DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–HQ–ES–2013–0094; FF09E21000 FXES11190900000 134]

Endangered and Threatened Wildlife and Plants; Review of Native Species That are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of review.

SUMMARY: In this Candidate Notice of Review (CNOR), we, the U.S. Fish and Wildlife Service (Service), present an updated list of plant and animal species native to the United States that we regard as candidates for or have proposed for addition to the Lists of Endangered and Threatened Wildlife and Plants under the Endangered Species Act of 1973, as amended. Identification of candidate species can assist environmental planning efforts by providing advance notice of potential listings, allowing landowners and resource managers to alleviate threats and thereby possibly remove the need to list species as endangered or threatened. Even if we subsequently list a candidate species, the early notice provided here could result in more options for species management and recovery by prompting candidate conservation measures to alleviate threats to the species.

The CNOR summarizes the status and threats that we evaluated in order to determine that species qualify as candidates and to assign a listing priority number (LPN) to each species or to determine that species should be removed from candidate status. Additional material that we relied on is available in the Species Assessment and Listing Priority Assignment Forms (species assessment forms) for each candidate species.

Overall, this CNOR recognizes no new candidates, changes the LPN for three candidates, and removes three species from candidate status. Combined with other decisions for individual species that were published separately from this CNOR in the past year, the current number of species that are candidates for listing is 146.

This document also includes our findings on resubmitted petitions and describes our progress in revising the Lists of Endangered and Threatened Wildlife and Plants (Lists) during the period October 1, 2012, through September 30, 2013.

We request additional status information that may be available for the 146 candidate species identified in this CNOR.

DATES: We will accept information on any of the species in this Candidate Notice of Review at any time.

ADDRESSES: This notice of review is available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/endangered/what-we-do/cnor.html*. Species assessment forms with information and references on a particular candidate species' range, status, habitat needs, and listing priority assignment are available for review at the appropriate Regional Office listed below in **SUPPLEMENTARY INFORMATION** or at the Branch of Communications and Candidate Conservation, Arlington, VA (see address under **FOR FURTHER INFORMATION CONTACT**), or on our Web site (*http://ecos.fws.gov/tess_public/pub/candidateSpecies.jsp*). Please submit any new information, materials, comments, or questions of a general nature on this notice of review to the Arlington, VA, address listed under **FOR FURTHER INFORMATION CONTACT.** Please submit any new information, materials, comments, or questions pertaining to a particular species to the address of the Endangered Species Coordinator in the appropriate Regional Office listed in **SUPPLEMENTARY INFORMATION**. Species-specific information and materials we receive will be available for public inspection by appointment, during normal business hours, at the appropriate Regional Office listed below under Request for Information in **SUPPLEMENTARY INFORMATION**. General information we receive will be available at the Branch of Communications and Candidate Conservation, Arlington, VA (see address under **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Chief, Branch of Communications and Candidate Conservation, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 420, Arlington, VA 22203 (telephone 703–358–2171). Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION: We request additional status information that may be available for any of the candidate species identified in this CNOR. We will consider this information to monitor changes in the status or LPN of candidate species and to manage candidates as we prepare listing documents and future revisions to the notice of review. We also request information on additional species to consider including as candidates as we prepare future updates of this notice of review.

Candidate Notice of Review

Background

The Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (ESA), requires that we identify species of wildlife and plants that are endangered or threatened, based on the best available scientific and commercial information. As defined in section 3 of the ESA, an endangered species is any species that is in danger of extinction throughout all or a significant portion of its range, and a threatened species is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Through the Federal rulemaking process, we add species that meet these definitions to the List of Endangered and Threatened Wildlife at 50 CFR 17.11 or the List of Endangered and Threatened Plants at 50 CFR 17.12. As part of this program, we maintain a list of species that we regard as candidates for listing. A candidate species is one for which we have on file sufficient information on biological vulnerability and threats to support a proposal for listing as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher priority listing actions. We may identify a species as a candidate for listing after we have conducted an evaluation of its status on our own initiative, or resulting from a petition we have received. If we have made a positive finding on a petition to list a species, but we have found that listing is warranted but precluded by other higher priority listing actions we will add the species to our list of candidates.

We maintain this list of candidates for a variety of reasons: (1) To notify the public that these species are facing threats to their survival; (2) to provide advance knowledge of potential listings that could affect decisions of environmental planners and developers; (3) to provide information that may stimulate and guide conservation efforts that will remove or reduce threats to these species and possibly make listing unnecessary; to request input from interested parties to help us identify those candidate species that may not require protection under the ESA as well as additional species that may require the ESA's protections; and (4) to request necessary information for setting priorities for preparing listing proposals.

We strongly encourage collaborative conservation efforts for candidate species, and offer technical and financial assistance to facilitate such efforts. For additional information regarding such assistance, please contact the appropriate Regional Office listed under Request for Information or visit our Web site, *http://www.fws.gov/endangered/what-we-do/cca.html*.

Previous Notices of Review

We have been publishing candidate notices of review (CNOR) since 1975. The most recent CNOR (prior to this CNOR) was published on November 21, 2012 (77 FR 69994). CNORs published since 1994 are available on our Web site, *http://www.fws.gov/endangered/what-we-do/cnor.html*. For copies of CNORs published prior to 1994, please contact the Branch of Communications and Candidate Conservation (see **FOR FURTHER INFORMATION CONTACT** section above).

On September 21, 1983, we published guidance for assigning an LPN for each candidate species (48 FR 43098). Using this guidance, we assign each candidate an LPN of 1 to 12, depending on the magnitude of threats, immediacy of threats, and taxonomic status; the lower the LPN, the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority). Section 4(h)(3) of the ESA (16 U.S.C. 1533(h)(3)) requires the Secretary to establish guidelines for such a priority-ranking guidance system. As explained below, in using this system, we first categorize based on the magnitude of the threat(s), then by the immediacy of the threat(s), and finally by taxonomic status.

Under this priority-ranking system, magnitude of threat can be either ''high'' or ''moderate to low.'' This criterion helps ensure that the species facing the greatest threats to their continued existence receive the highest listing priority. It is important to recognize that all candidate species face threats to their continued existence, so the magnitude of threats is in relative terms. For all candidate species, the threats are of sufficiently high magnitude to put them in danger of extinction, or make them likely to become in danger of extinction in the foreseeable future. But for species with higher magnitude threats, the threats have a greater likelihood of bringing about extinction or are expected to bring about extinction on a shorter timescale (once the threats are imminent) than for species with lower magnitude threats. Because we do not routinely quantify how likely or how soon extinction would be expected to occur absent listing, we must evaluate factors that contribute to the likelihood and time scale for extinction. We therefore consider information such as: (1) The number of populations or extent of range of the species affected by the threat(s), or both; (2) the biological significance of the affected population(s), taking into consideration the life-history characteristics of the species and its current abundance and distribution; (3) whether the threats affect the species in only a portion of its range, and if so, the likelihood of persistence of the species in the unaffected portions; (4) the severity of the effects and the rapidity with which they have caused or are likely to cause mortality to individuals and accompanying declines in population levels; (5) whether the effects are likely to be permanent; and (6) the extent to which any ongoing conservation efforts reduce the severity of the threat.

As used in our priority-ranking system, immediacy of threat is categorized as either ''imminent'' or ''nonimminent,'' and is based on when the threats will begin. If a threat is currently occurring or likely to occur in the very near future, we classify the threat as imminent. Determining the immediacy of threats helps ensure that species facing actual, identifiable threats are given priority for listing proposals over those for which threats are only potential or species that are intrinsically vulnerable to certain types of threats but are not known to be presently facing such threats.

Our priority ranking system has three categories for taxonomic status: Species that are the sole members of a genus; full species (in genera that have more than one species); and subspecies and distinct population segments of vertebrate species (DPS).

The result of the ranking system is that we assign each candidate a listing priority number of 1 to 12. For example, if the threats are of high magnitude, with immediacy classified as imminent, the listable entity is assigned an LPN of 1, 2, or 3 based on its taxonomic status (i.e., a species that is the only member of its genus would be assigned to the LPN 1 category, a full species to LPN 2, and a subspecies or DPS would be assigned to LPN 3). In summary, the LPN ranking system provides a basis for making decisions about the relative priority for preparing a proposed rule to list a given species. No matter which LPN we assign to a species, each species included in this notice of review as a candidate is one for which we have sufficient information to prepare a proposed rule for listing because it is in danger of extinction or likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

For more information on the process and standards used in assigning LPNs, a copy of the 1983 guidance is available on our Web site at: *http://www.fws.gov/endangered/esa-library/pdf/48fr43098-43105.pdf*. For more information on the LPN assigned to a particular species, the species assessment for each candidate contains the LPN chart and a rationale for the determination of the magnitude and immediacy of threat(s) and assignment of the LPN; that information is summarized in this CNOR.

This revised notice of review supersedes all previous animal, plant, and combined candidate notices of review for native species.

Summary of This CNOR

Since publication of the previous CNOR on November 21, 2012 (77 FR 69994), we reviewed the available information on candidate species to ensure that a proposed listing is justified for each species, and reevaluated the relative LPN assigned to each species. We also evaluated the need to emergency-list any of these species, particularly species with higher priorities (i.e., species with LPNs of 1, 2, or 3). This review and reevaluation ensures that we focus conservation efforts on those species at greatest risk first. We also evaluated whether the fish, plains topminnow (*Fundulus sciadicus*), warranted candidate status; we are announcing our decision that this species does not meet the definition of a candidate species at this time (See Other Evaluations for Candidate Status).

In addition to reviewing candidate species since publication of the last CNOR, we have worked on findings in response to petitions to list species, and on proposed and final determinations for rules to list species under the ESA. Some of these findings and determinations have been completed and published in the **Federal Register**, while work on others is still under way (see *Preclusion and Expeditious Progress,* below, for details).

Based on our review of the best available scientific and commercial information, with this CNOR, we are identifying no new candidates, we change the LPN for three candidates (see Listing Priority Changes in Candidates, below), and determine that a listing proposal is not warranted for three species and thus remove them from candidate status (see Candidate Removals, below). Combined with the other decisions published separately from this CNOR, a total of 146 species (including 52 plant and 94 animal species) are now candidates awaiting

preparation of rules proposing their listing. These 146 species, along with the 45 species currently proposed for listing (including 1 species proposed for listing due to similarity in appearance), are included in Table 1.

Table 2 lists the changes from the previous CNOR, and includes 93 species identified in the previous CNOR as either proposed for listing or classified as candidates that are no longer in those categories. This includes 81 species for which we published a final listing rule, 8 candidate species for which we published a separate not-warranted finding and removed from candidate status, 1 species for which we published a withdrawal of a proposed listing rule, and the 3 species in this notice of review that we have determined do not meet the definition of an endangered or threatened species and therefore do not warrant listing. We have removed these species from candidate status in this CNOR.

New Candidates

We have not identified any new candidate species through this notice of review, but we note that the rattlesnake-master borer moth was identified as candidate on August 14, 2013 (78 FR 49422) as a result of a separate petition finding published in the **Federal Register** in which we described the reasons and data for elevating the species to candidate status.

Listing Priority Changes in Candidates

We reviewed the LPN for all candidate species and are changing the number for the following species discussed below.

Mammals

Southern Idaho ground squirrel (*Urocitellus endemicus*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The southern Idaho ground squirrel is endemic to four counties in southwest Idaho; its total known range is approximately 292,000 hectares (722,000 acres).

Threats to southern Idaho ground squirrels include: Habitat degradation; direct killing from shooting, trapping, or poisoning; predation; and competition with other ground squirrel species. Habitat degradation appears to be the primary threat. Nonnative annuals such as *Bromus tectorum* (cheatgrass) and *Taeniatherum caput-medusae* (medusahead) now dominate much of this species' range and have altered the fire regime by increasing the frequency of wildfire. Furthermore, nonnative annuals provide inconsistent forage quality for southern Idaho ground squirrels compared to native vegetation. A programmatic Candidate Conservation Agreement with Assurances (CCAA) has been completed for this species and contains conservation measures that minimize ground-disturbing activities, allow for the investigation of methods to restore currently degraded habitat, provide for additional protection to southern Idaho ground squirrels from recreational shooting and other direct killing on enrolled lands, and allow for the translocation of squirrels to or from enrolled lands, if necessary. The acreage enrolled through the CCAA encompasses approximately 9 percent of the known range of the species. While the ongoing conservation efforts have helped to reduce the magnitude of threats, habitat degradation remains the primary threat to the species throughout most of its range. This threat is imminent due to the ongoing and increasing prevalence of nonnative vegetation.

The southern Idaho ground squirrel (formerly *Spermophilus brunneus endemicus*) was considered to be one of two subspecies (northern and southern) of the Idaho ground squirrel. However, based on differences in their geographic distribution, morphology, habitat, and genetic characteristics, the two subspecies are now considered distinct species. Therefore, we changed the LPN for the southern Idaho ground squirrel from a 9 to an 8 to reflect the change in taxonomy from subspecies to species.

Fishes

Cumberland arrow darter (*Etheostoma sagitta*)—The following summary is based on information in our files. The Cumberland arrow darter is a brightly colored darter with a total length of approximately 116 millimeters (4.6 inches). It is restricted to the upper Cumberland River basin in southeastern Kentucky and northeastern Tennessee. The Cumberland arrow darter typically inhabits small headwater streams (first to third order) but is sometimes observed in larger streams or small rivers. Its preferred habitat consists of pools or transitional areas between riffles and pools (runs and glides) in moderate- to-high-gradient streams with bedrock, boulder, and cobble substrates. Cumberland arrow darters feed on a variety of aquatic invertebrates, but adults feed predominantly on larval mayflies (order Ephemeroptera), specifically the families Heptageniidae and Baetidae. Rangewide surveys from 2010 to 2012 revealed that the Cumberland arrow darter has been extirpated from portions of its range. During these efforts, the species was observed at 60 of 101 historical streams and 72 of 123 historical sites.

The species' habitat and range have been degraded and limited by water pollution from surface coal mining and gas-exploration activities; removal of riparian vegetation; stream channelization; increased siltation associated with poor mining, logging, and agricultural practices; and deforestation of watersheds. The magnitude of these threats is most severe in the eastern half of the range, where resource extraction activities are more common and public ownership is sparse. The threat magnitude is lower in the western half of the range where resource extraction activities are less severe and a larger proportion of the range is in public ownership. Since the species and its life cycle and habitat requirements are fairly evenly distributed across its range, overall, the magnitude of the threats is moderate. We also consider these threats to be imminent, because the threats are ongoing and will continue for the foreseeable future. Based on new morphological and genetic analyses and published species accounts and lists, the Cumberland arrow darter is now recognized as *E. sagitta,* a full species. The elevation to species rank increases the LPN from a 9 (subspecies) to an 8 (species).

Kentucky arrow darter (*Etheostoma spilotum*)—The following summary is based on information in our files. The Kentucky arrow darter is a rather large (total length of approximately 4.6 inches (116 millimeters)), brightly colored darter that is restricted to the upper Kentucky River basin in eastern Kentucky. The species' preferred habitat consists of pools or transitional areas between riffles and pools (runs and glides) in moderate-to-high-gradient streams with bedrock, boulder, and cobble substrates. In most recent surveys, the Kentucky arrow darter has been observed in streams ranging in size from first to third order, with most individuals occurring in second order streams in watersheds encompassing 7.7 square miles (20 square kilometers) or less. Kentucky arrow darters feed on a variety of aquatic invertebrates, but adults feed predominantly on larval mayflies (order Ephemeroptera), specifically the families Heptageniidae and Baetidae. Rangewide surveys from 2007 to 2009 revealed that the Kentucky arrow darter has disappeared from portions of its range. During these surveys, the species was observed at only 33 of 68 historical streams and 45 of 100 historical sites.

The subspecies' habitat and range have been severely degraded and limited by water pollution from surface coal mining and gas-exploration activities; removal of riparian vegetation; stream channelization; increased siltation associated with poor mining, logging, and agricultural practices; and deforestation of watersheds. The threats are high in magnitude, because they are widespread across the subspecies' range and because these activities, especially mining and gas-exploration, have the potential to alter stream water quality permanently throughout the range by contributing sediment, dissolved metals, and other solids to streams supporting Kentucky arrow darters, resulting in direct mortality or reduced reproductive capacity. The threats are imminent because the effects are manifested immediately and will continue for the foreseeable future.

Based on new morphological and genetic analyses and published species accounts and lists, the Kentucky arrow darter is now recognized as *E. spilotum* Gilbert, a full species. The elevation to species rank increases the LPN from a 3 (subspecies) to a 2 (species).

