser long-nosed bat was considered to have a moderate degree of threat and a high recovery potential. Because the lesser long-nosed bat is a colonial roosting species known to occur at a limited number of roosts across its range in Mexico and the United States (Arizona and New Mexico), impacts at roost locations could have a significant impact on the population, particularly if the impacts occur at maternity roosts. However, because approximately 60 percent (eight out of fourteen) of the roost locations known at the time of listing were on "protected" lands in both the United States and Mexico, the degree of threat was determined to be moderate. The primary recovery actions outlined in the recovery plan were to monitor and protect known roost sites and foraging habitats. Because both of these actions could be potentially be accomplished through management at all of the known roost sites known at that time, the recovery potential for the lesser long-nosed bat was determined to be high. A U.S. recovery plan was completed for the lesser long-nosed bat in 1997 (USFWS 1997, entire) and the

Program for the Conservation of Migratory Bats in Mexico was formed in 1994 (Bats 1995, p. 1 – 6).

The Service completed a 5-year review of the status of the lesser long-nosed bat in 2007. This review recommended downlisting this bat from endangered to threatened status under the Act (USFWS 2007; available at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*). In Mexico, the lesser long-nosed bat was recently removed from that nation's equivalent of the endangered species list (SEMARNAT 2010, entire; Medellin and Knoop 2013, entire). According to SEMARNAT (2010), over the last twenty years, Mexican researchers have carried out a wide range of studies that have demonstrated that the lesser long-nosed bat is no longer in the critical condition that led it to be listed as in danger of extinction in Mexico. Specifically, the evaluation to delist in Mexico showed 1) the distribution of lesser long-nosed bats is extensive within Mexico, covering more than 40 percent of the country; 2) the extent and condition of lesser long-nosed bat habitat is only moderately limiting and this species has demonstrated that it is adaptable to varying environmental conditions; 3) the species does not exhibit any particular characteristics that make it especially vulnerable; and 4) the extent of human impacts is average and increased education, outreach, and research have reduced the occurrence of human impacts and disturbance.

Subspecies Description and Needs

The lesser long-nosed bat is a migratory bat characterized by a resident subpopulation that remains year round in central and southern Mexico to mate and give birth, and a migratory subpopulation that winters and mates in central and southern Mexico, but that migrates north in the spring to give birth in northern Mexico and the southwestern United States (Arizona). This migratory subpopulation then obtains the necessary resources (in Arizona and New Mexico in the United States) to be able to migrate south in the fall back to central and southern Mexico. The

lesser long-nosed bat is a nectar, pollen, and fruit-eating bat that depends on a variety of flowering plants as food resources. These plants include columnar cacti, agaves, and a variety of flowering deciduous trees. The lesser long-nosed bat is a colonial roosting species that roosts in groups ranging from a few hundred to over 100,000. Roost sites are primarily caves, mines, and large crevices with appropriate temperatures and humidity; reduced access to predators; free of the disease-causing organisms (fungus that causes white-nose syndrome, etc.); limited human disturbance; structural integrity maintained; in a diversity of locations to provide for maternity, mating, migration, and transition roost sites.

The primary life-history needs of this subspecies include appropriate and adequately distributed roosting sites; adequate forage resources for life-history events such as mating and birthing; and adequate roosting and forage resources in an appropriate configuration (a "nectar trail") to complete migration between central and southern Mexico and northern Mexico and the United States.

For more information on this topic, see chapter 2 of the SSA Report (USFWS 2016), which is available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*, or in person at the Arizona Ecological Services Field Office (see **ADDRESSES**, above).

Current Conditions

For the last 20 years following the completion of the lesser long-nosed bat recovery plan, there has been a steadily increasing effort related to the conservation of this subspecies. Better methods of monitoring have been developed, including the use of infrared videography and radio telemetry. These monitoring efforts have led to an increase in the number of known roosts throughout its range, from approximately 14 known at the time of listing to approximately 75 currently known roost sites, as well as more accurate assessments of the numbers of lesser long-

nosed bats using these roosts. The 1988 listing rule emphasized low populations numbers along with an apparent declining population trend. At this time, we have documented increased lesser long-nosed bat numbers and positive trends (stable or increasing numbers of bats documented over the past 20 years) at most roosts. There is no question that current population numbers of lesser long-nosed bats exceed the levels known and recorded at the time of listing in 1988. A number of publications have documented numbers of lesser long-nosed bats throughout its range that far exceed the numbers used in the listing analysis (Fleming et al. 2003; Sidner and Davis 1988). For example, although numbers fluctuate from year to year, the numbers of lesser long-nosed bats estimated from 2010-2015 in the three known maternity roosts in the U.S. were an average of two and a half times higher than numbers presented in the Recovery Plan (USFWS 2016; p. 10). Furthermore, protection measures have been implemented at over half the roosts in both the United States and Mexico (approximately 40 roosts), including gating, road closures, fencing, implementation of management plans, public education, monitoring, and enforcement of access limitations. Generally, roosts on Federal lands benefit from monitoring by agency personnel and a law enforcement presence resulting in these roosts being exposed to fewer potential impacts than they otherwise would be. Efforts to physically protect roosts through the use of gates or barriers have been implemented at six roost sites in Arizona. The experimental fence at one roost (a mine site) worked initially, but was subsequently vandalized resulting in roost abandonment. The fencing was repaired and there have been no subsequent breeches and the bats have recolonized the site (USFWS 2016; p. 11).

In addition, since the 1988 listing rule, increased public and academic interest, along with additional funding, has resulted in additional research leading to a better understanding of the life history of the lesser long-nosed bat. At the time of listing, we believed livestock grazing and fire were impacting the viability of this subspecies. We now know that livestock grazing and fire have

less of an impact on the viability of this subspecies than previously thought. Other threats have been reduced such as reducing the killing of non-target bat species during vampire bat control activities in Mexico (i.e., poisoning, dynamiting, burning, shooting, anticoagulants, roost destruction, etc.) because of outreach and education and reducing human disturbance at roosts through the use of fencing, monitoring, and the use of gates. However, roost disturbance, particularly in the border region between the United States and Mexico; habitat loss due to various land uses; and, to an unknown extent, effects due to climate change continue to be threats to this subspecies. Nonetheless, these threats are being addressed or ongoing research is developing management strategies such that we have determined that the effects of these threats will not affect the future viability of the lesser long-nosed bat.

The lesser long-nosed bat's conservation status in Mexico has been determined to be secure enough that Mexico removed the subspecies from its endangered species list in 2013 because of the factors described above. The species has a greater distribution in Mexico than in the United States, but most of the same reasoning for the subspecies' removal from Mexico's endangered species list applies to our proposal to remove the lesser long-nosed bat from the U.S. List of Endangered and Threatened Wildlife. Much of the range of this species in the United States is on federally managed lands (>75 percent). Federal agencies have guidelines and requirements in place to protect lesser long-nosed bats and their habitats, particularly roost sites. As described above, roosts on Federal lands benefit from monitoring by agency personnel and a law enforcement presence resulting in these roosts being exposed to fewer potential impacts than they otherwise would be. Gating of roosts on Federal lands is being implemented and evaluated. If the lesser long-nosed bat is delisted, protection of their roost sites and forage resources will continue on Federal lands. Agency land-use plans and general management plans contain objectives to protect cave resources and restrict access to abandoned mines, both of which can be enforced by law enforcement officers.

In addition, guidelines in these plans for grazing, recreation, off-road use, fire, etc. will continue to prevent or minimize impacts to lesser long-nosed bat forage resources. Examples of these agency plans include the Fort Huachuca Integrated Natural Resources Management Plan, the Coronado National Forest Land Use and Resource Management Plan, and the Safford District Resource Management Plan (DOD 2001, entire; USFS 2005, entire; BLM 1991, entire). As described above, roosts on Federal lands benefit from monitoring by agency personnel and a law enforcement presence resulting in these roosts being exposed to fewer potential impacts than they otherwise would be. Gating of roosts on Federal lands is being implemented and evaluated and, while the best design for such gates is still being developed, these gates do provide long-term protection of the sites. Further, outreach and education, particularly with regard to pollinator conservation, has increased and human attitudes regarding bats are more positive now than in the past; and the lesser long-nosed bat has demonstrated adaptability to potential adverse environmental conditions, such as changes in plant flowering phenology (see discussion under *Factor E*, below).

Because of the occurrence of both resident and migratory subpopulations within the lesser long-nosed bat population, it is important for all of the necessary habitat elements to be appropriately distributed across the range of this species such that roost sites, forage resources, and migration pathways are in the appropriate locations during the appropriate season. Currently, the distribution of the lesser long-nosed bat extends from southern Mexico into the southwestern United States. In Mexico, the distribution of the lesser long-nosed bat covers approximately 40 percent of the country when considering resident areas, migration pathways, and seasonally-occupied roosts within the range of this subspecies. Within both the United States and Mexico, the current distribution of the lesser long-nosed bat has not decreased or changed substantially from that described in the literature. It is important to note, however, that, as discussed in the SSA report, any given area within the range of the lesser long-nosed bat may be used in an ephemeral

manner dictated by the availability of resources that can change on an annual and seasonal basis. Roost switching occurs in response to changing resources and areas that may be used during one year or season may not be used in subsequent years until resources are again adequate to support occupancy of the area. This affects if and how maternity and mating roosts, migration pathways, and transition roosts are all used during any given year or season. However, while the distribution of the lesser long-nosed bat within its range may be fluid, the overall distribution of this species has remained similar over time (USFWS 2016, Chapters 1 through 3).

For more information on this topic, see chapter 5 of the SSA Report (USFWS 2016), which is available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*, or in person at the Arizona Ecological Services Field Office (see **ADDRESSES**, above).

Recovery Planning and Recovery Criteria

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Recovery plans identify site-specific management actions that will achieve recovery of the species and objective, measurable criteria that set a trigger for review of the species' status. Methods for monitoring recovery progress may also be included in recovery plans.

Recovery plans are not regulatory documents; instead they are intended to establish goals for long-term conservation of listed species and define criteria that are designed to indicate when the threats facing a species have been removed or reduced to such an extent that the species may no longer need the protections of the Act. They also identify suites of actions that are expected to facilitate achieving this goal of recovery. While recovery plans are not regulatory, they provide

guidance regarding what recovery may look like and possible paths to achieve it. However, there are many paths to accomplishing recovery of a species, and recovery may be achieved without all recovery actions being implemented or criteria being fully met. Recovery of a species is a dynamic process requiring adaptive management that may, or may not, fully follow the guidance provided in a recovery plan.

The 1997 lesser long-nosed bat recovery plan objective is to downlist the species to threatened (USFWS 1997, entire). The recovery plan does not explain why delisting was not considered as the objective for the recovery plan. The existing recovery plan does not explicitly tie the recovery criteria to the five listing factors at section 4(a)(1) of the Act or contain explicit discussion of those five listing factors. In addition, the reasons for listing discussed in the recovery plan do not actually correspond with the five listing factors set forth in section 4(a)(1) of the Act. The recovery plan lists four criteria that should be considered for downlisting the subspecies, which are summarized below. A detailed review of the recovery criteria for the lesser long-nosed bat is presented in the 5-year Review for the Lesser Long-Nosed Bat (USFWS 2007; available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*).

Recovery Criterion 1 (Monitor Major Roosts for 5 Years)

Significant efforts have been made to implement a regular schedule of monitoring at the known roost sites in Arizona. All thirteen of the roost sites identified in the recovery plan have had some degree of monitoring over the past 20 years. In the United States, all of the six roosts identified in the recovery plan for monitoring (Copper Mountain, Bluebird, Old Mammon, Patagonia Bat Cave, State of Texas, and Hilltop) have been monitored since 2001. This recovery criterion has been satisfied for roosts in Arizona. None of the New Mexico roosts were identified for monitoring in the recovery plan, but these roosts have been monitored sporadically since the completion of the recovery plan (USFWS 2007; p. 6 - 9). The seven roost sites in Mexico have

been regularly monitored since the development of the recovery plan (Medellín and Torres 2013, p. 11 – 13). For more information, see chapter 2 of the SSA Report (USFWS 2016).

Recovery Criterion 2 (Roost Numbers Stable or Increasing)

Nearly all of the lesser long-nosed bat experts and researchers who provided input to the 5-year review indicated that they observed that the number of lesser long-nosed bats at most of the roost sites in both the United States and Mexico is stable or increasing. As discussed in the SSA report, current expert opinion supports this same conclusion (see chapter 2 of the SSA Report (USFWS 2016). The lesser long-nosed bat's conservation status in Mexico has been determined to be secure enough that Mexico removed the subspecies from its endangered species list in 2013 based on the factors discussed above.