Candidate Removals

As summarized below, we have evaluated the threats to the following species and considered factors that, individually and in combination, currently or potentially could pose a risk to these species and their habitats. After a review of the best available scientific and commercial data, we conclude that listing these species under the Endangered Species Act is not warranted, because these species are not likely to become endangered species within the foreseeable future throughout all or a significant portion of their ranges. Therefore, we no longer consider them to be candidate species for listing. We will continue to monitor the status of these species and to accept additional information and comments concerning this finding. We will reconsider our determination in the event that new information indicates that the threats to the species are of a considerably greater magnitude or imminence than identified through assessments of information contained in our files, as summarized here.

Flowering Plants

Hazardia orcuttii (Orcutt's hazardia or Orcutt's goldenbush)—The following summary is based on information contained in our files, including a detailed species report. *Hazardia orcuttii,* a flowering evergreen shrub in the Asteraceae (sunflower) family, is associated with coastal sage scrub communities, and transitional areas between coastal sage scrub and chaparral. The species is found along the Pacific coastal area at elevations ranging from under 100 meters (m) (330 feet (ft)) to 200 m (660 ft), but generally under 100 m (328 ft). The known historical distribution spans 270 km (170 mi) from northern coastal San Diego County, California, United States, south to Colonet Mesa, Baja California, Mexico. In the United States, a single native population of *H. orcuttii* occurs on a southwestern mesa above Lux Canyon, in the city of Encinitas. In Mexico, 15 occurrences are known from 30 herbarium records, some of which indicate that the plant is locally common or abundant. *Hazardia orcuttii* is currently listed as threatened under the California Endangered Species Act and as endangered in Mexico.

We made *Hazardia orcuttii* a candidate in 2004. At that time, the primary threat affecting the species was urban development, which primarily affected a portion of the historical U.S. population between 1981 and 1997. Additional disruptions to the remaining native population occurred after that time, including loss of some of the remaining plants due to development, seed collection, and mowing. The extant portion of the single native population in the United States currently occupies approximately 0.63 hectare (ha) (1.5 acres (ac)) of the Manchester Habitat Conservation Area. Both the single native population and four experimental outplantings are found within managed conservation areas. In Mexico, urban development has also affected historical occurrences and still has the potential to affect *H. orcuttii* and its habitat. However, in 2010, *H. orcuttii* was listed as endangered under NOM–059–SEMARNAT–2010, which provides protections to the species from development activities in Mexico.

We identified a number of other potential threats since 2004, such as climate change, predation, and impacts from small population size; however, further investigation of these stressors indicates they are not substantial threats. Climate change models predict increased temperatures and decreased precipitation for the southern California region; however, temperatures are predicted to be within the range used for seed germination, and precipitation forecasts are too uncertain for areas occupied by *H. orcuttii* to determine how this might affect the species. One study suggested that high predation rates for the seedbank had affected the reproductive output of *H. orcuttii;* however, the limited period covered by the study and the unusual weather conditions that occurred during that period likely made the findings with respect to seed production and predation rates unrepresentative. In our 2012 CNOR, we also identified small population size as a potential concern, due to the occurrence of a single population in the United States (77 FR 70041; November 21, 2012); however, we now have a better understanding of the range and geographic distribution of the 15 occurrences in Mexico, such that any loss of populations due to random catastrophic events and potential reduction in fitness due to low genetic variability is not a concern for this species.

The conservation provided for *Hazardia orcuttii* and its habitat in the United States has removed the threat of habitat loss known at the time we made this species a candidate. Furthermore, given the existing protections and the low level of stressors currently affecting the species, we conclude that *H. orcuttii* no longer meets the definition of an endangered or threatened species under section 3 of the Endangered Species Act. We do not have any information to indicate that these stressors are likely to increase in the future; thus, the species is not likely to become an endangered species in the foreseeable future. Therefore, we find that listing of *H. orcuttii* is not warranted, and we have removed it from candidate status.

Phacelia stellaris (Brand's Phacelia)—The following summary is based on information contained in our files, including a detailed species report. *Phacelia stellaris,* an annual herb in the Boraginaceae (borage) family, is associated with sparsely vegetated habitats on loamy sand in coastal dunes, coastal strand, coastal scrub, or alluvial floodplains. Based on herbarium records, we conclude that the historical range of *P. stellaris* was from southern California (San Bernardino, Los Angeles, Orange, Riverside, and San Diego Counties) southward along the Pacific coast to near Socorro in northern Baja California, Mexico, at elevations ranging from 0 to 1100 ft (366 m). The current geographic range of *P. stellaris* encompasses 12 occurrences known or presumed to be extant (7 in the United States and 5 in Mexico). Nine occurrences in the United States (in Los Angeles and Orange Counties) and one in Mexico (in the City of Ensenada) have been extirpated by development.

We made *Phacelia stellaris* a candidate in 2004. At that time, one of the primary threats affecting the species was habitat degradation due to trampling from foot and vehicle traffic. Today, four of the seven U.S.

occurrences experience some level of habitat degradation from trampling. However, on August 1, 2013, the U.S. Navy, U.S. Marine Corps, Department of Homeland Security, and California Department of Parks and Recreation entered into a Candidate Conservation Agreement (CCA). This CCA identifies actions that are or will be taken to further minimize effects to the plant and its habitat at the four remaining U.S. occurrences that still experience effects from trampling. Therefore, the amount of *P. stellaris* habitat degradation due to trampling has been reduced since the time the species became a candidate, or will soon be reduced, as all seven U.S. occurrences are either protected from trampling through fencing and other conservation measures, or will soon receive management for habitat effects due to trampling. We do not have information regarding the issue of trampling for occurrences in Mexico; however, based on information from botanists familiar with areas where the plant occurs, it is likely that four of the five occurrences experience some degree of trampling.

The other primary threat affecting U.S. occurrences of *Phacelia stellaris* at the time of listing was nonnative plant invasion. Nonnative plants are known to affect all seven U.S. occurrences of *P. stellaris* to some degree, but this threat is actively managed at four occurrences, including the three most abundant populations. With the signing of the CCA, management to control nonnative plants will continue at the four occurrences and will be initiated at one additional occurrence. Thus, five of the seven extant occurrences in the U.S. are or will be managed for the benefit of *P. stellaris* by removing invasive, nonnative plants. Successful removal of nonnative plants has already resulted in an increased presence of *P. stellaris* at the four currently managed sites. With the active management that is currently occurring at those four sites and the initiation of weed control at a fifth site, the threat to *P. stellaris* in the U.S. from invasive, nonnative plants has been addressed. We have no information as to the degree nonnative plants are encroaching on *P. stellaris* occurrences in Mexico. However, the management of *P. stellaris* in the U.S. will provide for the long-term conservation of the species.

We identified other potential threats since 2004 including flood-control activities and impacts related to small population size; however, further investigation indicates they are not substantial threats. We also analyzed the potential for sea-level rise to affect *P. stellaris,* as four of seven U.S. occurrences are close to tidally influenced areas. Although all coastal occurrences could potentially be affected by sea-level rise, the effects of sea-level rise on *P. stellaris* occurrences cannot be assessed with confidence beyond 2050, as modeling and variables affecting this species are increasingly uncertain after this date. Based on our review of available predictive models and habitat characteristics of *P. stellaris,* we do not anticipate that sea-level rise will affect the occurrences in the United States before 2050. All of the presumably extant occurrences in Mexico are thought to be located along the immediate coastline, although their exact locations relative to the tideline is unknown; therefore, we lack sufficient data to make reliable projections of the impact of sea-level rise on this species in Mexico.

The conservation provided for *Phacelia stellaris* and its habitat has significantly reduced the threat of nonnative plant invasion in the United States. Although it is possible that nonnative plant invasion threatens the occurrences in Mexico, we have no information suggesting that this is in fact the case, and we must make listing determinations based on the best data available, not speculation. Thus, we conclude that nonnative plants no longer pose a significant threat to the species. In addition, although trampling still happens at some occurrences, the effects have been reduced through implementation of conservation measures. The remaining impacts are localized and do not rise to the level of significantly affecting the species and its habitat. We anticipate ongoing protection and management provided by Federal, State, and local landowners at six of the seven U.S. occurrences through implementation of Habitat Conservation Plans, Integrated Natural Resource Management Plans, and the CCA, all of which will continue into the foreseeable future. In addition, we do not have any information to indicate that stressors will increase in the foreseeable future. Given the existing protections and the low level of stressors affecting the species now and in the foreseeable future, we conclude that *P. stellaris* no longer meets the definition of an endangered or threatened species under section 3 of the Endangered Species Act. Therefore, we find that listing of *P. stellaris* is not warranted, and we have removed it from candidate status.

Solidago plumosa (Yadkin River goldenrod)—No new information was provided in the petition we received on April 20, 2010. The global distribution of the plant *Solidago plumosa* consists of a single population that occurs in two discrete locations along a 3.2 mile (5.0 kilometer) stretch of the Yadkin River in North Carolina. It is associated with mafic rock outcrops along the river.

We made *Solidago plumosa* a candidate in 2005. At that time, the primary threat affecting the species was encroachment by invasive nonnative vegetation. Historical loss of habitat by construction and operation of hydroelectric projects likely reduced the extent of the species, which exacerbated the effect nonnative vegetation was having on the species. The historical loss of habitat occurred over 75 years ago when the Yadkin and Yadkin-Pee Dee Hydroelectric Projects were constructed. Although the flow regime of the Yadkin River was altered by these projects, the bedrock outcrop habitat is stable and flow regimes are now regulated and predictable and reduce high-velocity flood events that are capable of reaching areas of occupied habitat; thus, any foreseeable adverse impacts to the species have been addressed through the regular operation of the projects. Additionally, the species has adjusted to the available habitat and flow regimes and has been present in the same areas since the projects were constructed and the flow regimes stabilized. Reduction of high-velocity flood events, however, exacerbated the threat from invasive nonnative vegetation by allowing that vegetation to grow and compete with *Solidago plumosa*.

Thus, the availability of suitable habitat and the fate of the single known population of this species are primarily determined by the manner in which nonnative vegetation is managed in the occupied locations. Alcoa Power Generating Inc. (APGI), the operator of one of the hydroelectric projects, owns these locations. At the time the species was made a candidate, APGI was not managing these locations in a manner consistent with the conservation of *Solidago plumosa*—in particular, it was not addressing the main threat from invasive nonnative vegetation. However, in 2013, APGI and the Service signed a Candidate Conservation Agreement (CCA). This agreement addresses threats to the species in its entire range: It identifies specific measures to control invasive-exotic-vegetation encroachment, implements propagation and population expansion, and includes a regular monitoring and reporting protocol. Although the agreement was signed only this year, APGI has been implementing the conservation measures described in the agreement for several years; in particular, APGI has been managing the habitat for *Solidago*

plumosa as part of its Shoreline Management Plan, which addresses a variety of issues around its reservoirs. The CCA contains a special subset of actions, some of which are contained in the Shoreline Management Plan, but are specific to *Solidago plumosa* and its habitat. The Shoreline Management Plan also includes a regular monitoring and reporting protocol, and under the plan APGI annually controls invasive-nonnative-vegetation encroachment. Based on the results of APGI's control program over the last three years, we conclude that the program has been highly effective at reducing encroachment of invasive exotic vegetation into the habitat of *Solidago plumosa,* and has significantly reduced this threat.

APGI has also abated some potential threats from recreational use of the river corridor since anglers and boaters can no longer enter the immediate tailrace area because of changed water-discharge conditions and safety signage at the dam powerhouse.

The construction of the Yadkin and Yadkin-Pee Dee Hydroelectric Projects from 1917 to 1928 may have extirpated occurrences of *Solidago plumosa.* Any detrimental effects of the construction and subsequent reservoir inundation took place almost 100 years ago and are no longer directly affecting the species. Those projects may, however, have reduced the range and genetic variability of the species. Therefore, we considered the degree to which the size of the population is so small and geographically concentrated that it is vulnerable to stochastic events or potential reduction in fitness due to low genetic variability. We have no information to indicate that low genetic variability is an issue for this species, and, as discussed above, the primary stochastic event of concern, flooding, is now regulated consistent with the conservation of *Solidago plumosa.* Nonetheless, we note that the Service, the North Carolina Plant Conservation Program, the North Carolina Zoological Park, and APGI plan to augment the population of this species at additional mafic rock outcrops near the base of the dams that are part of the hydroelectric projects. We are not relying on any potential success of this effort in our threats analysis.

Threats to *Solidago plumosa* from the continued operation of these reservoirs and the encroachment of nonnative invasive species have been addressed. Though impacts from trampling are still possible at the sites of some occurrences, the effects have been reduced through implementation of conservation measures in a large part of the extant habitat; any remaining impacts are localized and temporary, and do not rise to the level of significantly affecting the taxon and its habitat. We expect the conservation measures to be implemented and effective into the foreseeable future. Given the existing protections and the low level of stressors affecting the species now and in the foreseeable future, we conclude that *Solidago plumosa* no longer meets the definition of an endangered or threatened species under section 3 of the Endangered Species Act. Therefore, we find that listing of *Solidago plumosa* is no longer warranted, and we have removed it from candidate status.

Other Evaluations for Candidate Status

As summarized below, we have evaluated the threats to the plains topminnow (*Fundulus sciadicus*) and considered factors that, individually and in combination, currently or potentially could pose a risk to this species and its habitats. After a review of the best available scientific and commercial data, we conclude that listing this species under the Endangered Species Act is not warranted, because this species is not likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Therefore, we find that proposing a rule to list it is not warranted, and we do not consider it to be a candidate species for listing. We will continue to monitor the status of this species and to accept additional information and comments concerning this finding.

Plains topminnow (*Fundulus sciadicus*)—The following summary is based on information contained in our files. This endemic fish species of the Great Plains occurs in Colorado, Wyoming, South Dakota, Kansas, Missouri, Wyoming, Minnesota, Iowa, Nebraska, and Oklahoma. The species most often inhabits clear water streams, isolated pools, backwater areas, sloughs, and overflow pools of larger streams. The species is still present in most of its historical range, and its current distribution includes eight of the nine States where it was historically recorded.

We conducted a status assessment of the plains topminnow to evaluate whether it warrants listing under the Act and should be made a candidate species. As part of this process, we analyzed several potential stressors that may affect the species. Surface and groundwater use for irrigation, habitat changes, predation, drought, and climate change are some of the factors potentially influencing the species in its current range. We also analyzed the effects of mosquitofish introduction, stocking of game fish, and drought. We determined the stressors facing this species are relatively minor, and do not rise to the level of threats to the species, given the number of different locations where the species occurs, and the fact that the species has shown it can recolonize areas successfully. In addition, groundwater and surface water use is regulated in some portions of its range, and development, predation, and diseases are not currently affecting the species. Population data from across the species' range show that the species is stable in most of its range. In addition, new surveys have identified new populations, and conservation efforts are increasing populations in suitable habitat. Therefore, we find that the plains topminnow does not meet the definition of an endangered species now, and we have no information to indicate that it will become so in the future. Thus, this species does not warrant candidate status at this time. A copy of the full candidate assessment form for the plains topminnow may be accessed at: *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=E07X.*

Petition Findings

The ESA provides two mechanisms for considering species for listing. One method allows the Secretary, on the Secretary's own initiative, to identify species for listing under the standards of section 4(a)(1). We implement this authority through the candidate program, discussed above. The second method for listing a species provides a mechanism for the public to petition us to add a species to the Lists. The CNOR serves several purposes as part of the petition process: (1) In some instances (in particular, for petitions to list species that the Service has already identified as candidates on its own initiative), it serves as the petition finding; (2) for candidate species for which the Service has made a warranted-but-precluded petition finding, it serves as a ''resubmitted'' petition finding that the ESA requires the Service to make each year; and (3) it documents the Service's compliance with the statutory requirement to monitor the status of species for which listing is warranted but precluded to ascertain if they need emergency listing.

First, the CNOR serves as a petition finding in some instances. Under section 4(b)(3)(A), when we receive a listing petition, we must determine within 90 days, to the maximum extent practicable, whether the petition presents substantial information

indicating that listing may be warranted (a ''90-day finding''). If we make a positive 90-day finding, we must promptly commence a status review of the species under section 4(b)(3)(A); we must then make and publish one of three possible findings within 12 months of the receipt of the petition (a ''12-month finding''):

(1) The petitioned action is not warranted; (2) The petitioned action is warranted (in which case we are required to promptly publish a proposed regulation to implement the petitioned action; once we publish a proposed rule for a species, sections 4(b)(5) and 4(b)(6) of the ESA govern further procedures, regardless of whether we issued the proposal in response to a petition); or (3) The petitioned action is warranted, but (a) the immediate proposal of a regulation and final promulgation of a regulation implementing the petitioned action is precluded by pending proposals to determine whether any species is endangered or threatened, and (b) expeditious progress is being made to add qualified species to the Lists. We refer to this third option as a ''warranted-but-precluded finding.''