Recovery Criterion 3 (Protect Roost and Forage Plant Habitats)

More lesser long-nosed bat roost locations are currently known, and are being more consistently monitored, than at the time of listing in 1988 (an increase from approximately 14 to approximately 75 currently known roosts). In related efforts, a number of studies have been completed that provide us with better information related to the forage requirements of the lesser long-nosed bat when compared to the time of listing and recovery plan completion. Because of improved information, land management agencies are doing a better job of protecting lesser long-nosed bat roost sites and foraging areas. For more information, see chapter 2 of the SSA Report (USFWS 2016).

Recovery Criterion 4 (Status of New and Known Threats)

Our current state of knowledge with regard to threats to this subspecies has changed since the development of the recovery plan. Threats to the lesser long-nosed bat from grazing on food plants, the tequila industry, and prescribed fire, identified in the recovery plan, are likely not as

severe as once thought. Effects from illegal border activity and the associated enforcement activities are a new and continuing threat to roost sites in the border region. Potential effects to forage species and their phenology as a result of climate change have been identified, but are characterized by uncertainty and lack of data specifically addressing those issues. Nonetheless, lesser long-nosed bats have shown the ability to adapt to adverse forage conditions and we find that the lesser long-nosed bat is characterized by flexible and adaptive behaviors that will allow it to remain viable under changing climatic conditions. Some progress has been made toward protecting known lesser long-nosed bat roost sites; while the ultimate level of effectiveness of gates as a protection measure is still being evaluated and improved, they do provide long-term protection of roost sites. Gates are being currently being tested at a few additional lesser long-nosed bat roost sites. For more information, see chapter 4 of the SSA Report (USFWS 2016).

As discussed in the SSA report and 5-year review, data relied upon to develop the 1988 listing rule and the recovery plan were incomplete. Subsequent to the completion of the listing rule and recovery plan, considerable additional data regarding the life history and status of the lesser long-nosed bat have been gathered and, as discussed above, have documented an increase in the number of known roost sites and the number of lesser long-nosed bats occupying those roosts. During the 2007 5-year review of the status of this subspecies, it was determined that the 1997 recovery plan was outdated and did not reflect the best available information on the biology of this subspecies and its needs (USFWS 2007; p. 30; available online at *http://www.regulations.gov* or *https://www.fws.gov/southwest/es/arizona/Lesser.htm*). Therefore, rather than use the existing outdated recovery criteria, the Service assessed the species' viability, as summarized in the SSA report (USFWS 2016), in making the determination of whether or not the lesser long-nosed bat has recovered as defined by the Act.

Summary of Factors Affecting the Species

Section 4 of the Act and its implementing regulations (50 CFR part 424) set forth the procedures for listing species, reclassifying species, or removing species from listed status. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (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. A species may be reclassified or delisted on the same basis. Consideration of these factors was included in the SSA report in the discussion on "threats" or "risk factors," and threats were projected into the future using scenarios to evaluate the current and future viability of the lesser long-nosed bat. The effects of conservation measures currently in place were also assessed in the SSA report as part of the current condition of the subspecies, and those effects were projected in future scenarios. The evaluation of the five factors as described in the SSA report is summarized below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

The primary threat to this subspecies continues to be roost site disturbance or loss. The colonial roosting behavior of this subspecies, where high percentages of the population can congregate at a limited number of roost sites, increases the likelihood of significant declines or extinction due to impacts at roost sites. However, as discussed above, increased lesser long-nosed bat numbers and positive trends at most roosts have reduced concerns expressed in the 1988 listing rule with regard to low population numbers and an apparent declining population trend.

Known roosts have had protective measures implemented, previously unknown roosts have been identified and agencies and conservation partners are implementing protective measures, and outreach and education has been effective in increasing the understanding of the general public, as well as conservation partners, with regard to the need to prevent disturbance at lesser long-nosed bat roosts while the bats are present (USFWS 2016, p. 45 – 48). As discussed in the SSA report, we have determined that the current lesser long-nosed bat population is currently viable and is likely to remain so into the future based on the documentation of higher numbers of lesser long-nosed bats, increased numbers of known and protected roost sites, improved outreach and education, and a decrease in the effects of known threats and plans to assess and address known threats in the future (USFWS 2016, entire). We have determined that roost sites have and will be protected to the extent that roost disturbance is no longer a sufficient threat to warrant listing under the Act.

In general, while actual numbers of bats observed at roost sites may not support a statistically valid population trend, the overall numbers of bats observed at roost sites can be used as an index of population status. Although most data related to lesser long-nosed bat roost counts and monitoring have not been collected in a way that is statistically rigorous enough to draw statistically-valid conclusions about the trend of the population, in the professional judgment of biologists and others involved in these efforts, the total numbers of bats observed at roost sites across the range of the lesser long-nosed bat are considered stable or increasing at nearly all roost sites being monitored. With a documented increase from an estimated 500 lesser long-nosed bats in the U.S. at the time of listing to over 100,000 currently documented, the total number of bats currently being documented is many times greater than those numbers upon which the listing of

this species relied, and while this may, in large part, reflect a better approach to survey and monitoring in subsequent years, it gives us better information upon which to evaluate the status of the lesser long-nosed bat population.

Significant information regarding the relationship of lesser long-nosed bats to their forage resources has been gathered over the past decade. Because lesser long-nosed bats are highly specialized nectar-, pollen-, and fruit-eaters, they have potential to be extremely vulnerable to loss of or impacts to forage species. However, lesser long-nosed bats are also highly effective at locating food resources, and their nomadic nature allows them to adapt to local conditions. For example, the resiliency of lesser long-nosed bats became evident in 2004, when a widespread failure of saguaro and organ pipe bloom occurred. The failure was first noted in Organ Pipe Cactus National Monument, and such a failure had not been noted in the recorded history of the Monument (Billings 2005). The failure extended from Cabeza Prieta NWR on the west to Tucson on the east, and south into central Sonora, Mexico. The large-scale loss of this lesser long-nosed bat food resource was somewhat offset by the fact that small numbers of both saguaro and organ pipe flowers continued to bloom into August and September. Such a failure would have been expected to result in fewer lesser long-nosed bats using roosts in this area or reduced productivity at these roosts. However, this was not the case. Maternity roost numbers remained as high as or higher than previous years, with some 25,000 adult females counted during 2004 monitoring (Billings 2005). Ultimately, it appears lesser long-nosed bats were able to subsist and raise young in southwestern Arizona in this atypical year. Other observations over the past 20 years, including some years of significantly reduced agave availability, have indicated that the lesser long-nosed bat is more adaptable than previously believed to changing forage resource availability. This adaptability leads us to a determination that forage availability will not

significantly affect the viability of the lesser long-nosed bat population.

Additionally, the effects of livestock grazing and prescribed fire on long-nosed bat food sources are also not as significant as originally thought. For example, Widmer (2002) found that livestock were not responsible for all of the utilization of agave flower stalks their study area. Wildlife such as javelina, white-tailed deer, and small mammals also utilized agave flower stalks as a food resource. The extent of livestock use of agave flower stalks appears to be related to standing biomass and distance from water. Further, Bowers and McLaughlin (2000) found that the proportion of agave flower stalks broken by cattle did not differ significantly between grazed and ungrazed areas. All of which indicate that livestock do not have a significant effect on lesser long-nosed bat food sources, over and above native grazers. Thomas and Goodson (1992) and Johnson (2001, p. 37) reported 14% and 19% mortality of agaves following burns. Some agency monitoring has occurred post-fire for both wildfires and prescribed burns. This monitoring indicates that agave mortality in burned areas is generally less than 10% (USFS 2015, p. 82 – 83; USFS 2013, p. 10 – 11). Contributing to this relatively low mortality rate is the fact that most fires burn in a mosaic, where portions of the area do not burn. Impacts of fire on agave as a food source for lesser long-nosed bats may not be a significant concern for the following reasons: fire-caused mortality of agaves appears to be low; alternative foraging areas typically occur within the foraging distance from lesser long-nosed bat roosts; and most agave concentrations occur on steep, rocky slopes with low fuel loads (Warren 1996). In addition, Johnson (2001, p. 35 – 36) reported that recruitment of new agaves occurred at higher rates in burned plots than in unburned plots, indicating that there may be an increased availability over time of agaves in areas that have burned, if the return rate of fire is greater than seven years. The effects of agave harvesting are limited to bootleggers, which is likely occurring at the same levels as when the species was listed

in 1988, however, this is not considered significant. In addition, increased outreach and education are being provided to tequila producers in an effort to reduce the effects of agave harvesting on lesser long-nosed bats.

While not currently a threat affecting the viability of the lesser long-nosed bat population, the potential for migration corridors to be truncated or interrupted is a concern. Significant gaps in the presence of important roosts and forage species along migration routes would affect the population dynamics of this subspecies. While the lesser long-nosed bat continues to be faced with loss and modification of its habitat throughout its range, the habitats used by this subspecies occur over an extensive range that covers a wide diversity of vegetation and ecological communities. These are habitat characteristics that would not make this subspecies intrinsically vulnerable with regard to habitat limitations. That is to say, the wide variety of ecosystems that this subspecies uses, over a relatively expansive range, results in available areas characterized by the asynchronous flowering of forage resources making up the diet of the lesser long-nosed bat and buffers this subspecies from potential loss or reduction of habitats as a result of stochastic events, including the effects of climate change, among others.

There is no question that current population numbers of lesser long-nosed bats exceed the levels known and recorded at the time of listing in 1988. A number of publications have documented numbers of lesser long-nosed bats throughout its range that far exceed the numbers used in the listing analysis with an estimated increase from fewer than 1,000 bats to approximately 200,000 bats (Fleming et al. 2003, pp. 64–65; Sidner and Davis 1988, p. 494). Also, in general, the trend in overall numbers of lesser long-nosed bats estimated at roost sites has been stable or increasing in both the United States and Mexico (Medellín and Knoop 2013, p. 13; USFWS 2016). Increased roost occupancy and the positive trend in numbers of lesser long-nosed

bats occupying these roosts appear to be supported by adequate forage resources. The adaptability of the lesser long-nosed bat to changing forage conditions seems to allow the lesser long-nosed bat to sustain a positive population status under current environmental conditions.

While some threats are ongoing with regard to lesser long-nosed bat habitat, in general, we find that threats to this species' habitat have been reduced or are being addressed in such a way that lesser long-nosed bat habitat is being enhanced and protected at a level that has increased since the 1988 listing of this species. In particular, areas that were vulnerable to threats have been protected or are now managed such that those threats have been reduced. Outreach and education have increased the understanding of what needs to be done to protect lesser long-nosed bat habitat. Therefore, based on the analysis completed in the SSA report (USFWS 2016; p. 54 - 61), we have determined that threats to the habitat of this species are currently reduced and will continue to be addressed in the foreseeable future, or are not as significant as previously thought. We find that threats to the habitat of this species have been eliminated, reduced, or mitigated to the extent that the subspecies no longer is an endangered or threatened species under the Act. Lesser long-nosed bat habitat conditions are currently, and are predicted to remain at levels that have and will improve the viability of the lesser long-nosed bat to the point that the species is no longer endangered.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Lesser long-nosed bats are not known to be taken for commercial purposes, and scientific collecting is not thought to be a problem (USFWS 1988, p. 38459). Caves and mines continue to attract recreational users interested in exploring these features but this threat has probably not increased since the listing. For example, Pima County, in southeastern Arizona, is implementing mine closures on lands that they have acquired for conservation purposes. Other land

management agencies also carry out abandoned mine closures for public recreational safety purposes. A positive aspect of these mine closure processes is that most agencies and landowners now understand the value of these features to bats and other wildlife and are implementing measures to maintain those values while still addressing public health and safety concerns. The 1988 listing rule stated that bats were often killed by vandals (USFWS 1988, p. 38459). However, significant changes in the public perception of bats are occurring. Educational efforts are beginning to make a difference.

In both the U.S. and Mexico, public education, in the form of radio and television spots, and educational materials have been implemented. Agencies now receive calls for assistance in nonlethal solutions to bat issues. Often, the general public does take the time to understand or differentiate when it comes to emotional issues such as rabies or vampire bats, but outreach and education are improving the understanding and knowledge of facts when it comes to the reality of the extent of these issues. There has been a focused effort in Mexico to reduce the mortality of non-target species in relation to vampire bat control (see chapter 4 of the SSA Report (USFWS 2016).