We define ''candidate species'' to mean those species for which the Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but for which issuance of the proposed rule is precluded (61 FR 64481; December 5, 1996). The standard for making a species a candidate through our own initiative is identical to the standard for making a warranted-but-precluded 12-month petition finding on a petition to list, and we add all petitioned species for which we have made a warranted-but-precluded 12-month finding to the candidate list.

Therefore, all candidate species identified through our own initiative already have received the equivalent of substantial 90-day and warranted-but-precluded 12-month findings. Nevertheless, we review the status of the newly petitioned candidate species and through this CNOR publish specific section 4(b)(3) findings (i.e., substantial 90-day and warranted-but-precluded 12-month findings) in response to the petitions to list these candidate species. We publish these findings as part of the first CNOR following receipt of the petition. We have identified the candidate species for which we received petitions by the code ''C*'' in the category column on the left side of Table 1 below.

Second, the CNOR serves as a ''resubmitted'' petition finding. Section 4(b)(3)(C)(i) of the ESA requires that when we make a warranted-but-precluded finding on a petition, we are to treat such a petition as one that is resubmitted on the date of such a finding. Thus, we must make a 12-month petition finding in compliance with section 4(b)(3)(B) of the ESA at least once a year, until we publish a proposal to list the species or make a final not-warranted finding. We make these annual findings for petitioned candidate species through the CNOR.

Third, through undertaking the analysis required to complete the CNOR, the Service determines if any candidate species needs emergency listing. Section 4(b)(3)(C)(iii) of the ESA requires us to ''implement a system to monitor effectively the status of all species'' for which we have made a warranted-but-precluded 12-month finding, and to ''make prompt use of the [emergency listing] authority [under section 4(b)(7)] to prevent a significant risk to the well being of any such species.'' The CNOR plays a crucial role in the monitoring system that we have implemented for all candidate species by providing notice that we are actively seeking information regarding the status of those species. We review all new information on candidate species as it becomes available, prepare an annual species assessment form that reflects monitoring results and other new information, and identify any species for which emergency listing may be appropriate. If we determine that emergency listing is appropriate for any candidate, we will make prompt use of the emergency listing authority under section 4(b)(7). For example, on August 10, 2011, we emergency listed the Miami blue butterfly (76 FR 49542). We have been reviewing and will continue to review, at least annually, the status of every candidate, whether or not we have received a petition to list it. Thus, the CNOR and accompanying species assessment forms constitute the Service's system for monitoring and making annual findings on the status of petitioned species under sections 4(b)(3)(C)(i) and 4(b)(3)(C)(iii) of the ESA.

A number of court decisions have elaborated on the nature and specificity of information that we must consider in making and describing the petition findings in the CNOR. The CNOR published on November 9, 2009 (74 FR 57804), describes these court decisions in further detail. As with previous CNORs, we continue to incorporate information of the nature and specificity required by the courts. For example, we include a description of the reasons why the listing of every petitioned candidate species is both warranted and precluded at this time. We make our determinations of preclusion on a nationwide basis to ensure that the species most in need of listing will be addressed first and also because we allocate our listing budget on a nationwide basis (see below). Regional priorities can also be discerned from Table 1, below, which includes the lead region and the LPN for each species. Our preclusion determinations are further based upon our budget for listing activities for unlisted species only, and we explain the priority system and why the work we have accomplished does preclude action on listing candidate species.

In preparing this CNOR, we reviewed the current status of, and threats to, the 130 candidates for which we have received a petition to list and the 5 listed species and for which we have received a petition to reclassify from threatened to endangered, where we found the petitioned action to be warranted but precluded. We find that the immediate issuance of a proposed rule and timely promulgation of a final rule for each of these species has been, for the preceding months, and continues to be, precluded by higher priority listing actions. Additional information that is the basis for this finding is found in the species assessments and our administrative record for each species.

Our review included updating the status of, and threats to, petitioned candidate or listed species for which we published findings, under section 4(b)(3)(B) of the ESA, in the previous CNOR. We have incorporated new information we gathered since the prior finding and, as a result of this review, we are making continued warranted-but-precluded 12-month findings on the petitions for these species.

The immediate publication of proposed rules to list these species was precluded by our work on higher priority listing actions, listed below, during the period from October 1, 2012, through September 30, 2013. Below we describe the actions that continue to preclude the immediate proposal and final promulgation of a regulation implementing each of the petitioned actions for which we have made a warranted-but-precluded finding, and we describe the expeditious progress we are making to add qualified species to, and remove species from, the Lists. We will continue to monitor the status of all candidate species, including petitioned species, as new information becomes available to determine if a change in status is warranted, including the need to emergency-list a species under section 4(b)(7) of the ESA.

In addition to identifying petitioned candidate species in Table 1 below, we also present brief summaries of why each of these candidates warrants listing. More complete information, including references, is found in the species assessment forms. You may obtain a copy of these forms from the Regional Office having the lead for the species, or from the Fish and Wildlife Service's Internet Web site: *http://ecos.fws.gov/tess_public/pub/candidateSpecies.jsp.* As described above, under section 4 of the ESA, we identify and propose species for listing based on the factors identified in section 4(a)(1), and section 4 also provides a mechanism for the public to petition us to add species to the Lists of Endangered or Threatened Wildlife and Plants under the ESA.

Preclusion and Expeditious Progress

To make a finding that a particular action is warranted but precluded, the Service must make two determinations: (1) That the immediate proposal and timely promulgation of a final regulation is precluded by pending listing proposals and (2) that expeditious progress is being made to add qualified species to either of the lists and to remove species from the lists. 16 U.S.C. 1533(b)(3)(B)(iii).

Preclusion

A listing proposal is precluded if the Service does not have sufficient resources available to complete the proposal, because there are competing demands for those resources, and the relative priority of those competing demands is higher. Thus, in any given fiscal year (FY), multiple factors dictate whether it will be possible to undertake work on a listing proposal regulation or whether promulgation of such a proposal is precluded by higher priority listing actions—(1) The amount of resources available for completing the listing function, (2) the estimated cost of completing the proposed listing, and (3) the Service's workload and prioritization of the proposed listing in relation to other actions.

Available Resources

The resources available for listing actions are determined through the annual Congressional appropriations process. In FY 1998 and for each fiscal year since then, Congress has placed a statutory cap on funds that may be expended for the Listing Program. This spending cap was designed to prevent the listing function from depleting funds needed for other functions under the ESA (for example, recovery functions, such as removing species from the Lists), or for other Service programs (see House Report 105–163, 105th Congress, 1st Session, July 1, 1997). The funds within the spending cap are available to support work involving the following listing actions: Proposed and final listing rules; 90-day and 12-month findings on petitions to add species to the Lists or to change the status of a species from threatened to endangered; annual ''resubmitted'' petition findings on prior warranted-but-precluded petition findings as required under section 4(b)(3)(C)(i) of the ESA; critical habitat petition findings; proposed and final rules designating critical habitat; and litigation-related, administrative, and program-management functions (including preparing and allocating budgets, responding to Congressional and public inquiries, and conducting public outreach regarding listing and critical habitat).

We cannot spend more for the Listing Program than the amount of funds within the spending cap without violating the Anti-Deficiency Act (see 31 U.S.C. 1341(a)(1)(A)). In addition, since FY 2002, the Service's budget has included a critical habitat subcap to ensure that some funds are available for completing Listing Program actions other than critical habitat designations (''The critical habitat designation subcap will ensure that some funding is available to address other listing activities'' (House Report No. 107–103, 107th Congress, 1st Session. June 19, 2001)). In FY 2002 and each year until FY 2006, the Service had to use virtually the entire critical habitat subcap to address court-mandated designations of critical habitat, and consequently none of the critical habitat subcap funds were available for other listing activities. In some FYs since 2006, we have been able to use some of the critical habitat subcap funds to fund proposed listing determinations for high-priority candidate species. In other FYs, while we were unable to use any of the critical habitat subcap funds to fund proposed listing determinations, we did use some of this money to fund the critical habitat portion of some proposed listing determinations so that the proposed listing determination and proposed critical habitat designation could be combined into one rule, thereby being more efficient in our work. In FY 2013, based on the Service's workload, we were able to use some of the critical habitat subcap funds to fund proposed listing determinations.

For FY 2012 Congress also put in place two additional subcaps within the listing cap: One for listing actions for foreign species and one for petition findings. As with the critical habitat subcap, if the Service does not need to use all of the funds within the subcap, we are able to use the remaining funds for completing proposed or final listing determinations. In FY 2013, based on the Service's workload, we were able to use some of the funds within the foreign species subcap and the petitions subcap to fund proposed listing determinations.

We make our determinations of preclusion on a nationwide basis to ensure that the species most in need of listing will be addressed first and also because we allocate our listing budget on a nationwide basis. Through the listing cap, the three subcaps, and the amount of funds needed to complete court-mandated actions within those subcaps, Congress and the courts have in effect determined the amount of money available for other listing activities nationwide. Therefore, the funds in the listing cap—other than those within the subcaps needed to comply with court orders or court-approved settlement agreements requiring critical habitat actions for already-listed species, listing actions for foreign species, and petition findings—set the framework within which we make our determinations of preclusion and expeditious progress.

For FY 2013, on March 26, 2013, Congress passed a Full Year Continuing Appropriations Act (Pub. L. No. 113–6), which provided funding through the end of the FY 2013; this included a spending cap for the listing program. With the spending cap combined with a five percent reduction due to sequestration, the Service had a total of $20,997,000 for the listing program. In addition, no more than $1,498,000 could be used for listing actions for foreign species, and no more than $1,498,000 could be used to make 90-day or 12-month findings on petitions. The Service thus had $13,453,000 available to work on proposed and final listing determinations for domestic species. In addition, if the Service had funding available within the critical habitat, foreign species, or petition subcaps after those workloads had been completed, it could use those funds to work on listing actions other than critical habitat designations or foreign species.

Costs of Listing Actions. The work involved in preparing various listing documents can be extensive, and may include, but is not limited to: Gathering and assessing the best scientific and commercial data available and conducting analyses used as the basis for our decisions; writing and publishing documents; and obtaining, reviewing, and evaluating public

comments and peer review comments on proposed rules and incorporating relevant information into final rules. The number of listing actions that we can undertake in a given year also is influenced by the complexity of those listing actions; that is, more complex actions generally are more costly. The median cost for preparing and publishing a 90-day finding is $39,276; for a 12-month finding, $100,690; for a proposed rule with critical habitat, $345,000; and for a final listing rule with critical habitat, $305,000.

Prioritizing Listing Actions. The Service's Listing Program workload is broadly composed of four types of actions, which the Service prioritizes as follows: (1) Compliance with court orders and court-approved settlement agreements requiring that petition findings or listing or critical habitat determinations be completed by a specific date; (2) essential litigation-related, administrative, and listing program-management functions; (3) section 4 (of the Act) listing and critical habitat actions with absolute statutory deadlines; and (4) section 4 listing actions that do not have absolute statutory deadlines. In FY 2010, the Service received many new petitions and a single petition to list 404 species, significantly increasing the number of actions within the second category of our workload—actions that have absolute statutory deadlines. As a result of the petitions to list hundreds of species, we currently have over 450 12-month petition findings yet to be initiated and completed.

An additional way in which we prioritize work in the section 4 program is application of the listing priority guidelines (48 FR 43098; September 21, 1983). Under those guidelines, we assign each candidate an LPN of 1 to 12, depending on the magnitude of threats (high or moderate to low), immediacy of threats (imminent or nonimminent), and taxonomic status of the species (in order of priority: Monotypic genus (a species that is the sole member of a genus), species, or part of a species (subspecies or distinct population segment)). The lower the listing priority number, the higher the listing priority (that is, a species with an LPN of 1 would have the highest listing priority). A species with a higher LPN would generally be precluded from listing by species with lower LPNs, unless work on a proposed rule for the species with the higher LPN can be combined with work on a proposed rule for other high-priority species. In addition to prioritizing species with our 1983 guidance, because of the large number of high-priority species we have had in the recent past, we had further ranked the candidate species with an LPN of 2 by using the following extinction-risk type criteria: International Union for the Conservation of Nature and Natural Resources (IUCN) Red list status/rank, Heritage rank (provided by NatureServe), Heritage threat rank (provided by NatureServe), and species currently with fewer than 50 individuals, or 4 or fewer populations. Those species with the highest IUCN rank (critically endangered), the highest Heritage rank (G1), the highest Heritage threat rank (substantial, imminent threats), and currently with fewer than 50 individuals, or fewer than 4 populations, originally comprised a group of approximately 40 candidate species (''Top 40''). These 40 candidate species had the highest priority to receive funding to work on a proposed listing determination and we used this to formulate our work plan for FYs 2010 and 2011 that was included in the MDL Settlement Agreement (see below), as well as for work on proposed and final listing rules for the remaining candidate species with LPNs of 2 and 3.

Finally, proposed rules for reclassification of threatened species to endangered species are lower priority, because as listed species, they are already afforded the protections of the Act and implementing regulations. However, for efficiency reasons, we may choose to work on a proposed rule to reclassify a species to endangered if we can combine this with work that is subject to a court ordered or court-approved deadline.

Since before Congress first established the spending cap for the Listing Program in 1998, the Listing Program workload has required considerably more resources than the amount of funds Congress has allowed for the Listing Program. It is therefore important that we be as efficient as possible in our listing process. Therefore, as we implement our listing work plan and work on proposed rules for the highest priority species in the next several years, we are preparing multi-species proposals when appropriate, and these may include species with lower priority if they overlap geographically or have the same threats as one of the highest priority species. In addition, we take into consideration the availability of staff resources when we determine which high-priority species will receive funding to minimize the amount of time and resources required to complete each listing action.

Listing Program Workload. Each FY we determine, based on the amount of funding Congress has made available within the Listing Program spending cap, specifically which actions we will have the resources to work on in that FY. We then prepare Allocation Tables that identify the actions that we are funding for that FY, and how much we estimate it will cost to complete each action; these Allocation Tables are part of our record for this notice of review and the listing program. Our Allocation Table for FY 2012, which incorporated the Service's approach to prioritizing its workload, was adopted as part of a settlement agreement in a case before the U.S. District Court for the District of Columbia (Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (''MDL Litigation''), Document 31–1 (D.D.C. May 10, 2011) (''MDL Settlement Agreement'')). The requirements of paragraphs 1 through 7 of that settlement agreement, combined with the work plan attached to the agreement as Exhibit B, reflected the Service's Allocation Tables for FY 2011 and FY 2012. In addition, paragraphs 2 through 7 of the agreement require the Service to take numerous other actions through FY 2017—in particular, complete either a proposed listing rule or a not-warranted finding for all 251 species designated as ''candidates'' in the 2010 candidate notice of review (''CNOR'') before the end of FY 2016, and complete final listing determinations for those species proposed for listing within the statutory deadline (usually one year from the proposal). Paragraph 10 of that settlement agreement sets forth the Service's conclusion that ''fulfilling the commitments set forth in this Agreement, along with other commitments required by court orders or court-approved settlement agreements already in existence at the signing of this Settlement Agreement (listed in Exhibit A), will require substantially all of the resources in the Listing Program.'' As part of the same lawsuit, the court also approved a separate settlement agreement with the other plaintiff in the case; that settlement agreement requires the Service to complete additional actions in specific fiscal years—including 12-month petition findings for 11 species, 90-day petition findings for 477 species, and proposed listing determinations or not-warranted findings for 39 species.

These settlement agreements have led to a number of results that affect our preclusion analysis. First, the Service has been, and will continue to be, limited in the extent to which it can undertake additional actions within the Listing Program through FY 2017, beyond what is required by the MDL Settlement Agreements. Second,

because the settlement is court approved, two broad categories of actions now fall within the Service's highest priority (compliance with a court order): (1) The actions required to be completed in FY 2013 by the MDL Settlement Agreements; and (2) completion, before the end of FY 2016, of proposed listings or not-warranted findings for most of the candidate species identified in this CNOR (in particular, for those candidate species that were included in the 2010 CNOR). Therefore, each year, one of the Service's highest priorities is to make steady progress towards completing by the end of 2017 proposed and final listing determinations for the 2010 candidate species—based on its LPN prioritization system, preparing multi-species actions when appropriate, and taking into consideration the availability of staff resources.

Based on these prioritization factors, we continue to find that proposals to list the petitioned candidate species included in Table 1 are all precluded by higher priority listing actions including those with court-ordered and court-approved settlement agreements and listing actions with absolute statutory deadlines.

Expeditious Progress

As explained above, a determination that listing is warranted but precluded must also demonstrate that expeditious progress is being made to add and remove qualified species to and from the Lists. As with our ''precluded'' finding, the evaluation of whether progress in adding qualified species to the Lists has been expeditious is a function of the resources available for listing and the competing demands for those funds. (Although we do not discuss it in detail here, we are also making expeditious progress in removing species from the list under the Recovery program in light of the resources available for delisting, which is funded by a separate line item in the budget of the Endangered Species Program. During FY 2013, we completed delisting rules for two species.) As discussed below, given the limited resources available for listing, we find that we made expeditious progress in FY 2013 in the Listing Program.