In summary, we determine that the viability of the lesser long-nosed bat is not being significantly affected by threats from scientific research or public recreational activities.

Factor C. Disease or Predation

Disease does not currently appear to be a significant risk factor for the lesser long-nosed bat. Emerging disease issues, such as those associated with white-nose syndrome, may become more significant, however our current scientific assessment indicates that white-nose syndrome will not affect this non-hibernating species. Therefore, because lesser long-nosed bats do not hibernate, we do not anticipate that white-nose syndrome will be a significant risk factor for lesser

long-nosed bats (see chapter 4 of the SSA Report (USFWS 2016).

Predation does contribute to the mortality of lesser long-nosed bats at roost sites. Likely predators include snakes, raccoons, skunks, ringtails, bobcats, coyotes, barn owls, great-horned owls, and screech owls. Specifically, barn owls have been observed preying on lesser long-nosed bats at the maternity roost at Organ Pipe Cactus National Monument for many years and snakes have been observed preying on lesser long-nosed bats in Baja California Sur, Mexico. However, at large aggregations, such as bat roosts, predation is an insignificant impact on the population. Therefore, we find that neither disease nor predation are currently or is likely in the future to affect the viability of the lesser long-nosed bat.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

The current listing of the lesser long-nosed bat in the United States and the former listing of the bat in Mexico as an endangered species have provided this species with some level of protection. Outside of this, there are no laws or regulations protecting this species in Mexico. In fact, the lack of regulation related to control of vampire bats in Mexico is continuing to result in the mortality of the lesser long-nosed bat due to the lack of requirements to properly identify the target species. However, increased education and outreach is improving this situation in Mexico. In the United States, State laws and regulations provide some additional level of protection. For example, Arizona State Law in ARS Title 17 prohibits the taking of bats outside of a prescribed hunting season and, per Commission Order 14, there is no open hunting season on bats, meaning it is always illegal to take them. Provisions for special licenses to take bats and other restricted live wildlife are found in Arizona Game and Fish Commission Rule 12, Article 4 and are administered by the Arizona Game and Fish Department. However, this protection is for individual animals only, and does not apply to the loss or destruction of habitat. As discussed in

the SSA report (USFWS 2016; p. 14), there is one Federal Act and one State Statute in the United States that provide some measure of protection at cave roosts . The Federal Cave Protection Act of 1988 prohibits persons from activities that "destroy, disturb, deface, mar, alter, remove, or harm any significant cave or alters free movement of any animal or plant life into or out of any significant cave located on Federal lands, or enters a significant cave with the intent of committing any act described …" Arizona Revised Statute 13-3702 makes it a class 2 misdemeanor to "deface or damage petroglyphs, pictographs, caves, or caverns." Activities covered under ARS 13-3702 include "kill, harm, or disturb plant or animal life found in any cave or cavern, except for safety reasons."

The above laws and regulations will continue to protect lesser long-nosed bats and their habitats after delisting. We have determined that these existing regulations address the most important threats to the lesser long-nosed bat as discussed in the SSA report (USFWS 2016; p. 54 - 61).

Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence

Ecosystems within the southwestern United States are thought to be particularly susceptible to the effects of climate change and variability (Strittholt et al. 2012, p. 104 – 152; Munson et al. 2012, p. 1 – 2; Archer and Predick 2008). Documented trends and model projections most often show changes in two variables: temperature and precipitation. Recent warming in the southwest is among the most rapid in the nation, significantly more than the global average in some areas (Garfin et al. 2014, p. 463; Strittholt et al. 2012, p. 104 – 152; Munson et al. 2012, p. 1 – 2; Guido et al. 2009). Precipitation predictions have a larger degree of uncertainty than predictions for temperature, especially in the Southwest (Sheppard et al. 2002), but indicate reduced winter precipitation with more intense precipitation events (Global Climate Change 2009, p. 129 - 134; Archer and Predick 2008, p. 24). Further, some models predict

dramatic changes in Southwestern vegetation communities as a result of the effects of climate change (Garfin et al. 2014, p. 468; Munson et al. 2012, p. 9 – 12; Archer and Predick 2008, p. 24). In the most recent assessment of climate change impacts by the Intergovernmental Panel on Climate Change (IPCC), the IPCC indicated that there would be a decrease in the number of cold days and nights and an increase in the number of warm days and warm nights which would favor frost-intolerant lesser long-nosed bat forage species like saguaro and organ pipe cacti, but may also affect the blooming phenology of those same species (IPCC 2014, p. 53). They also indicted that precipitation events would likely become more intense and that we are more likely to see climate-related extremes such as heat waves, droughts, floods, wildfires, etc. (IPCC 2014, p. 53).

The U.S. Geological Survey produced a mapping tool that allows climate change projections to be downscaled to local areas including states, counties, and watershed units. We used this National Climate Change Viewer (U.S. Geological Survey 2016) to compare past and projected future climate conditions for Pima, Santa Cruz, and Cochise counties, Arizona. The baseline for comparison was the observed mean values from 1950 through 2005, and 30 climate models were used to project future conditions for 2050 through 2074. We selected the climate parameters of April maximum temperature and August and December mean precipitation to evaluate potential effects on lesser long-nosed bat forage resources. These particular parameters were selected from those available because they represented those most likely to impact the survival and flowering phenology of individual forage species.

Similar to the more general climate change effects discussed above, the downscaled analysis also showed warming spring temperatures which could result in an early blooming period

for lesser long-nosed bat forage species (USGS 2016). Precipitation changes were evaluated for changes to monsoon and winter precipitation. In line with the general climate projections, changes during the evaluated time periods were greater for winter precipitation than for monsoon precipitation. Changes projected for monsoon precipitation were minimal, but projected to be reduced by approximately one inch per 100 days for winter precipitation (USGS 2016).

The best available information indicates that ongoing climate change will probably have some effect on lesser long-nosed bat forage resources. Such effects will occur as a result of changes in the phenology (periodic biological phenomena, such as flowering, in relation to climatic conditions) and distribution of lesser long-nosed bat's forage resources. How this affects the viability of the lesser long-nosed bat population is not clear. There is much uncertainty and a lack of information regarding the effects of climate change and specific impacts to forage for this subspecies. The biggest effect to the lesser long-nosed bat will occur if forage availability gets out of sync along the "nectar trail" such that bats arrive at the portion of the range they need to meet life-history requirements (migration, mating, birthing) and there are inadequate forage resources to support that activity. If the timing of forage availability changes, but changes consistently in a way that maintains the nectar trail, this subspecies is expected to adapt to those timing changes as stated above (see chapter 4 of the SSA Report (USFWS 2016) For example, as noted earlier, the resiliency of lesser long-nosed bats became evident in 2004, when a widespread failure of saguaro and organ pipe bloom occurred and lesser long-nosed bats were still, ultimately, able to subsist and raise young in southwestern Arizona in this atypical year. It is likely they did so by feeding more heavily on agaves (evident by agave pollen found on captured lesser long-nosed bats) than they typically do (see additional discussion under Factor A above). Although we

are still not sure to what extent the environmental conditions described in climate change predictions will affect lesser long-nosed bat forage resource distribution and phenology, we have documented that lesser long-nosed bats have the ability to change their foraging patterns and food sources in response to a unique situation, providing evidence that this species is more resourceful and resilient than may have been previously thought. We find that the lesser long-nosed bat is characterized by flexible and adaptive behaviors that will allow it to remain viable under changing climatic conditions.

Species Future Conditions and Viability

We evaluated overall viability of the lesser long-nosed bat in the SSA report (USFWS 2016 in the context of resiliency, redundancy, and representation. Species viability, or the ability to survive long term, is related to the species' ability to withstand catastrophic population and species-level events (redundancy); the ability to adapt to changing environmental conditions (representation); and the ability to withstand disturbances of varying magnitude and duration (resiliency). The viability of this species is also dependent on the likelihood of new threats or risk factors or the continuation of existing threats now and in the future that act to reduce a species' redundancy, resiliency, and representation.

As described in the SSA report, we evaluated the viability of the lesser long-nosed bat population at two timeframes, 15 years and 50 years. The 15-year timeframe represents the time it generally takes to document the effectiveness of various research, monitoring, and management approaches that have been or are implemented related to lesser long-nosed bat conservation. Therefore, the 15-year timeframe is a reasonable period of time within which we can predict outcomes of these activities in relation to the viability of the lesser long-nosed bat population. The 50-year timeframe is related primarily to the ability of various climate change models to

reasonably and consistently predict or assess likely affects to lesser long-nosed bats and their forage resources. For each of these timeframes, we evaluated three future scenarios, a best-case scenario, a moderate-case scenario, and a worst-case scenario with respect to the extent and degree to which threats will affect the future viability of the lesser long-nosed bat population. We also determined how likely it would be that each of these three scenarios would actually occur. The SSA report details these scenarios and our analysis of the effects of these scenarios, over the two timeframes, on redundancy, resiliency, and representation of the lesser long-nosed bat population.

During our decision-making process, we evaluated our level of comfort making predictions at each of the two timeframes. Ultimately, while the SSA report evaluates both timeframes, there was some discomfort expressed by decision makers for extending predictions of the future viability of the lesser long-nosed bat out to 50 years due to the uncertainty of climate change models and the difficulty of predicting what will happen in Mexico where the majority of this species' habitat occurs, but where we have less information with regard to the threats affecting the lesser long-nosed bats. In the SSA report, all three scenarios were evaluated over both time frames (USFWS 2016, p. 52 – 56). The evaluation results of future viability in the SSA report were identical for both timeframes (high viability), except in the worst-case scenario where, unlike the moderate- and best-case scenarios, the viability was moderate for the 15-year timeframe and low for the 50-year timeframe. For each future scenario, we describe how confident we are that that particular scenario will occur. This confidence is based on the following confidence categories: highly likely (greater than 90 percent sure of the scenario occurring); moderately likely (70 to 90 percent sure); somewhat likely (50 to 70 percent sure); moderately unlikely (30 to 50 percent sure); unlikely (10 to 30 percent sure); and highly unlikely

(less than 10 percent sure). The SSA report concluded that it is unlikely that the worst-case scenario will actually occur. The worst case scenario describes a drastic increase in negative public attitudes towards bats and lesser long-nosed bat conservation, a greater influence from white-nose syndrome, and the worst possible effects from climate change. Based on our experience and the past and ongoing actions of the public and the commitment of management agencies in their land-use planning documents to address lesser long-nosed bat conservation issues, both now and in the future in both the United States and Mexico, such drastic impacts are unlikely to occur (10 to 30 percent sure this scenario will occur). In fact, for the conditions outlined in the worst-case scenario, we find that certainty of the worst-case scenario occurring is closer to 10 percent than to 30 percent sure that this scenario would actually occur based on the commitment to conservation of this species and the adaptability of the lesser long-nosed bat. If the lesser long-nosed bat is delisted and prior to the final rule, we will confirm with our public and agency conservation partners that they will continue to coordinate and implement existing and future conservation actions related to the lesser long-nosed bat. For additional discussion related to the worst-case scenario, see the SSA report (USFWS 2016; p. 51 – 53). Such ongoing commitment to lesser long-nosed bat conservation has already been seen subsequent to the delisting of this bat in Mexico and our experience has been that it will also continue in the U.S. after delisting.

Although the worst-case scenario was evaluated in the SSA report, because we found that it was unlikely to actually occur, the focus of our consideration was on the scenarios that had the greatest likelihood of occurring, the best- and moderate-case scenarios, where redundancy, resiliency, and representation remain high regardless of the timeframe or scenario considered. Under the current condition for the lesser long-nosed bat, as well as in both the best-case

(somewhat likely to occur) and moderate-case (moderately likely to occur) future scenarios, redundancy, resiliency, and representation of the lesser long-nosed bat population remain high and the viability of the subspecies is maintained (USFWS 2016, p. 64 – 66).