We provide below tables cataloguing the work of the Service's Listing Program in FY 2013. This work includes all three of the steps necessary for adding species to the Lists: (1) Identifying species that warrant listing; (2) undertaking the evaluation of the best available scientific data about those species and the threats they face, and preparing proposed and final listing rules; and (3) adding species to the Lists by publishing proposed and final listing rules that include a summary of the data on which the rule is based and show the relationship of that data to the rule. After taking into consideration the limited resources available for listing, the competing demands for those funds, and the completed work catalogued in the tables below, we find that we made expeditious progress to add qualified species to the Lists in FY 2013.

First, we made expeditious progress in the third and final step: Listing qualified species. In FY 2013, we resolved the status of 93 species that we determined, or had previously determined, qualified for listing. Moreover, for 81 of those 93 species, the resolution was to add them to the Lists, most with concurrent designations of critical habitat. We also proposed to list an additional 67 qualified species, most with concurrent critical habitat proposals.

Second, we are making expeditious progress in the second step: Working towards adding qualified species to the Lists. In FY 2013, we worked on developing proposed listing rules for four species (most of them with concurrent critical habitat proposals). Although we have not yet completed those actions, we are making expeditious progress towards doing so.

Third, we are making expeditious progress in the first step towards adding qualified species to the Lists: Identifying additional species that qualify for listing. In FY 2013, we completed 90-day petition findings for 7 species and 12-month petition findings for 14 species. In FY 2013, we also worked on evaluating the best available scientific information towards preparing 90-day findings for one additional.

Our accomplishments this year should also be considered in the broader context of our commitment to reduce the candidate list. On May 10, 2011, the Service filed in the MDL Litigation a settlement agreement that put in place an ambitious schedule for completing proposed and final listing determinations at least through FY 2016; the court approved that settlement agreement on September 9, 2011. That agreement required, among other things, that the Service complete proposed listing determinations or not-warranted findings for all 251 species that were on the 2010 candidate list by the end of FY 2016, and final listing determinations any proposed listing rules within the statutory time frame. Paragraph 6 of the agreement provided indicators that the Service is making adequate progress towards meeting that requirement: Completing proposed listing rules or not-warranted findings for at least 130 of the species by the end of FY 2013, at least 160 species by the end of FY 2014, and at least 200 species by the end of FY 2015. The Service has completed proposed listing rules or not-warranted findings for 140 of the 2010 candidate species, as well as final listing rules for 69 of those proposed rules, and is therefore is making adequate progress towards meeting all of the requirements of the MDL settlement agreement. Both by entering into the settlement agreement and by making adequate progress towards making final listing determinations for the 251 species on the 2010 candidate, the Service is making expeditious progress to add qualified species to the lists.

The Service's progress in FY 2013 included completing and publishing the following determinations:

FY 2013 Completed Listing Actions

Publication date	Title	Actions	FR pages
10/2/2012	Proposed Threatened Status for Coral Pink Sand Dunes Tiger Beetle and Designation of Critical Habitat.	Proposed Listing Threatened	77 FR 60207–60235.
10/2/2012	12-Month Petition Finding, Listing of the Spring Pygmy Sunfish as Threatened, and Designation of Critical Habitat.	Notice of 12-month petition finding, Warranted Proposed Listing Threatened.	77 FR 60179–60206.
10/3/2012	12-month Finding for the Lemmon Fleabane; Endangered Status for the Acuña Cactus and the Fickeisen Plains Cactus and Designation of Critical Habitat.	Notice of 12-month petition finding, Not warranted Proposed Listing Endangered.	77 FR 60509–60579.
10/4/2012	Proposed Endangered Species Status for the Florida Bonneted Bat	Proposed Listing Endangered	77 FR 60749–60776.

FY 2013 COMPLETED LISTING ACTIONS—Continued

Publication date	Title	Actions	FR pages
10/4/2012	Determination of Endangered Species Status for Coquí Llanero Throughout Its Range and Designation of Critical Habitat.	Final Listing Endangered	77 FR 60777–60802.
10/4/2012	Endangered Species Status for the Fluted Kidneyshell and Slabside Pearlymussel and Designation of Critical Habitat.	Proposed Listing Endangered	77 FR 60803–60882.
10/9/2012	12-Month Finding on Petitions to List the Mexican Gray Wolf as an Endangered Subspecies or Distinct Population Segment with Critical Habitat.	Notice of 12-month petition finding, Not warranted.	77 FR 61375–61377.
10/10/2012 ..	Determination of Endangered Species Status for the Alabama Pearlshell, Round Ebonyshell, Southern Kidneyshell, and Choctaw Bean, and Threatened Species Status for the Tapered Pigtoe, Narrow Pigtoe, Southern Sandshell, and Fuzzy Pigtoe, and Designation of Critical Habitat.	Final Listing Endangered and Threatened.	77 FR 61663–61719.
10/11/2012 ..	Endangered Species Status for Cape Sable Thoroughwort, Florida Semaphore Cactus, and Aboriginal Prickly-apple, and Designation of Critical Habitat for Cape Sable Thoroughwort.	Proposed Listing Endangered	77 FR 61835–61894.
10/11/2012 ..	Listing Taylor's Checkerspot Butterfly and Streaked Horned Lark and Designation of Critical Habitat.	Proposed Listing Endangered and Threatened.	77 FR 61937–62058.
10/16/2012 ..	Proposed Endangered Status for the Neosho Mucket, Threatened Status for the Rabbitsfoot, and Designation of Critical Habitat for Both Species.	Proposed Listing Endangered and Threatened.	77 FR 63439–63536.
10/17/2012 ..	Listing 15 Species on Hawaii Island as Endangered and Designating Critical Habitat for 3 Species.	Proposed Listing Endangered	77 FR 63927–64018.
11/14/2012 ..	90-Day Finding on a Petition to List the Heller Cave Springtail as Endangered or Threatened.	Notice of 90-day Petition Finding, Substantial.	77 FR 67784–67789.
11/28/2012 ..	Status Review for a Petition to List the Ashy Storm-petrel as Endangered or Threatened.	Notice Status Review	77 FR 70987–70988.
12/04/2012 ..	90-Day Finding on a Petition To List Phoenix dactylifera 'Sphinx' (Sphinx Date Palm).	Notice of 90-day Petition Finding, Not substantial.	77 FR 71757–71758.
12/04/2012 ..	90-Day Finding on a Petition to List the Prairie Gray Fox, the Plains Spotted Skunk, and a Distinct Population Segment of the Mearn's Eastern Cottontail in East-central Illinois and Western Indiana as Endangered or Threatened Species.	Notice of 90-day Petition Finding, Not substantial Substantial.	77 FR 71759–71771.
12/11/2012 ..	Listing the Lesser Prairie-Chicken as a Threatened Species	Proposed Listing Threatened	77 FR 73827–73888.
12/11/2012 ..	Listing Four Subspecies of Mazama Pocket Gopher and Designation of Critical Habitat.	Proposed Listing Threatened	77 FR 73769–73825.
1/11/2013	Endangered Status for Gunnison Sage-grouse	Proposed Listing Endangered	78 FR 2486–2538.
1/25/2013	Endangered Status for the Zuni Bluehead Sucker	Proposed Listing Endangered	78 FR 5369–5385.
2/4/2013	Threatened Status for the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States.	Proposed Listing Threatened	78 FR 7863–7890.
3/19/2013	Status Review of the West Coast Distinct Population Segment of the Fisher as Endangered or Threatened.	Notice of Status Review	78 FR 16828–16829.
3/28/2013	12-Month Finding on a Petition to List the Rosemont Talussnail as Endangered or Threatened.	Notice of 12-month petition finding, Not warranted.	78 FR 18936–18938.
4/9/2013	90-Day Finding on a Petition to List Two Populations of Black-Backed Woodpecker as Endangered or Threatened.	Notice of 90-day Petition Finding, Substantial.	78 FR 21086–21097.
4/23/2013	Threatened Status for Eriogonum codium (Umtanum Desert Buckwheat) and Physaria douglasii subsp. tuplashensis (White Bluffs Bladderpod).	Final Listing Threatened	78 FR 23983–24005.
4/25/2013	Endangered Status for the Sierra Nevada Yellow-legged Frog and the Northern Distinct Population Segment of the Mountain Yellow-legged Frog, and Threatened Status for the Yosemite Toad.	Proposed Listing Endangered and Threatened.	78 FR 24471–24514.
5/24/2013	Proposed Threatened Status for Leavenworthia exigua var. laciniata (Kentucky Glade Cress).	Proposed Listing Threatened	78 FR 31498–31511.
5/28/2013	Determination of Endangered Status for 38 Species on Molokai, Lanai, and Maui.	Final Listing Endangered	78 FR 32013–32065.
6/20/2013	Listing Determination for the New Mexico Meadow Jumping Mouse	Proposed Listing Endangered	78 FR 37363–37369.
7/9/2013	Determination of Endangered Species Status for Six West Texas Aquatic Invertebrates.	Final Listing Endangered	78 FR 41227–41258.
7/10/2013	Threatened Status for the Northern Mexican Gartersnake and Narrow-headed Gartersnake.	Proposed Listing Threatened	78 FR 41499–41547.
7/26/2013	Endangered Species Status for Diamond Darter	Final Listing Endangered	78 FR 45074–45095.
8/2/2013	12-Month Finding and Candidate Removal for Potentilla basaltica; Proposed Threatened Species Status for Ivesia webberi.	Notice of 12-month petition finding, Not warranted and Candidate Removal; Proposed listing, Threatened.	78 FR 46889–46897.
8/2/2013	Endangered Status for Physaria globosa (Short's bladderpod), Helianthus verticillatus (whorled sunflower), and Leavenworthia crassa (fleshy-fruit gladecress).	Proposed listing Endangered	78 FR 47109–47134.
8/6/2013	Endangered Species Status for the Sharpnose Shiner and Smalleye Shiner.	Proposed Listing Endangered	78 FR 47582–47590.

FY 2013 COMPLETED LISTING ACTIONS—Continued

Publication date	Title	Actions	FR pages
8/6/2013	Threatened Species Status for Graham's Beardtongue (*Penstemon grahamii*) and White River Beardtongue (*Penstemon scariosus* var. *albifluvis*).	Proposed Listing Threatened	78 FR 47590–47611.
8/13/2013	Determination of Endangered Status for *Sphaeralcea gierischii* (Gierisch Mallow) Throughout Its Range.	Final Listing Endangered	78 FR 49149–49165.
8/14/2013	12-Month Finding on a Petition To List the Rattlesnake-Master Borer Moth (*Papaipema eryngii*) as an Endangered or Threatened Species.	Notice of 12-month petition finding Warranted but Precluded.	78 FR 49422–49440.
8/15/2013	Endangered Status for the Florida Leafwing and Bartram's Scrub-Hairstreak Butterflies.	Proposed Listing Endangered	78 FR 49878–49901.
8/20/2013	Determination of Endangered Species Status for the Austin Blind Salamander and Threatened Species Status for the Jollyville Plateau Salamander Throughout Their Ranges.	Final Listing Endangered Threatened.	78 FR 51277–51326.
8/29/2013	Threatened Status for Oregon Spotted Frog	Proposed Listing Threatened	78 FR 53581–53623.
9/3/2013	Removing Five Subspecies of Mazama Pocket Gopher From the Candidate List for Endangered and Threatened Species.	Notice of 12-month petition finding Not warranted; removal from candidate list.	78 FR 54214–54218.
9/10/2013	Determination of Endangered Species Status for Jemez Mountains Salamander (Plethodon neomexicanus) Throughout Its Range.	Final Listing Endangered	78 FR 55599–55627.
9/11/2013	Determination of Endangered Status for Texas Golden Gladecress and Threatened Status for Neches River Rose-mallow.	Final Listing Endangered and Threatened.	78 FR 56025–56069.
9/12/2013	Threatened Status for *Arabis georgiana* (Georgia rockcress)	Proposed Listing Threatened	78 FR 56192–56201.
9/17/2013	Endangered Status for the Neosho Mucket and Threatened Status for the Rabbitsfoot.	Final Listing Endangered and Threatened.	78 FR 57076–57097.
9/19/2013	Determination of Endangered Species Status for Mount Charleston Blue Butterfly.	Final Listing Endangered	78 FR 57749–57775.
9/25/2013	Determination of Endangered Species Status for the Grotto Sculpin (*Cottus specus*) Throughout Its Range.	Final Listing Endangered	78 FR 58938–58955.
9/26/2013	Revised Designation of Critical Habitat for the Contiguous U.S. Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary.	Proposed Revision of DPS Boundary (Proposed Listing in New Mexico).	78 FR 59430–59474.
9/26/2013	Endangered Species Status for the Fluted Kidneyshell and Slabside Pearlymussel.	Final Listing Endangered	78 FR 59269–59287.
9/30/2013	Proposed Threatened Status for the Rufa Red Knot (*Calidris canutus rufa*).	Proposed Listing Threatened	78 FR.
10/1/2013	Endangered Species Status for *Echinomastus erectocentrus* var. *acunensis* (Acuña Cactus) and *Pediocactus peeblesianus* var. *fickeiseniae* (Fickeisen Plains Cactus) Throughout Their Ranges.	Final Listing Endangered	78 FR 60607–60652.
10/2/2013	Threatened Species Status for Spring Pygmy Sunfish	Final Listing Threatened	78 FR 60766–60783.
10/2/2013	Endangered Species Status for the Florida Bonneted Bat	Final Listing Endangered	78 FR 61003–61043.
10/2/2013	12-Month Finding on a Petition to List the Eastern Small-Footed Bat and the Northern Long-Eared Bat as Endangered or Threatened Species; Listing the Northern Long-Eared Bat as an Endangered Species.	Notice of 12-month petition finding, Not warranted Proposed listing, Endangered.	78 FR 61045–61080.
10/2/2013	Withdrawal of the Proposed Rule To List Coral Pink Sand Dunes Tiger Beetle and Designate Critical Habitat.	Proposed Listing Withdrawal	78 FR 61081–61112.
10/3/2013	Determination of Endangered Status for the Taylor's Checkerspot Butterfly and Threatened Status for the Streaked Horned Lark.	Final Listing Endangered and Threatened.	78 FR 61451–61503.
10/3/2013	Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-billed Cuckoo (*Coccyzus americanus*).	Proposed Listing Threatened	78 FR 61621–61666.
10/3/2013	Proposed Endangered Status for *Brickellia mosieri* (Florida Brickellbush) and *Linum carteri* var. *carteri* (Carter's Small-flowered Flax).	Proposed Listing Endangered	78 FR 61273–61293.
10/3/2013	12-Month Finding on a Petition to List Kittlitz's Murrelet as an Endangered or Threatened Species.	Notice of 12-month petition finding, Not warranted Removal from candidate list.	78 FR 61763–61801.
10/22/2013 ..	12-Month Finding on a Petition To List Ashy Storm-Petrel as an Endangered or Threatened Species.	Notice of 12-month petition finding, Not warranted.	78 FR 62523–62529.
10/22/2013 ..	Endangered Status for *Agave eggersiana* and *Gonocalyx concolor,* and Threatened Status for *Varronia rupicola*.	Proposed Listing Endangered and Threatened.	78 FR 62560–62579.
10/24/2013 ..	Threatened Status for Dakota Skipper and Endangered Status for Poweshiek Skipperling.	Proposed Listing Endangered and Threatened.	78 FR 63573–63625.
10/24/2013 ..	Determination of Endangered Status for *Chromolaena frustrata* (Cape Sable Thoroughwort), *Consolea corallicola* (Florida Semaphore Cactus), and *Harrisia aboriginum* (Aboriginal Prickly-Apple).	Final Listing Endangered	78 FR 63795–63821.
10/28/2013 ..	Threatened Status for the Bi-State Distinct Population Segment of Greater Sage-Grouse With Special Rule.	Proposed Listing Threatened	78 FR 64357–64384.
10/29/2013 ..	Determination of Endangered Species Status for 15 Species on Hawaii Island.	Final Listing Endangered	78 FR 64637–64690.
10/29/2013 ..	Endangered Status for Vandenberg Monkeyflower	Proposed Listing Endangered	78 FR 64839–64871.

Our expeditious progress also included work on listing actions that we funded in previous fiscal years and in FY 2013 but have not yet been completed to date. For these species, we have completed the first step, and have been working on the second step, necessary for adding species to the Lists. These actions are listed below. Actions in the top section of the table are being conducted under a deadline set by a court through a court order or settlement agreement. The action in the lower section of the table is being conducted to meet statutory timelines, that is, timelines required under the Act.

ACTIONS FUNDED IN PREVIOUS FYS AND FY 2013 BUT NOT YET COMPLETED

Species	Action
Actions Subject to Court Order/Settlement Agreement	
2 Texas salamanders (salado and Georgetown).	Final listing.
4 Puget trough species (4 subspecies of pocket gopher (Thomomys mazama ssp.).	Final listing.
3 Sierra amphibians (Yosemite toad, mountain yellow-legged frog—Sierra Nevada DPSs).	Final listing.
Lesser prairie chicken	Final listing.
Gunnison sage-grouse.	Final listing.
Washington ground squirrel.	Proposed listing.
Xantus's murrelet	Proposed listing.
Yellow-billed loon	Proposed listing.
Florida bristle fern	Proposed listing.
Actions With Statutory Deadlines	
Alexander Archipelago wolf.	90-day petition finding.

We also funded work on resubmitted petitions findings for 130 candidate species (species petitioned prior to the last CNOR). In our resubmitted petition finding for the Columbia Basin population of the greater sage-grouse in this notice of review, although we completed a new analysis of the threats facing the species, we did not include new information, as the significance of the Columbia Basin DPS of the greater sage-grouse will require further review and we will update our finding when we resolve the status of the greater sage-grouse at a later date (see 75 FR 13910; March 23, 2010). We also did not include an updated assessment form as part of our resubmitted petition findings for the five candidate species for which we are preparing proposed listing determinations. However, for both the Columbia Basin DPS of the greater sage-grouse and for the other resubmitted petition findings, in the course of preparing proposed listing determinations, we continue to monitor new information about their status so that we can make prompt use of our authority under section 4(b)(7) in the case of an emergency posing a significant risk to the well-being of any of these candidate species; see summaries below regarding publication of these determinations (these species will remain on the candidate list until a proposed listing rule is published). We also funded revised 12-month petition findings for the candidate species that we are removing from candidate status, which are being published as part of this CNOR (see Candidate Removals). Because the majority of these petitioned species were already candidate species prior to our receipt of a petition to list them, we had already assessed their status using funds from our Candidate Conservation Program, so we continue to monitor the status of these species through our Candidate Conservation Program. The cost of updating the species assessment forms and publishing the joint publication of the CNOR and resubmitted petition findings is shared between the Listing Program and the Candidate Conservation Program.

During FY 2013, we also funded work on resubmitted petition findings for uplisting five listed species (three grizzly bear populations, Delta smelt, and *Sclerocactus brevispinus* (Pariette cactus)), for which we had previously received a petition and made a warranted-but-precluded finding.

Another way that we have been expeditious in making progress to add qualified species to the Lists is that we have endeavored to make our listing actions as efficient and timely as possible, given the requirements of the relevant law and regulations, and constraints relating to workload and personnel. We are continually considering ways to streamline processes or achieve economies of scale, such as by batching related actions together. Given our limited budget for implementing section 4 of the ESA, these efforts also contribute towards finding that we are making expeditious progress to add qualified species to the Lists.

Although we have not been able to resolve the listing status of many of the candidates, we continue to contribute to the conservation of these species through several programs in the Service. In particular, the Candidate Conservation Program, which is separately budgeted, focuses on providing technical expertise for developing conservation strategies and agreements to guide voluntary on-the-ground conservation work for candidate and other at-risk species. The main goal of this program is to address the threats facing candidate species. Through this program, we work with our partners (other Federal agencies, State agencies, Tribes, local governments, private landowners, and private conservation organizations) to address the threats to candidate species and other species at-risk. We are currently working with our partners to implement voluntary conservation agreements for more than 110 species covering 3.2 million ac of habitat. In some instances, the sustained implementation of strategically designed conservation efforts culminates in making listing unnecessary for species that are candidates for listing or for which listing has been proposed.

Findings for Petitioned Candidate Species

Below are updated summaries for petitioned candidates for which we published findings under section 4(b)(3)(B). We are making continued warranted-but-precluded 12-month findings on the petitions for these species (for our revised 12-month petition findings for species that we are removing from candidate status, see summaries above under Candidate Removals).

Mammals

Pacific sheath-tailed bat, American Samoa DPS (*Emballonura semicaudata semicaudata*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This small insectivorous bat is a member of the Emballonuridae family, an Old World bat family that has an extensive distribution, primarily in the tropics. *Emballonura semicaudata semicaudata* was once common and widespread in Polynesia and Micronesia. The species as a whole (*E. semicaudata*) occurred on several of the Caroline Islands (Palau, Chuuk, and Pohnpei), Samoa (Independent and American), the Mariana Islands (Guam and the Commonwealth of the Northern Mariana Islands (CNMI)), Tonga, Fiji, and Vanuatu. While populations appear to be healthy in some locations, mainly in the Caroline Islands, they have declined substantially in other areas, including Independent and American Samoa, the Mariana Islands, Fiji, and

possibly Tonga. Scientists recognize four subspecies: *E. s. rotensis,* endemic to the Mariana Islands (Guam and the Commonwealth of the Northern Mariana Islands (CNMI)); *E. s. sulcata,* occurring in Chuuk and Pohnpei; *E. s. palauensis,* found in Palau; and *E. s. semicaudata,* occurring in American and Independent Samoa, Tonga, Fiji, and Vanuatu. The candidate assessment form addresses the DPS of *E. s. semicaudata* that occurs in American Samoa.

Emballonura semicaudata semicaudata historically occurred in American and Independent Samoa, Tonga, Fiji, and Vanuatu. It is extant in Fiji and Tonga, but may be extirpated from Vanuatu and Independent Samoa. There is some concern that it is also extirpated from American Samoa, the location of this DPS, where surveys are currently ongoing to ascertain its status. The factors that led to the decline of this subspecies and the DPS are poorly understood; however, current threats to this subspecies and the DPS include habitat loss, predation by introduced species, and its small population size and distribution, which make the taxon extremely vulnerable to extinction due to typhoons and similar natural catastrophes. Thus, the threats are high in magnitude. The subspecies may also be susceptible to disturbance in its roosting caves. The LPN for *E. s. semicaudata* is 3, because the magnitude of the threats is high, the threats are ongoing and therefore imminent, and the taxon is a DPS.

Pacific sheath-tailed bat (*Emballonura semicaudata rotensis*), Guam and the Commonwealth of the Northern Mariana Islands (CNMI)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This small insectivorous bat, *Emballonura semicaudata rotensis,* is a member of the Emballonuridae family, an Old World bat family that has an extensive distribution, primarily in the tropics. The Pacific sheath-tailed bat was once common and widespread in Polynesia and Micronesia. *Emballonura s. rotensis* is historically known from the Mariana Islands and formerly occurred on Guam and in the CNMI on the islands of Rota, Aguiguan, Tinian (known from prehistoric records only), Saipan, and possibly Anatahan and Maug. Currently, *E. semicaudata rotensis* appears to be extirpated from all but one island in the Mariana archipelago. The single remaining population of this subspecies occurs on Aguiguan, CNMI.

Threats to this subspecies have not changed over the past year. The primary threats to *Emballonura s. rotensis* are ongoing habitat loss and degradation as a result of feral goat (*Capra hircus*) activity on the island of Aguiguan and the taxon's small population size and limited distribution. Predation by nonnative species and human disturbance are also potential threats to the subspecies. The subspecies is believed to be near the point where stochastic events, such as typhoons, are increasingly likely to affect its continued survival. The disappearance of the remaining population on Aguiguan would result in the extinction of the subspecies. Thus, the threats are high in magnitude. The LPN for *E. s. rotensis* remains at 3 because the magnitude of the threats is high, the threats are ongoing and therefore imminent, and the taxon is a subspecies.

New England cottontail (*Sylvilagus transitionalis*)—The following summary is based on information contained in our files and information received in response to our document published on June 30, 2004, when we announced our 90-day petition finding and initiation of a status review (69 FR 39395). We received the petition on August 30, 2000.

The New England cottontail (NEC) is a medium-to-large-sized cottontail rabbit that may reach 1,000 grams in weight, and is one of two species within the genus Sylvilagus occurring in New England. The NEC is considered a habitat specialist, as it is dependent upon early successional habitats typically described as thickets. The species is the only endemic cottontail in New England. Historically, the NEC occurred in seven States and ranged from southeastern New York (east of the Hudson River) north through the Champlain Valley, southern Vermont, the southern half of New Hampshire, and southern Maine, and south throughout Massachusetts, Connecticut, and Rhode Island. The range of the NEC has declined substantially, and occurrences have become increasingly separated. The species' distribution is fragmented into five apparently isolated metapopulations. The area occupied by the cottontail has contracted from approximately 90,000 square kilometers (km^2) (34,750 square miles (mi^2)) to 12,180 km^2 (4,700 mi^2). Surveys indicate that the long-term decline in NEC continues. For example, surveys for the species in 2009 documented the presence of NEC in 7 of the 23 New Hampshire locations that were known to be occupied in 2002 and 2003. Similarly, surveys in Maine did not detect the species in 9 of the 19 towns where the species was present, in an extensive survey that spanned the years 2000 to 2004. Similar surveys were conducted during the winter of 2010 to 2011 in Rhode Island. Rangewide, it is estimated that less than one-third of the occupied sites occur on lands in conservation status, and fewer than 10 percent are being managed for early successional forest species.

The primary threat to the NEC is loss of habitat through succession and alteration. Isolation of occupied patches by areas of unsuitable habitat and high predation rates is resulting in local extirpation of NECs from small patches. The range of the NEC has contracted by 75 percent or more since 1960, and current land use trends in the region indicate that the rate of change, about 2-percent range loss per year, will continue. Additional threats include competition for food and habitat with introduced eastern cottontails and large numbers of native white-tailed deer; and mortality from predation. The magnitude of the threats continues to be high because they occur rangewide and have an effect on the survival of the species across its range. The threats are imminent because they are ongoing. Thus, we retained a listing priority number of 2 for this species. Conservation measures that address the threats to the species are being developed.

Fisher, West Coast DPS (*Martes pennanti*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Gunnison's prairie dog (*Cynomys gunnisoni*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a revised 12-month finding and proposed listing determination that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the revised finding and proposed listing determination, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Southern Idaho ground squirrel (*Urocitellus endemicus*)—See above in ''Listing Priority Changes in Candidates.'' The above summary is based on information contained in our files.

Washington ground squirrel (*Urocitellus washingtoni*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Red tree vole, north Oregon coast DPS (*Arborimus longicaudus*)—The following summary is based on information contained in our files and in our initial warranted-but-precluded finding, published in the **Federal Register** on October 13, 2011 (76 FR 63720). Red tree voles are small, mouse-sized rodents that live in conifer forests and spend almost all of their time in the tree canopy. They are one of the few animals that can persist on a diet of conifer needles, which is their principal food. Red tree voles are endemic to the humid, coniferous forests of western Oregon (generally west of the crest of the Cascade Range) and northwestern California (north of the Klamath River). The north Oregon coast DPS of the red tree vole comprises that portion of the Oregon Coast Range from the Columbia River south to the Siuslaw River. Red tree voles demonstrate strong selection for nesting in older conifer forests, which are now relatively rare across the DPS; they avoid nesting in younger forests.

Although data are not available to rigorously assess population trends, information from retrospective surveys indicates red tree voles have declined in the DPS and no longer occur, or are now scarce, in areas where they were once relatively abundant. Older forests that provide habitat for red tree voles are limited and highly fragmented, while ongoing forest practices in much of the DPS maintain the remaining patches of older forest in a highly fragmented and isolated condition. Modeling indicates only 11 percent of the DPS currently contains tree vole habitat, largely restricted to the 22 percent of the DPS that is under Federal ownership.

Existing regulatory mechanisms on State and private lands are inadequate to prevent continued harvest of forest stands at a scale and extent that would be meaningful for conserving red tree voles. Biological characteristics of red tree voles, such as small home ranges, limited dispersal distances, and low reproductive potential, limit their ability to respond to and persist in areas of extensive habitat loss and alteration. These biological characteristics also make it difficult for the tree voles to recolonize isolated habitat patches. Due to its reduced distribution, the red tree vole is now vulnerable to random environmental disturbances that may remove or further isolate large blocks of already limited habitat, and to extirpation within the DPS from such factors as lack of genetic variability, inbreeding depression, and demographic stochasticity. Although the entire population is experiencing threats, the impact is less pronounced on Federal lands, where much of the red tree vole habitat remains. Hence, the magnitude of threats is moderate to low. The threats are imminent because they are currently occurring within the DPS. Therefore, we have retained an LPN of 9 for this species.

Pacific walrus (*Odobenus rosmarus divergens*)—The following information is based on information in our files and our warranted-but-precluded 12-month petition finding published on February 10, 2011 (76 FR 7634). The Pacific walrus is an ice-dependent species found across the continental shelf waters of the northern Bering and Chukchi Seas. Unlike seals, which can remain in the water for extended periods, walrus must haul out onto ice or land periodically. Pacific walrus is a traditional and important source of food and products to native Alaskans, especially those living on Saint Lawrence Island, and to native Russians.

Annually, walrus migrate up to 1,500 km (932 mi) between winter breeding areas in the sub-Arctic (northern Bering Sea) and summer foraging areas in the Arctic. Historically, the females and calves remained on pack ice over the continental shelf of the Chukchi Sea throughout the summer, using it as a platform for resting after making shallow foraging dives for invertebrates on the sea floor. Sea ice also provides isolation from disturbance and terrestrial predators such as polar bears. Since 1979, the extent of summer Arctic sea ice has declined. The five lowest records of minimum sea ice extent occurred from 2007 to 2012. Based on the best scientific information available, we anticipate that sea ice will retreat northward off the Chukchi continental shelf for 1 to 5 months every year in the foreseeable future.

When the ice melts beyond the limits of the continental shelf (and the ability of the walrus to obtain food), thousands of walrus congregate at coastal haulouts. Although coastal haulouts have historically provided a place to rest, the aggregation of so many animals, in particular females and calves, at this time of year has increased in the last 5 years. Not only are the number of animals more concentrated at coastal haulouts than on widely dispersed sea ice, but also the probability of disturbance from humans and terrestrial animals is much higher. Disturbances at coastal haulouts can cause stampedes, leading to mortalities and injuries. In addition, there is also concern that the concentration of animals will cause local prey depletion, leading to longer foraging trips, increased energy costs, and potential effects on female condition and calf survival. We expect these effects to lead to a population decline.

We recognize that Pacific walrus face additional stressors from ocean warming, ocean acidification, disease, oil and gas exploration and development, increased shipping, commercial fishing, and subsistence harvest, but none rise to the level of a threat except subsistence harvest. We found that subsistence harvest will rise to the level of a threat if the population declines but harvest levels remain the same. Because the threat of sea ice loss is not having significant population-level effects currently, but is projected to, we determined that the magnitude of this threat is moderate, not high. Because both the loss of sea ice habitat and the ongoing practice of subsistence harvest are presently occurring, these threats are imminent. Thus, we assigned an LPN of 9 to this subspecies.

Birds

Spotless crake, American Samoa DPS (*Porzana tabuensis*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The spotless crake is a small, dark, cryptic bird found in wetlands and rank scrublands or forests in the Philippines, Australia, Fiji, Tonga, Society Islands, Marquesas, Independent Samoa, and American Samoa (Ofu, Tau). The genus *Porzana* is widespread in the Pacific, where it is represented by numerous island-endemic and flightless species (many of which are extinct as a result of anthropogenic disturbances), as well as several more cosmopolitan species,

including *P. tabuensis.* No subspecies of *P. tabuensis* are recognized.

The American Samoa population is the only population of spotless crakes under U.S. jurisdiction. The available information indicates that distinct populations of the spotless crake, a species not noted for long-distance dispersal, are definable. The population of spotless crakes in American Samoa is discrete in relation to the remainder of the species as a whole, which is distributed in widely separated locations. Although the spotless crake (and other rails) have dispersed widely in the Pacific, flight in island rails has atrophied or been completely lost over evolutionary time, causing populations to become isolated (and vulnerable to terrestrial predators such as rats). The population of this species in American Samoa is therefore distinct based on geographic and distributional isolation from spotless crake populations on other islands in the oceanic Pacific, the Philippines, and Australia. The American Samoa population of the spotless crake links the Central and Eastern Pacific portions of the species' range. The loss of this population would result in an increase of roughly 500 miles (805 kilometers) in the distance between the central and eastern Polynesian portions of the spotless crake's range, and could result in the isolation of the Marquesas and Society Islands populations by further limiting the potential for even rare genetic exchange. Based on the discreteness and significance of the American Samoa population of the spotless crake, we consider this population to be a distinct vertebrate population segment.