Delisting Proposal

Section 4 of the Act and its implementing regulations, 50 CFR part 424, set forth the procedures for listing, reclassifying, or removing species from the Federal Lists of Endangered and Threatened Wildlife and Plants. "Species" is defined by the Act as including any species or subspecies of fish or wildlife or plants, and any distinct vertebrate population segment of fish or wildlife that interbreeds when mature (16 U.S.C. 1532(16)). Once the "species" is determined, we then evaluate whether that species may be endangered or threatened because of one or more of the five factors described in section 4(a)(1) of the Act. We must consider these same five factors in reclassifying or delisting a species. For species that are already listed as endangered or threatened, the analysis of threats must include an evaluation of both the threats currently facing the species, and the threats that are reasonably likely to affect the species in the foreseeable future following the delisting or downlisting and the removal or reduction of the Act's protections. We may delist a species according to 50 CFR 424.11(d) if the best available scientific and commercial data indicate that the species is neither endangered or threatened for the following reasons: (1) The species is extinct; (2) the species has recovered and is no longer endangered or threatened; and/or (3) the original scientific data used at the time the species was classified were in error. We conclude that the lesser-long nosed bat has recovered and no longer meets the definition of endangered or threatened under the Act.

Although most data related to lesser long-nosed bat roost counts and monitoring have not been collected in a way that is rigorous enough to draw statistically calculable conclusions about

the trend of the population, the total numbers of bats observed at roost sites across the range of the lesser long-nosed bat are considered stable or increasing at nearly all roost sites being monitored based on the professional judgment of biologists and others involved in these efforts. The total number of bats currently documented is many times greater than the total number of bats documented at the time of listing in 1988. At the time of listing, there were estimated to be less than 500 lesser long-nosed bats in the United States; current estimates are greater than 100,000. Rangewide, at the time of listing, it was estimated that there were less than 1,000 lesser long-nosed bats. Current rangewide estimates are approximately 200,000 lesser long-nosed bats. While this may, in large part, reflect a better approach to survey and monitoring in subsequent years, it gives us better information upon which to evaluate the status of the lesser long-nosed bat population. This better information is related to the species' population and the number of roosts, and its distribution. Better information and increased efforts related to habitat protection (identification of roost sites and forage resources in planning efforts, implementation of protective measures for roosts and forage resources, increased awareness of habitat needs, etc.) have occurred and are planned to be implemented in the future, regardless of the listing status of this subspecies. This increased level of information and conservation, combined with the current state of its threats allow us to conclude that the subspecies is not in danger of extinction and is not expected to become endangered in the foreseeable future. Our thorough evaluation of the available data for occupancy, distribution, and threat factors, as well as the opinions of experts familiar with this subspecies, indicates a currently viable population status with a stable to increasing trend.

Predicting the future viability of the lesser long-nosed bat is somewhat more difficult than for species that occur in discrete, mostly consistent habitats (ponds, springs, specific soil types,

etc.). The lesser long-nosed bat population is fluid and constantly adapts to changing environmental conditions over a large, bi-national range. Lesser long-nosed bat roost sites are discrete and consistent, but the lesser long-nosed bat may use these roost sites in a changing and adaptable manner to take advantage of ephemeral and constantly changing forage resources with both seasonal and annual differences of occurrence. Therefore, observations of occupancy and numbers of bats using these roosts may not be a complete or accurate representation of the status of the subspecies across its range. However, the information regarding the status of the lesser long-nosed bat population is much more accurate and complete than it was as the time of the 1988 listing rule.

The future viability of this subspecies is dependent on a number of factors. First, an adequate number of roosts in the appropriate locations is needed. As detailed in the SSA report, adequate roosts of all types (maternity, mating, transition, and migratory) currently exist and are likely to exist into the foreseeable future (USFWS 2016; p. 8 – 14). Second, sufficient available forage resources are located in appropriate areas, including in proximity to maternity roosts and along the "nectar trail" used during migration. The discussion above and the SSA report detail our analysis and determination that forage resources are adequate and that the lesser long-nosed bat is likely to adapt to any changes in forage availability in the future (USFWS 2016; p. 15 – 20). In addition, the SSA report analyses the contribution of current and future management of threats to the subspecies' long-term viability. The future viability of the lesser long-nosed bat will also depend on continued positive human attitudes towards the conservation of bats, implementation of conservation actions protecting roost sites and forage and migration resources, and implementation of needed research and monitoring will inform adaptive management that will contribute to the future viability of the lesser long-nosed bat population. The SSA report

discusses the improved status of these issues across the range of the lesser long-nosed bat in much more detail (USFWS 2016; p. 43 – 46). The results of the SSA also indicate that the status of the lesser long-nosed bat has further improved in the years since the 2007 5-Year Review (FWS 2007).

Based on the analysis in the SSA report for the lesser long-nosed bat (USFWS 2016 and summarized above, the lesser long-nosed bat does not currently meet the Act's definition of endangered because it is not in danger of extinction throughout all of its range. Additionally, the lesser long-nosed bat is not a threatened species because it is not likely to become endangered in the foreseeable future throughout all of its range.

Significant Portion of the Range Analysis

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so throughout all or a significant portion of its range. Having determined that the lesser long-nosed bat is not endangered or threatened throughout all of its range, we next consider whether there are any significant portions of its range in which the lesser long-nosed bat is in danger of extinction or likely to become so. We published a final policy interpreting the phrase "significant portion of its range" (SPR) (79 FR 37578; July 1, 2014). The final policy states that: (1) If a species is found to be endangered or threatened throughout a significant portion of its range, the entire species is listed as endangered or threatened, respectively, and the Act's protections apply to all individuals of the species wherever found; (2) a portion of the range of a species is "significant" if the species is not currently endangered or threatened throughout all of its range, but the portion's contribution to the viability of the species is so important that, without the members in that portion, the species would be in danger of extinction, or likely to become so in the foreseeable future, throughout all of its range;

(3) the range of a species is considered to be the general geographical area within which that species can be found at the time the Service makes any particular status determination; and (4) if a vertebrate species is endangered or threatened throughout a significant portion of its range, and the population in that significant portion is a valid distinct population segment (DPS), we will list the DPS rather than the entire taxonomic species or subspecies.

The procedure for analyzing whether any portion is an SPR is similar, regardless of the type of status determination we are making. The first step in our analysis of the status of a species is to determine its status throughout all of its range. If we determine that the species is in danger of extinction, or likely to become endangered in the foreseeable future, throughout all of its range, we list the species as an endangered species or threatened species, and no SPR analysis will be required. If the species is neither in danger of extinction, nor likely to become so throughout all of its range, as we have found here, we next determine whether the species is in danger of extinction or likely to become so throughout a significant portion of its range. If it is, we will continue to list the species as an endangered species or threatened species, respectively; if it is not, we conclude that listing the species is no longer warranted.