Threats to this population have not changed over the past year. The population in American Samoa is threatened by small population size, limited distribution, predation by nonnative and native animals, continued development of wetland habitat, and natural catastrophes such as hurricanes. The co-occurrence of a known predator of ground-nesting birds, the Norway rat (*Rattus norvegicus*), and native predators, the Pacific boa (*Candoia bibroni*) and the Purple Swamphen (*Porphyrio porphyrio*), along with the extremely restricted observed distribution and low numbers, indicates that the magnitude of the threats to the American Samoa DPS of the spotless crake continues to be high because the threats significantly affect the species' likelihood of survival. The threats are ongoing and therefore imminent. Based on this assessment of existing information about the imminence and high magnitude of these threats, we have retained an LPN of 3 for this DPS.

Friendly ground-dove, American Samoa DPS (*Gallicolumba stairi*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The genus *Gallicolumba* is distributed throughout the Pacific and Southeast Asia. The genus is represented in the oceanic Pacific by six species: Three are endemic to Micronesian islands or archipelagos, two are endemic to island groups in French Polynesia, and *G. stairi* is endemic to Samoa, Tonga, and Fiji. Some authors recognize two subspecies of the friendly ground-dove, one, slightly smaller, in the Samoan archipelago (*G. s. stairi*), and one in Tonga and Fiji (*G. s. vitiensis*), but because morphological differences between the two are minimal, we are not recognizing separate subspecies at this time.

In American Samoa, the friendly ground-dove has been found on the islands of Ofu and Olosega (Manua Group). Threats to this subspecies have not changed over the past year. Predation by nonnative species and natural catastrophes such as hurricanes are the primary threats to the subspecies. Of these, predation by nonnative species is thought to be occurring now and likely has been occurring for several decades. This predation may be an important impediment to population growth. Predation by introduced species has played a significant role in reducing, limiting, and extirpating populations of island birds, especially ground-nesters like the friendly ground-dove, in the Pacific and other locations worldwide. Nonnative predators known or thought to occur in the range of the friendly ground-dove in American Samoa include feral cats (*Felis catus*), Polynesian rats (*Rattus exulans*), black rats (*R. rattus*), and Norway rats (*R. norvegicus*).

In January 2004 and February of 2005, hurricanes virtually destroyed the habitat of *G Gallicolumba stairi* in the area on Olosega Island where the species had been most frequently recorded. Although this species has evolved on islands subject to severe storms, this example illustrates the potential for natural disturbance to exacerbate the effect of anthropogenic disturbance on small populations. Consistent monitoring using a variety of methods over the last 5 years yielded few observations and no change in the relative abundance of this taxon in American Samoa. The total population size remains poorly known, but is unlikely to number more than a few hundred pairs. The distribution of the friendly ground-dove is limited to steep, forested slopes with an open understory and a substrate of fine scree or exposed earth; this habitat is not common in American Samoa. The threats are ongoing and therefore imminent, and the magnitude is moderate because relative abundance has remained unchanged for several years. Thus, we have retained an LPN of 9 for this DPS.

Yellow-billed loon (*Gavia adamsii*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Xantus's murrelet (*Synthliboramphus hypoleucus*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Red-crowned parrot (*Amazona viridigenalis*)—The following summary is based in part on information contained in the Notice of 12-month finding (FR 76 62016), but largely on communication with the U.S. Fish and Wildlife Service (Service), Gulf Coast Prairie Landscape Conservation Cooperative, Texas Parks and Wildlife Department, The Nature Conservancy, Rio Grande Joint Venture, World Birding Center, and Rio Grande Birding Festival biologists.

Currently, there are no changes to the range and/or distribution of the red-crowned parrot. The red-crowned parrot is non-migratory, and occurs in fragmented isolated habitat in the Mexican states of Veracruz, San Luis Potosi, Nuevo Leon, Tamaulipas, and northeast Queretaro and in Texas, in Mission, McAllen, Pharr, and Edinburg (Hidalgo County) and in Brownsville, Los Fresnos, San Benito, and Harlingen (Cameron County). Feral populations may also exist in southern California, Puerto Rico, Hawaii, and Florida and

escaped birds have been reported in central Texas. The species is nomadic during the winter (non-breeding) season when large flocks range widely to forage, moving tens of kilometers during a single flight in Mexico. As of 2004, half of the native population is believed to be found in the United States. The species within Texas is thought to move between urban areas in search for food and other available resources.

Two projects, one in Weslaco and one in Harlingen, Texas, were initiated in 2011 to provide nest boxes in palms for the red-crowned parrot. As of March 2013, these nest sites had not been used although red-crowned parrots had been actively traveling within the area throughout the prior spring, summer, and fall months. Annual monitoring of red-crowned parrot populations in the Lower Rio Grande Valley (LRGV), Texas, has not been undertaken except to record anecdotal observations of the bird and its' behavior, abundance, nesting, or threats. Monitoring efforts for the red-crowned parrot in Mexico are unknown.

The primary threats to red-crowned parrots within Mexico and Texas remain habitat destruction and modification from logging, deforestation, conversion of suitable habitat, and urbanization. The species is also collected for the pet trade; multiple laws and regulations have been passed to control illegal trade, but they are not adequately enforced. In addition, existing regulations do not adequately address the habitat threats to the species. Thus, the inadequacy of existing regulations and their enforcement continue to threaten the red-crowned parrot. However, at least two city ordinances have been put in place in South Texas prohibiting malicious acts (injury, mortality) to birds and their habitat. Disease and predation still do not threaten the species. Pesticide exposure is not known to affect the red-crowned parrot. Conservation efforts include a project that was initiated by the Service and the Rio Grande Joint Venture in the LRGV to understand and compare how birds are using revegetated tracts of land that were previously affected by flooding. The project is in its infancy, and research sites are only currently being identified. Threats to the red-crowned parrot are extensive and currently affecting populations and are expected to continue to occur in the future. Therefore, threats to the red-crowned parrot are high magnitude and imminent. As a result, we assigned an LPN of 2 for the red-crowned parrot.

Sprague's pipit (*Anthus spragueii*)—The following summary is based on information contained in our files and in the petition we received on October 15, 2008. The Sprague's pipit is a small grassland bird characterized by its high flight display and otherwise very secretive behavior. Sprague's pipits are strongly tied to native prairie (land that has never been plowed) throughout their life cycle. Its current breeding range includes portions of Montana, North Dakota, South Dakota, and Canada. The Sprague's pipit's wintering range includes south-central and southeast Arizona, southern New Mexico, Texas, southern Oklahoma, southern Arkansas, northwest Mississippi, southern Louisiana, and northern Mexico; the vast majority of the U.S. winter sightings have been in Texas. During migration, the species has been sighted outside of the areas linking its breeding and wintering sites, including Michigan, western Ontario, Ohio, Massachusetts, and Gulf and Atlantic States from Mississippi east and north to South Carolina. Sprague's pipits also have been sighted in California during fall migration.

Threats to this species include: Habitat loss and conversion, habitat fragmentation on the breeding grounds, energy development, roads, and inadequacy of existing regulatory mechanisms. Due to prairie habitat loss and fragmentation, only 15 to 18 percent of the historical breeding habitat in the United States remains in patches of sufficient size for males to establish territories. The Breeding Bird Survey and Christmas Bird Count both show a 40-year decline of 73 to 79 percent (3.23 to 4.1 percent annually), although the population seems to have stabilized in recent years. We anticipate that prairie habitat will continue to be converted and fragmented. Most of the breeding range, including those areas where grassland habitat still remains, has been identified as a prime area for wind energy development, and an oil and gas boom is occurring in the central part of the breeding range in the United States and Canada. On the wintering range, conversion of grassland to agriculture and other uses appears to be accelerating. While habitat loss has occurred and will likely to continue to occur, as noted above, approximately 15 to18 percent of the breeding range remains in suitable habitat cover and in large enough patch sizes to support nesting, and population decline seems to have slowed in recent years. Thus, the threats are moderate in magnitude. The threats are imminent because the species is currently facing them in many locations. Therefore, we have assigned the Sprague's pipit an LPN of 8.

Greater sage-grouse (*Centrocercus urophasianus*)—The following summary is based on information in our files and in the petition we received on January 30, 2002. Currently, greater sage-grouse occur in 11 States (Washington, Oregon, California, Nevada, Idaho, Montana, Wyoming, Colorado, Utah, South Dakota, and North Dakota), and 2 Canadian provinces (Alberta and Saskatchewan), occupying approximately 56 percent of their historical range. Greater sage-grouse depend on a variety of shrub-steppe habitats throughout their life cycle, and are obligate users of several species of sagebrush.

The primary threat to greater sage-grouse is ongoing fragmentation and loss of shrub-steppe habitats through a variety of mechanisms. Most importantly, increasing fire cycles and invasive plants (and the interaction between them) in more westerly parts of the range, along with energy development and related infrastructure in more easterly areas, are negatively affecting species. In addition, direct loss of habitat and fragmentation is occurring due to agriculture, urbanization, and infrastructure such as roads and power lines built in support of several activities. We also have determined that currently existing regulatory mechanisms are inadequate to protect the species from these ongoing threats. However, many of these habitat impacts are being actively addressed through conservation actions taken by local working groups, and State and Federal agencies. Notably, the National Resource Conservation Service has committed significant financial and technical resources to address threats to this species on private lands through their Sage-grouse Initiative. These efforts, when fully implemented, will potentially provide important conservation benefits to the greater sage-grouse and its habitats. We consider the threats to the greater sage-grouse to be of moderate magnitude, because the threats are not occurring with uniform intensity or distribution across the wide range of the species at this time, and substantial habitat still remains to support the species in many areas. The threats are imminent because the species is currently facing them in many portions of its range. Therefore, we assigned the greater sage-grouse an LPN of 8.

Greater sage-grouse, Columbia Basin DPS (*Centrocercus urophasianus*)—The following summary is based on information in our files and a petition, dated May 14, 1999, requesting the listing of the Washington population of the western sage-grouse (*C. u. phaios*). On May 7, 2001, we concluded that listing the Columbia Basin DPS of the

western sage-grouse was warranted, but precluded by higher priority listing actions (66 FR 22984); this population was historically found in northern Oregon and central Washington. Following our May 7, 2001, finding, the Service received additional petitions requesting listing actions for various other greater sage-grouse populations, including one for the nominal western subspecies, dated January 24, 2002, and three for the entire species, dated June 18, 2002, and March 19 and December 22, 2003. The Service subsequently found that the petition for the western subspecies did not present substantial information (68 FR 6500; February 7, 2003), and that listing the greater sage-grouse was not warranted (70 FR 2244; January 12, 2005). These latter findings were remanded to the Service for further consideration. In response, we initiated a new rangewide status review for the entire species (73 FR 10218; February 26, 2008). On March 5, 2010, we found that listing of the greater sage-grouse was warranted but precluded by higher priority listing actions (75 FR 13909; March 23, 2010), and it was added to the list of candidates. We also found that the western subspecies of the greater sage-grouse, the taxonomic entity we relied on in our DPS analysis for the Columbia Basin population, was no longer considered a valid subspecies. In light of our conclusions regarding the taxonomic invalidity of the western sage-grouse subspecies, the significance of the Columbia Basin DPS to the greater sage-grouse will require further review. The Service intends to complete an analysis to determine if this population continues to warrant recognition as a DPS in accordance with our Policy Regarding the Recognition of Distinct Vertebrate Population Segments (61 FR 4722; February 7, 1996) at the time we make a listing decision on the status of the greater sage-grouse. Until that time, the Columbia Basin DPS will remain a candidate for listing.

Band-rumped storm-petrel, Hawaii DPS (*Oceanodroma castro*)—The following summary is based on information contained in our files and the petition we received on May 8, 1989. No new information was provided in the second petition received on May 11, 2004. The band-rumped storm-petrel is a small seabird that is found in several areas of the subtropical Pacific and Atlantic Oceans. In the Pacific, there are three widely separated breeding populations—one in Japan, one in Hawaii, and one in the Galapagos. Populations in Japan and the Galapagos are comparatively large and number in the thousands, while the Hawaiian birds represent a small, remnant population of possibly only a few hundred pairs. Band-rumped storm-petrels are most commonly found in close proximity to breeding islands. The three populations in the Pacific are separated by long distances across the ocean where birds are not found. Extensive at-sea surveys of the Pacific have revealed a broad gap in distribution of the band-rumped storm-petrel to the east and west of the Hawaiian Islands, indicating that the distribution of birds in the central Pacific around Hawaii is disjunct from other nesting areas. The available information indicates that distinct populations of band-rumped storm-petrels are definable and that the Hawaiian population is distinct based on geographic and distributional isolation from other band-rumped storm-petrel populations in Japan, the Galapagos, and the Atlantic Ocean. Loss of the Hawaiian population would cause a significant gap in the distribution of the band-rumped storm-petrel in the Pacific, and could result in the complete isolation of the Galapagos and Japan populations without even occasional genetic exchange. Therefore, the population is both discrete and significant, and constitutes a DPS.

The band-rumped storm-petrel probably was common on all of the main Hawaiian Islands when Polynesians arrived about 1,500 years ago, based on storm-petrel bones found in middens on the island of Hawaii and in excavation sites on Oahu and Molokai, Hawaii. Nesting colonies of this species in the Hawaiian Islands currently are restricted to remote cliffs on Kauai and Lehua Island and high-elevation lava fields on Hawaii. Vocalizations of the species were heard in Haleakala Crater on Maui as recently as 2006; however, no nesting sites have been located on the island to date. The significant reduction in numbers and range of the band-rumped storm-petrel is due primarily to predation by nonnative species introduced by humans, including the domestic cat (*Felis catus*), small Indian mongoose (*Herpestes auropunctatus*), common barn owl (*Tyto alba*), black rat (*Rattus rattus*), Polynesian rat (*R. exulans*), and Norway rat (*R. norvegicus*). These nonnative predators occur throughout the main Hawaiian Islands, with the exception of the mongoose, which is not established on Kauai. Attraction of fledglings to artificial lights, which disrupt their night-time navigation, resulting in collisions with buildings and other objects, and collisions with artificial structures such as communication towers and utility lines, are also threats. Erosion of nest sites caused by the actions of nonnative ungulates is a potential threat in some locations. Efforts are under way in some areas to reduce light pollution and mitigate the threat of collisions, as well as to control some of the nonnative predators in the Hawaiian Islands; however, the threats are ongoing and are therefore imminent. They are of a high magnitude because they can severely affect the survival of this DPS leading to a relatively high likelihood of extinction. Therefore, we have retained an LPN of 3 for this DPS.

Elfin-woods warbler (*Dendroica angelae*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Dendroica angelae,* or elfin-woods warbler, is a small songbird endemic to Puerto Rico . The elfin-woods warbler was at first thought to occur only in high elevations at dwarf or elfin forests, but it has since been found at lower elevations including shade coffee plantations and secondary forests, indicating that it migrates between elevations. The species has been documented from four locations: the Luquillo Mountains (El Yunque National Forest), the Sierra de Cayey, and the Commonwealth forests of Maricao and Toro Negro. However, it has not been recorded again in Toro Negro and Cayey, following the passing of Hurricane Hugo in 1989. In 2003 and 2004, surveys were conducted for the elfin-woods warbler in forests where the species was not previously recorded (the Carite Commonwealth Forest, Guilarte Forest, and Bosque del Pueblo) as well as in forests where it had been recorded (Toro Negro Forest, Maricao Forest, and the El Yunque National Forest). These surveys only reported sightings at Maricao Commonwealth Forest (778 individuals) and El Yunque National Forest (196 individuals).

The elfin-woods warbler is currently threatened by habitat modification. Elfin-woods warblers have been historically common in the elfin woodland of El Yunque National Forest and the Podocarpus forest type of Maricao Commonwealth Forest. Removal and replacement of this forest vegetation with infrastructure (e.g., telecommunication towers and recreational facilities) may have affected the species. Although this loss of habitat has been permanent and restoration would take a few decades, the present regulatory process, at both the Commonwealth and Federal levels, have curtailed this threat. Unrestricted development within the El Yunque

buffer zone needs to be addressed to determine the impact on the migratory behavior of the species. Conversion of elfin-woods warbler habitat (e.g., mature secondary forests, young secondary forests, and shade-coffee plantations) along the periphery of the Maricao Commonwealth Forest to marginal habitat (e.g., pastures, dry slope forests, residential rural forests, gallery forests, and sun coffee plantations,) has affected potential dispersal corridors for the elfin-woods warbler, reduceding the dispersal and expansion capability of the species. These threats are not imminent because most of the range of the species is within protected lands. The magnitude of threat to the elfin-woods warbler is low to moderate because there is no indication that the two populations of the elfin-woods warbler are declining in numbers. The species can thrive in disturbed and plantation habitats, although abundance of the species on these habitats is lower than in primary habitats. Moreover, elfin-woods warblers appear to recover well, and in a relatively short time, from damaging effects of hurricanes to the forest structure. Therefore, we assign a listing priority number of 11 to the elfin-woods warbler.

Reptiles

Eastern massasauga rattlesnake (*Sistrurus catenatus*)—The following summary is based on information contained in our files. The Service received a petition containing no new information on May 11, 2004. The species has been a candidate since May 11, 2005. Until 2011, the eastern massasauga was considered one of three recognized subspecies of massasauga. Based on recent information, we recognized the eastern massasauga rattlesnake as a distinct species beginning in 2011. It is a small, thick-bodied rattlesnake that occupies shallow wetlands and adjacent upland habitat in portions of Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Ohio, Pennsylvania, Wisconsin, and Ontario.

Although the current range of eastern massasauga rattlesnake resembles the species' historical range, the geographic distribution has been restricted by the loss of the species from much of the area within the boundaries of that range. Approximately 40 percent of the counties that were historically occupied by eastern massasauga rattlesnake no longer support the species. The eastern massasauga rattlesnake is currently listed as endangered in every State and province in which it occurs, except for Michigan, where it is designated as a species of special concern. Each State and Canadian province across the range of the eastern massasauga rattlesnake has lost more than 30 percent, and for the majority more than 50 percent, of its historical populations. Furthermore, less than 35 percent of the remaining populations are considered secure. Approximately 59 percent of the remaining eastern massasauga rattlesnake populations occur wholly or in part on public land, and Statewide or site-specific Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) have been developed for many of these areas: (1) A CCA with the Lake County Forest Preserve District in Illinois (2004); (2) CCA with the Forest Preserve District of Cook County in Illinois (2005); (3) CCAA with the Ohio Department of Natural Resources Division of Natural Areas and Preserves for Rome State Nature Preserve in Ashtabula County (2006); and (4) CCAA with the Wisconsin Department of Natural Resources for the Lower Chippewa River Bottoms (2011).

Due to these conservation agreements, the magnitude of threats is moderate at this time. Thus, we do not believe emergency listing is warranted. However, a recently completed extinction-risk model, along with information provided by species experts indicates that some populations are likely to suffer additional losses in abundance and genetic diversity and others will likely be extirpated unless threats are removed in the near future. Declines have continued or may be accelerating in several states. Thus we are monitoring the status of this species to determine if a change in listing priority is warranted. Threats of habitat modification, habitat succession, incompatible land management practices, illegal collection for the pet trade, and human persecution are ongoing and imminent threats to many remaining populations, particularly those inhabiting private lands. Based on imminent threats of moderate magnitude, we assigned this species an LPN of 8.

Black pine snake (*Pituophis melanoleucus lodingi*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. There are historical records for the black pine snake from one parish in Louisiana, 14 counties in Mississippi, and 3 counties in Alabama west of the Mobile River Delta. Black pine snake surveys and trapping indicate that this species has been extirpated from Louisiana and from 3 counties in Mississippi. Moreover, the distribution of remaining populations has become highly restricted due to the destruction and fragmentation of the remaining longleaf pine habitat within the range of the subspecies. Most of the known Mississippi populations are concentrated on the DeSoto National Forest. In Alabama, populations occurring on properties managed by State and other governmental agencies as gopher tortoise mitigation banks or wildlife sanctuaries represent the best opportunities for long-term survival of the subspecies there. Other factors affecting the black pine snake include vehicular mortality and low reproductive rates, which magnify the threats from destruction and fragmentation of longleaf pine habitat and increase the likelihood of local extinctions. Due to the imminent threats of high magnitude caused by the past destruction of most of the longleaf pine habitat of the black pine snake, and the continuing persistent degradation of what remains, we assigned an LPN of 3 to this subspecies.

Louisiana pine snake (*Pituophis ruthveni*)—The following summary is based on information contained in our files and the petition we received on July 20, 2000, and updated through April 30, 2011. The Louisiana pine snake historically occurred in the fire-maintained longleaf pine ecosystem within west-central Louisiana and extreme east-central Texas. Most of the historical longleaf pine habitat of the Louisiana pine snake has been destroyed or degraded due to logging, fire suppression, roadways, short rotation silviculture, and grazing. The loss, degradation, and fragmentation of the longleaf pine ecosystem have resulted in extant Louisiana pine snake populations that are isolated and small.

The Louisiana pine snake is currently restricted to seven disjunct populations; five of the populations occur on Federal lands, and two occur mainly on private industrial timberlands. Currently occupied habitat in Louisiana and Texas is estimated to be approximately 163,000 ac. All remnant Louisiana pine snake habitats require active management to remain suitable. A Candidate Conservation Agreement (CCA) was completed in 2003 to maintain and enhance occupied and potential habitat on public lands, and to protect known Louisiana pine snake populations. This proactive habitat management has likely slowed or reversed the rate of Louisiana pine snake habitat degradation on many portions of federal lands. The 2003 CCA is being updated and should be completed in 2013. The 2013 Updated

CCA will directly link the specific conservation actions performed by the Cooperators to the specific threats affecting the species. Because all extant populations are currently isolated and fragmented by habitat loss in the matrix between populations, there is little potential for dispersal among remnant populations or for the natural re-colonization of vacant habitat patches.

While the extent of Louisiana pine snake habitat loss has been great in the past and much of the remaining habitat has been degraded, habitat loss does not represent an imminent threat, primarily because the rate of habitat loss has declined on public lands. However, all populations require active habitat management, and the lack of adequate habitat remains a threat for several populations. The potential threats to a large percentage of extant Louisiana pine snake populations, coupled with the likely permanence of these effects and the species' low fecundity and low population sizes (based on capture rates and occurrence data), lead us to conclude that the threats have significant effect on the survival of the species and therefore remain high in magnitude. The threats are not imminent, because the rate of habitat loss appears to be declining due to proactive habitat management and susceptibility to stochastic environmental factors from small populations is not imminently threatening this species. Thus, based on nonimminent, high-magnitude threats, we assign a listing priority number of 5 to this species.

Tucson shovel-nosed snake (*Chionactis occipitalis klauberi*)—The Tucson shovel-nosed snake is a small, burrowing snake in the Colubridae family that occupied a roughly 35-mile-wide swath running along the Phoenix-Tucson corridor in northeastern Pima, southwestern Pinal, and eastern Maricopa Counties, Arizona. No systematic surveys have been conducted to assess the status of the subspecies throughout its range, but it has apparently disappeared from some areas.

Threats to the Tucson shovel-nosed snake include urban and rural development; road construction, use, and maintenance; construction of solar-power facilities and transmission corridors; agriculture; wildfires; and lack of adequate management and regulation. Comprehensive plans encompassing the entire range of the snake encourage large growth areas in the next 20 years and beyond. These plans also call for an increase in roads and transportation corridors, which have been documented to affect the snake through direct mortality. Additionally, demand for and development of solar-energy facilities and transmission corridors throughout the State will likely increase. Wildfires due to infestations of nonnative grasses in the snake's habitat, dominated by native plants not adapted to survive wildfires, are likely to increase in frequency and magnitude in the future as these invasive grasses continue to spread rapidly. Regulations are not in place to minimize or mitigate these threats to the Tucson shovel-nosed snake and its habitat, and, therefore, they are likely to put the snake at risk of local extirpation or extinction. These threats, particularly those that lead to a loss of habitat, are likely to reduce the population of the Tucson shovel-nosed snake across its entire range. Given the limited geographic distribution of this snake and the fact that its entire range lies within the path of development in the foreseeable future, these threats are of high magnitude. Because development, wildfires, and spread of nonnative grasses are ongoing, and are likely to increase in the future, the threats are imminent. Accordingly, we have retained an LPN of 3 for the Tucson shovel-nosed snake.

Desert tortoise, Sonoran (*Gopherus morafkai*)—The following summary is based on information in our files. Sonoran desert tortoises are most closely associated with Sonoran and Mojave Desert scrub vegetation types, but may also be found in other habitat types within their distribution and elevation range. They occur most commonly on rocky, steep slopes and bajadas in paloverde-mixed cacti associations. Washes and valley bottoms may be used in dispersal and, in some areas, as all or part of home ranges. Most Sonoran desert tortoises in Arizona occur between 904 and 4,198 feet (275 and 1280 meters) in elevation. The Sonoran desert tortoise is distributed south and east of the Colorado River in Arizona in all counties except for Navajo, Apache, Coconino, and Greenlee Counties, south to the Rio Yaqui in southern Sonora, Mexico.

The major threats to the Sonoran desert tortoise include nonnative plant species invasions and altered fire regimes, urban and agricultural development, and factors associated with human population growth which collectively and cumulatively affect core tortoise population areas and create barriers to dispersal and genetic exchange. Threats to the Sonoran desert tortoise differ geographically in type and scope, and are highly synergistic in their effects. However, in their totality, these threats are high in magnitude because of the large amount of habitat that is likely to be affected and the irreversible nature of the effect of these threats in sensitive habitats that are slow to rebound. While some threats are ongoing, the more significant ones are not. Thus, overall, the threats are nonimminent. Recent phylogenetic research confirmed what has been suspected for decades within the scientific community that the Sonoran desert tortoise is a distinct species. In 2012 we changed the LPN from a 6 to a 5, reflecting that this entity is now a full species and no longer a DPS. We maintain the LPN of 5 for the Sonoran desert tortoise.

Gopher tortoise, eastern population (*Gopherus polyphemus*)—The following summary is based on information in our files. The gopher tortoise is a large, terrestrial, herbivorous turtle that reaches a total length up to 15 in (38 cm), and typically inhabits the sandhills, pine/scrub oak uplands, and pine flatwoods associated with the longleaf pine (*Pinus palustris*) ecosystem. A fossorial animal, the gopher tortoise is usually found in areas with well-drained, deep, sandy soils; an open tree canopy; and a diverse, abundant, herbaceous groundcover. The gopher tortoise ranges from extreme southern South Carolina south through peninsular Florida, and west through southern Georgia, Florida, southern Alabama, and Mississippi, into extreme southeastern Louisiana. The eastern population of the gopher tortoise in South Carolina, Florida, Georgia, and Alabama (east of the Mobile and Tombigbee Rivers) is a candidate species; the gopher tortoise is federally listed as threatened in the western portion of its range, which includes Alabama (west of the Mobile and Tombigbee Rivers), Mississippi, and Louisiana.

The primary threat to the gopher tortoise is habitat fragmentation, destruction, and modification (either deliberately or from inattention), including conversion of longleaf pine forests to other silvicultural or agricultural habitats, urbanization, shrub/hardwood encroachment (mainly from fire exclusion or insufficient fire management), and establishment and spread of invasive species. Other threats include disease, predation (mainly on nests and young tortoises), and inadequate regulatory mechanisms, specifically those needed to protect and enhance relocated tortoise populations in perpetuity. The magnitude of threats to the eastern range of the gopher tortoise is moderate to low, as populations extend over a broad geographic area and conservation

measures are in place in some areas. However, because the species is currently being affected by a number of threats, including destruction and modification of its habitat, disease, predation, exotics, and inadequate regulatory mechanisms, the threat is imminent. Thus, we have assigned a listing priority number of 8 for this species.

Sonoyta mud turtle (*Kinosternon sonoriense longifemorale*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Sonoyta mud turtle occurs in a spring and pond at Quitobaquito Springs on Organ Pipe Cactus National Monument in Arizona, and in the Rio Sonoyta and Quitovac Spring of Sonora, Mexico. Loss and degradation of stream habitat from water diversion and groundwater pumping, along with its very limited distribution, are the primary threats to the Sonoyta mud turtle. Sonoyta mud turtles are highly aquatic and depend on permanent water for survival. The area of southwest Arizona and northern Sonora where the Sonoyta mud turtle occurs is one of the driest regions in the Southwest. While currently there is sufficient water for the turtles, due to continued drought and irrigated agriculture in the region, we expect surface water in the Rio Sonoyta and Quitobaquito Springs to further dwindle in the foreseeable future and negatively affect this species. National Park Service staff continue to implement actions to stabilize the water levels in the pond at Quitobaquito Springs. However, surface water use in the Rio Sonoyta, in Sonora Mexico, will have a significant impact on the survival of this subspecies. We retained an LPN of 6 for Sonoyta mud turtle due to high-magnitude, nonimminent threats.

Amphibians

Columbia spotted frog, Great Basin DPS (*Rana luteiventris*)—The following summary is based on information contained in our files and the petition received on May 1, 1989. Extensive surveys and monitoring since 1993 have revealed that Columbia spotted frog populations within the Great Basin DPS are more widespread and common than previously known. While some sites and watersheds are no longer occupied, Columbia spotted frogs are widely distributed throughout southwestern Idaho and northeastern Nevada, with isolated and disjunct populations in southeastern Oregon and central Nevada. Most populations, however, are small and fragmented, which makes them susceptible to extinction processes.

Historical and to some extent current management of Columbia spotted frog habitat, including water development, improper grazing, mining activities, beaver management, and nonnative species have degraded and fragmented habitat and continue to do so. Emerging viral and fungal diseases such as Ranavirus and chytridiomycosis, as well as parasites, are not currently known to be a threat to Columbia spotted frog populations within the Great Basin DPS. Effects of climate change and stochastic events such as drought and wildfire can have detrimental effects to small isolated populations and exacerbate existing threats. A 10-year Conservation Agreement and Strategy for populations of Columbia spotted frogs in Nevada was signed in September 2003. The goals of this conservation agreement are to reduce threats to Columbia spotted frogs and their habitat to the extent necessary to prevent populations from becoming extirpated throughout all or a portion of their historical range and to maintain, enhance, and restore a sufficient number of populations of Columbia spotted frogs and their habitat to ensure their continued existence throughout their historical range in Nevada. This Conservation Agreement and Strategy is currently being revised. Additionally, a Candidate Conservation Agreement with Assurances was completed in 2006 for the Owyhee subpopulation at Sam Noble Springs, Idaho. Several habitat enhancement projects that have benefitted populations of Columbia spotted frogs have been conducted throughout the DPS's range.

Because the DPS is widely distributed and there are management actions in place working to reduce the scope of threats to the DPS, we conclude that the threats are moderate. The threats are imminent, because development and poor management of its habitat are already present. Based on imminent threats of moderate magnitude, we assigned an LPN of 9 to this DPS of the Columbia spotted frog.

Relict leopard frog (*Lithobates onca*)—The following summary is based on information contained in our files. Natural relict leopard frog populations occur in two general areas in Nevada: Near the Overton Arm area of Lake Mead and Black Canyon below Lake Mead. These two areas include a small fraction of the historical distribution of the species. Its historical range included springs, streams, and wetlands within the Virgin River drainage downstream from the vicinity of Hurricane, Utah; along the Muddy River in Nevada; and along the Colorado River in Nevada and Arizona, from its confluence with the Virgin River downstream to Black Canyon below Lake Mead.

Factors contributing to the decline of the species include alteration, loss, and degradation of aquatic habitat due to water developments and impoundments, and scouring and erosion; changes in plant communities that result in dense growth and the prevalence of vegetation; introduced predators; climate change; and stochastic events. The presence of chytrid fungus in relict leopard frogs at Lower Blue Point Spring is a concern and warrants further evaluation of the threat of disease to the relict leopard frog. The size of natural and translocated populations is small and, therefore, these populations are vulnerable to stochastic events, such as floods and wildfire. Climate change that results in reduced spring flow, habitat loss, and increased prevalence of wildfire would adversely affect relict leopard frog populations.

In 2005, the National Park Service, in cooperation with the Fish and Wildlife Service and other Federal, State, and local partners, developed a conservation agreement and strategy, which is intended to improve the status of the species through prescribed management actions and protection. Conservation actions identified in the agreement and strategy include captive rearing of tadpoles for translocation and refugium populations, habitat and natural history studies, habitat enhancement, population and habitat monitoring, and translocation. New sites within the historical range of the species have been successfully established with captive-reared frogs. Conservation is proceeding under the agreement and strategy; however, additional time is needed to determine whether or not the agreement and strategy will be effective in eliminating or reducing the threats to the point that the relict leopard frog can be removed from candidate status. In consideration of these conservation efforts and the overall threat level to the species, we determined the magnitude of existing threats is moderate to low. Potential water development and other habitat effects, presence of introduced predators, chytrid fungus, limited distribution, small population size, and climate change are ongoing, and thus, imminent threats. Therefore, we continue to assign a listing priority number (LPN) of 8 to this species.