When we conduct an SPR analysis, we first identify any portions of the species' range that warrant further consideration. The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose in analyzing portions of the range that have no reasonable potential to be significant or in analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether substantial information indicates that: (1) The portions may be "significant"; and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of

the species, its range, and the threats it faces, it might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not "significant," we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is "significant." In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are affecting it uniformly throughout its range, no portion is likely to have a greater risk of extinction, and thus would not warrant further consideration. Moreover, if any concentration of threats apply only to portions of the range that clearly do not meet the biologically based definition of "significant" (i.e., the loss of that portion clearly would not be expected to increase the vulnerability to extinction of the entire species), those portions would not warrant further consideration.

We identified portions of the lesser long-nosed bat's range that may be significant, and examined whether any threats are geographically concentrated in some way that would indicate that those portions of the range may be in danger of extinction, or likely to become so in the foreseeable future. Within the current range of the lesser long-nosed bat, some distinctions can be made between Mexico and the United States (international border, vegetation communities, etc.). While these geographic distinctions may be significant, our analysis indicates that the species is unlikely to be in danger of extinction or to become so in the foreseeable future in any geographic region within the range of the lesser long-nosed bat given that factors such as roost sites, forage resources, and migration pathways are well distributed across the entire range and that the status of the species is stable or increasing in both the United States and Mexico, with conservation

actions being implemented to address ongoing threats. Therefore, we have not identified any portion of the range that warrants further consideration to determine whether they are a significant portion of its range.

We also evaluated representation across the lesser long-nosed bat's range to determine if certain areas were in danger of extinction, or likely to become so, due to isolation from the larger range. Ramirez (2011) investigated population structure of the lesser long-nosed bat through DNA sampling and analysis and reported that combined results indicated sampled individuals belong to single population including both the United States and Mexico. Consequently, individuals found in the northern migratory range (United States) and in Mexico should be managed as a single population.

Our analysis indicates that there is no significant geographic portion of the range that is in danger of extinction or likely to become so in the foreseeable future. Therefore, based on the best scientific and commercial data available, no portion warrants further consideration to determine whether the species may be endangered or threatened in a significant portion of its range.

Conclusion

We have determined that none of the existing or potential threats cause the lesser long-nosed bat to be in danger of extinction throughout all or a significant portion of its range, nor is the subspecies likely to become endangered within the foreseeable future throughout all or a significant portion of its range. We may delist a species according to 50 CFR 424.11(d) if the best available scientific and commercial data indicate that: (1) The species is extinct; (2) the species has recovered and is no longer endangered or threatened; or (3) the original scientific data used at the time the species was classified were in error. On the basis of our evaluation, we conclude that, due to recovery, the lesser long-nosed bat is not an endangered or threatened

species. We therefore propose to remove the lesser long-nosed bat from the Federal List of Endangered and Threatened Wildlife at 50 CFR 17.11(h).

Effects of This Proposed Rule

This proposed rule, if made final, would revise our regulations at 50 CFR 17.11(h) by removing the lesser long-nosed bat from the Federal List of Endangered and Threatened Wildlife. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would no longer apply to this subspecies. Federal agencies would no longer be required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the lesser long-nosed bat. Because no critical habitat was ever designated for the lesser long-nosed bat, this rule would not affect 50 CFR 17.95. State laws related to the lesser long-nosed bat would remain in place and be enforced and would continue to provide protection for this subspecies. State and Federal laws related to protection of habitat for the lesser long-nosed bat, such as those addressing effects to caves and abandoned mines, as well as protected plant species such as columnar cacti and agaves, would remain in place and afford lesser long-nosed bat habitat some level of protection.

Post-delisting Monitoring

Section 4(g)(1) of the Act requires the Secretary of Interior, through the Service and in cooperation with the States, to implement a system to monitor for not less than 5 years for all species that have been recovered and delisted. The purpose of this requirement is to develop a program that detects the failure of any delisted species to sustain populations without the protective measures provided by the Act. If, at any time during the monitoring period, data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing.

We will coordinate with other Federal agencies, State resource agencies, interested scientific organizations, and others as appropriate to develop and implement an effective post-delisting monitoring (PDM) plan for the lesser long-nosed bat. The PDM plan will build upon current monitoring techniques and research, as well as emerging technology and techniques. Monitoring will assess the species numbers, distribution, and threats status, as well as ongoing management and conservation efforts that have improved the status of this subspecies since listing. The PDM plan will identify, to the extent practicable and in accordance with our current understanding of the subspecies' life history measurable thresholds and responses for detecting and reacting to significant changes in the lesser long-nosed bat's populations, distribution, and persistence. If declines are detected equaling or exceeding these thresholds, the Service, in combination with other PDM participants, will investigate causes of these declines, including considerations of habitat changes, substantial human persecution, stochastic events, or any other significant evidence. The result of the investigation will be to determine if the lesser long-nosed bat warrants expanded monitoring, additional research, additional habitat protection, or resumption of Federal protection under the Act. The draft PDM plan will be made available for public comment in a future publication in the **Federal Register** by [INSERT DATE HERE] and will be finalized concurrent with finalization of this rule.

Required Determinations

Clarity of the Rule

We are required by Executive Orders 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

National Environmental Policy Act

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. Therefore, we have and will solicit information from Native American Tribes during the comment period to determine potential effects on them or their resources that may result from the proposed delisting of the lesser long-nosed bat, and we will fully consider their

comments on the proposed rule submitted during the public comment period.

References Cited

A complete list of all references cited in this rule is available on *http://www.regulations.gov*, or upon request from the Field Supervisor, Arizona Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this document are the staff members of the Arizona Ecological Services Field Office, U.S. Fish and Wildlife Service (see **FOR FURTHER INFORMATION CONTACT**).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

1. The authority citation for part 17 continues to read as follows:

AUTHORITY: 16 U.S.C. 1361–1407; 1531–1544; 4201–4245, unless otherwise noted.

2. Amend § 17.11(h) by removing the entry for “Bat, lesser long-nosed” under MAMMALS from the List of Endangered and Threatened Wildlife.

Dated: December 16, 2016

Marty J. Kodis

Acting Director, Fish and Wildlife Service

[FR Doc. 2016-31408 Filed: 1/5/2017 8:45 am; Publication Date: 1/6/2017]