Striped newt (*Notophthalmus perstriatus*)—The following summary is based on information contained in our files. The striped newt (*Notophthalmus perstriatus*) is a small salamander that

inhabits ephemeral ponds surrounded by upland habitats of high pine, scrubby flatwoods, and scrub. Longleaf pine-turkey oak stands with intact ground cover containing wiregrass are the preferred upland habitat for striped newts, followed by scrub, then flatwoods. Life-history stages of the striped newt are complex, and include the use of both aquatic and terrestrial habitats throughout its life cycle. Striped newts are opportunistic feeders that prey on a variety of items such as frog eggs, worms, snails, fairy shrimp, spiders, and insects (adult and larvae) that are of appropriate size. They occur in appropriate habitats from the Atlantic Coastal Plain of southeastern Georgia to the north-central peninsula of Florida, and through the Florida panhandle into portions of southwest Georgia. There is a 125-km (78-mi) separation between the western and eastern portions of the striped newt's range.

The historical range of the striped newt was likely similar to the current range. However, loss of native longleaf habitat, fire suppression, and the natural patchy distribution of upland habitats used by striped newts have resulted in fragmentation of existing populations. Other threats to the species include disease, drought, and inadequate regulatory mechanisms. Overall, we conclude that the magnitude of the threats to be moderate and the threats are ongoing, and therefore imminent. Therefore, we assigned a listing priority number of 8 to the newt.

Berry Cave salamander (*Gyrinophilus gulolineatus*)—The following summary is based on information in our files. The Berry Cave salamander is recorded from Berry Cave in Roane County; from Mud Flats, Aycock Spring, Christian, Meades Quarry, Meades River, and Fifth Caves in Knox County; from Blythe Ferry Cave in Meigs County; and from an unknown cave in Athens, McMinn County, Tennessee. In May of 2012, the species was also discovered in an additional cave, The Lost Puddle Cave, in Knox County. These cave systems are all located within the Upper Tennessee River and Clinch River drainages. A total of 113 caves in Middle and East Tennessee were surveyed from the time period of April 2004 through June 2007, resulting in observations of 63 Berry Cave salamanders. These surveys concluded that Berry Cave salamander populations are robust at Berry and Mudflats Caves where population declines had been previously reported and documented two new populations of Berry Cave salamanders at Aycock Spring and Christian Caves. Three Berry Cave salamanders were spotted during the May, 2012, survey in The Lost Puddle and local cavers also reported sighting one individual in August 2012. Surveys for new populations are planned along the Valley and Ridge Province between Knoxville and Chattanooga.

Ongoing threats to this species are in the form of lye leaching in the Meades Quarry Cave as a result of past quarrying activities, a proposed roadway with potential to affect the recharge area for the Meades Quarry Cave system, urban development in Knox County, water quality impacts despite existing State and Federal laws, and hybridization between spring salamanders and Berry Cave salamanders in Meades Quarry Cave. These threats, coupled with confined distribution of the species and apparent low population densities, are all factors that leave the Berry Cave salamander vulnerable to extirpation. We have determined that the Berry Cave salamander faces imminent threats of moderate magnitude. Based on moderate-magnitude, imminent threats, we continue to assign this species a listing priority number of 8.

Black Warrior waterdog (*Necturus alabamensis*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Black Warrior waterdog is a salamander that inhabits streams above the Fall Line within the Black Warrior River Basin in Alabama. There is very little specific locality information available on the historical distribution of the Black Warrior waterdog, since little attention was given to this species between its description in 1937 and the 1980s. At that time, there were a total of only 11 known historical records from 4 Alabama counties. Two of these sites have now been inundated by impoundments. Extensive survey work was conducted in the 1990s to look for additional populations. As a result of that work, the species was documented at 14 sites in 5 counties.

Water-quality degradation is the biggest threat to the continued existence of the Black Warrior waterdog. Most streams that have been surveyed for the waterdog showed evidence of pollution, and many lacked biological diversity. Sources of point and nonpoint pollution in the Black Warrior River Basin have been numerous and widespread. Pollution is generated from inadequately treated effluent from industrial plants, sanitary landfills, sewage treatment plants, poultry operations, and cattle feedlots. Surface mining represents another threat to the biological integrity of waterdog habitat. Runoff from old, abandoned coal mines generates pollution through acidification, increased mineralization, and sediment loading. The North River, Locust Fork, and Mulberry Fork, all streams that this species inhabits, are on the Environmental Protection Agency's list of impaired waters. An additional threat to the Black Warrior waterdog is the creation of large impoundments that have flooded thousands of square hectares of its habitat. These impoundments are likely marginal or unsuitable habitat for the salamander. Suitable habitat for the Black Warrior waterdog is limited and available data indicate extant populations are small and their viability is questionable. This situation is pervasive and problematic; water quality issues are persistent and regulatory mechanisms are not ameliorating these threats. The most current survey information indicates that all populations except one may have decreased below detectable limits. Therefore, the overall magnitude of the threat is high. Water quality degradation in the Black Warrior basin is ongoing; therefore, the threats are imminent and the LPN of this species remains 2.

Fishes

Headwater chub (*Gila nigra*)—The following summary is based on information contained in our files since 2006 and in the 12-month finding published in the **Federal Register** on May 3, 2006 (71 FR 26007). The headwater chub is a moderate-sized cyprinid fish. The range of the headwater chub has been reduced by approximately 60 percent. Twenty-two streams (125 mi (200 km) of stream) are thought to be occupied out of 25 streams (312 mi (500 km) of stream) formerly occupied in the Gila River Basin in Arizona and New Mexico. We have removed Dinner Creek, a tributary to Spring Creek, from the list of occupied streams. Based on new survey data, Dinner Creek is ephemeral and only usable by headwater chub from Spring Creek when water is present. All remaining populations are rare, fragmented and isolated, and face threats from a combination of factors.

Headwater chubs face threats from introduced, nonnative fish that prey on them and compete with them for food. Habitat destruction and modification have occurred and continue to occur as a result of dewatering, impoundment, channelization, and channel changes caused by alteration of riparian vegetation and watershed degradation from mining, grazing, roads, water pollution, urban and suburban development, groundwater pumping, and other human actions. Existing regulatory mechanisms do not appear to

be adequate for addressing the impact of nonnative fish and also have not removed or eliminated the threats that continue to be posed through habitat degradation. The fragmented nature and rarity of existing populations makes them vulnerable to other natural or manmade factors, such as drought and wildfire. Climate change is predicted to worsen these threats through increased aridity of the region, thus reducing stream flows and warming aquatic habitats, which makes the habitat more suitable to nonnative species.

The Arizona Game and Fish Department's Arizona Statewide Conservation Agreement for Roundtail chub (*G. robusta*), Headwater chub, Flannelmouth sucker (*Catostomus latipinnis*), Little Colorado River sucker (*Catostomus* spp.), Bluehead sucker (*C. discobolus*), and Zuni Bluehead sucker (*C. discobolus yarrowi*) was finalized in 2006. The New Mexico Department of Game and Fish has listed the headwater chub as endangered and in 2006 finalized a recovery plan for the species: Colorado River Basin Chubs (Roundtail chub, Gila chub (*G. intermedia*), and Headwater chub) Recovery Plan. Arizona's agreement and New Mexico's recovery plan both recommend preservation and enhancement of extant populations and restoration of historical headwater-chub populations. The recovery and conservation actions prescribed by Arizona's and New Mexico's plans, which we predict will reduce and remove threats to this species, will require further discussions and authorizations as they are being implemented. The recently completed Arizona Game and Fish Department Sportfish Stocking Program's Conservation and Mitigation Program contains significant conservation actions for the headwater chub that will be implemented over the next 10 years. Several surveys of existing populations have been completed under this program, increasing our information on the status of the species in those areas.

Existing information indicates that existing populations are stable and persisting in the long term; 10 of the 22 extant stream populations are currently considered stable based on abundance and evidence of recruitment. Therefore, although threats are ongoing, the threats are moderate in magnitude. We retain an LPN of 8 for the headwater chub.

Least chub (*Iotichthys phlegethontis*)—The following summary is based on information contained in our files and in the petition received on June 25, 2007. The least chub is a small, colorful fish species in Utah that prefers warm water habitats. Least chub use flooded, warmer, vegetated marsh areas to spawn in the spring, and retreat to spring heads to overwinter as the water recedes in the late summer and fall. Historically, many least chub occurrences were reported across the State of Utah, but the current distribution of the species is highly reduced from its historical range. Currently, only six known wild populations remain, with one considered functionally extirpated. In addition to the wild populations, least chub occur in eight introduced genetic refuge populations.

The species faces threats from the effects of livestock grazing, as impacts are still observed at most least chub sites, despite efforts to protect least chub habitat with grazing management plans and grazing exclosures at several locations. Least chub habitat also is affected by current and future groundwater withdrawals, especially when combined with the threat of drought. The cumulative effects of drought, current and future groundwater withdrawal, and climate change put the remaining least chub populations at further risk. Existing regulatory mechanisms are currently inadequate to regulate groundwater withdrawals and ameliorate their effects on least chub habitat. Nonnative species, particularly mosquitofish, also are a continuing threat to least chub. Several significant efforts to remove mosquitofish from least chub habitats have proven unsuccessful. One least chub population is functionally extirpated due to mosquitofish, and nonnative fish are present at two of the five remaining viable, extant population sites.

In 1998, several State and Federal agencies, including the Service and the Utah Division of Wildlife Resources, developed a Least Chub Conservation Agreement and Strategy and formed the Least Chub Conservation Team. Its objectives are to eliminate or significantly reduce threats to the least chub and its habitat, and to ensure the continued existence of the species by restoring and maintaining a minimum number of least chub populations throughout its historical range. Recent State-led least chub conservation actions have included restoration of habitat affected by grazing, reintroduction and range expansion, nonnative removal, population monitoring, and working cooperatively with landowners to conserve water and aquatic habitat. This group also has recently begun a structured-decision-making modeling process that will provide additional guidance for conservation activities.

Overall, grazing, groundwater withdrawal, and predation by nonnative species are moderate magnitude threats, as the number and degree of the threats vary among populations; for some populations the threats are of high magnitude, while in others they are of low magnitude or nonexistent, such that when considering the overall species' range, the threats are of moderate magnitude on average. The threats are imminent because the species is currently facing a combination of the threats throughout many portions of its range. Therefore, we have assigned the least chub an LPN of 7.

Roundtail chub (*Gila robusta*), Lower Colorado River DPS—The following summary is based on information contained in our files and the 12-month finding published in the **Federal Register** on July 7, 2009 (74 FR 32352). The roundtail chub is a moderate-to-large cyprinid fish. The range of the roundtail chub has been reduced by approximately 68 to 82 percent. Forty-seven streams or sections of larger rivers are currently occupied, representing approximately 18 to 32 percent of the species' former range, or 800 km (500 mi) to 1,350 km (840 mi) of 3,050 km (1,895 mi) of formerly occupied streams in the Gila River Basin in Arizona and New Mexico. Most of the remaining populations are rare, fragmented and isolated, and all face threats from a combination of factors.

Roundtail chub face threats from introduced nonnative fish that prey on them and compete with them for food. Habitat destruction and modification have occurred and continue to occur as a result of dewatering, impoundment, channelization, and channel changes caused by alteration of riparian vegetation and watershed degradation from mining, grazing, roads, water pollution, urban and suburban development, groundwater pumping, and other human actions. Existing regulatory mechanisms do not appear to be adequate for addressing the impact of nonnative fish, and also have not removed or eliminated the threats that continue to be posed through habitat destruction or modification. The fragmented nature and rarity of existing populations make roundtail chub vulnerable to other natural or manmade factors, such as drought and wildfire. Climate change is predicted to worsen these threats through increased aridity of the region, thus reducing stream flows and warming aquatic habitats, which makes the habitat more suitable to nonnative species.

The Arizona Game and Fish Department's Arizona Statewide Conservation Agreement for Roundtail chub, Headwater chub (*G. nigra*), Flannelmouth sucker (*Catostomus*

latipinnis), Little Colorado River sucker (*Catostomus* spp.), Bluehead sucker (*C. discobolus*), and Zuni Bluehead sucker (*C. discobolus yarrowi*) was finalized in 2006. The New Mexico Department of Game and Fish lists the roundtail chub as endangered and in 2006 finalized a recovery plan for the species: Colorado River Basin Chubs (Roundtail chub, Gila chub (*G. intermedia*), and Headwater chub) Recovery Plan. Both the Arizona Agreement and the New Mexico Recovery Plan recommend preservation and enhancement of extant populations and restoration of historical roundtail chub populations. The recovery and conservation actions prescribed by the Arizona and New Mexico plans, which we predict will reduce and remove threats to this species, will require further discussions and authorizations as they are being implemented. The recently completed Arizona Game and Fish Department Sportfish Stocking Program's Conservation and Mitigation Program contains significant conservation actions for the roundtail chub that will be implemented over the next 10 years.

Although threats are ongoing, existing information indicates long-term persistence and stability of most existing populations. To better reflect status in the Salt and Verde Rivers, for this assessment we divided these rivers into five separate reaches that better reflected the status of roundtail chub in those systems. Currently, 13 of the 38 extant populations are considered stable, based on abundance and evidence of recruitment. Two new conservation populations (Gap Creek and Blue River) were initially stocked in 2012, raising the number of introduced stream populations to four. Based on our assessment, threats (primarily nonnative species and habitat loss from land uses) remain imminent, because they are ongoing, and are of moderate magnitude because there is evidence of long-term persistence and stability of the existing populations. Thus, we have retained an LPN of 9 for this distinct population segment of the roundtail chub.

Arkansas darter (*Etheostoma cragini*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This fish species occurs in Arkansas, Colorado, Kansas, Missouri, and Oklahoma. The species is found most often in sand- or pebble-bottomed pools of small, spring-fed streams and marshes, with cool water and broadleaved aquatic vegetation. Its current distribution is indicative of a species that once was widely dispersed throughout its range, but has been relegated to isolated areas separated by unsuitable habitat that prevents dispersal.

Factors influencing the current distribution include: Surface and groundwater irrigation resulting in decreased flows or stream dewatering; the dewatering of long reaches of riverine habitat necessary for species movement when surface flows do occur; conversion of prairie to cropland, which influences groundwater recharge and spring flows; water quality degradation from a variety of sources; and the construction of dams, which act as barriers preventing emigration upstream and downstream through the reservoir pool. A currently occurring drought in the western portions of the species' range is also a threat. If these conditions become protracted, this threat is likely to affect many of these isolated populations. However, at present, the magnitude of threats facing this species is still moderate to low, given the number of different locations where the species occurs and the fact that no single threat or combination of threats affects more than a portion of the widespread population occurrences. The immediacy of threats varies across the species range; groundwater pumping is an ongoing concern in the western portion of the species range, although it has declined in some portions. In the eastern portion of the range it is not an imminent threat but could become more pervasive in the future. Development, spills, and runoff are not currently affecting the species rangewide. Overall, the threats are nonimment. Thus, we are retaining an LPN of 11 for the Arkansas darter.

Pearl darter (*Percina aurora*)—The following summary is based on information contained in our files. Little is known about the specific habitat requirements or natural history of the Pearl darter. Pearl darters have been collected from a variety of river/or tream attributes, mainly over gravel substrate. This species is historically known only from localized sites within the Pascagoula and Pearl River drainages in Mississippi and Louisiana. Currently, the Pearl darter is considered extirpated from the Pearl River drainage and rare in the Pascagoula River drainage. Since 1983, the range of the Pearl darter has decreased by 55 percent.

The Pearl darter is vulnerable to nonpoint source pollution caused by urbanization and other land use activities; gravel mining and resultant changes in river geomorphology, especially head cutting; and the possibility of water quantity decline from the proposed Department of Energy Strategic Petroleum Reserve project and a proposed dam on the Bouie River. Additional threats are posed by the apparent lack of adequate State and Federal water quality regulations due to the continuing degradation of water quality within the species' habitat. The Pearl darter's localized distribution and apparent low population numbers may indicate a species with lower genetic diversity which would also make this species more vulnerable to catastrophic events. Threats affecting the Pearl darter are localized in nature, affecting portions of the population within the drainage, thus, we conclude that the threats to this species are moderate to low in magnitude. In addition, the threats are imminent since the identified threats are currently impacting this species in some portions of its range. Therefore, we have assigned a listing priority number of 8 for this species.

Arctic grayling, Upper Missouri River DPS (*Thymallus arcticus*)—The following summary is based on information contained in our files. This fish species has a broad, nearly circumpolar distribution, occurring in a variety of cold-water habitats, including small streams, large rivers, lakes, and even bogs. We determined in our September 8, 2010, status review (75 FR 54708) that the upper Missouri River population of arctic grayling in Montana and Wyoming represents a DPS, because it is discrete due to geographic separation and genetic differences, and it is significant to the taxon as a whole. The historical range of Arctic grayling in the upper Missouri River basin has declined dramatically in the past century. The five remaining indigenous populations are isolated from one another by dams or other factors.

All populations face potential threats from competition with and predation by nonnative trout, and most populations face threats resulting from the alteration of their habitats, such as habitat fragmentation from dams or irrigation diversion structures, stream dewatering, high summer water temperatures, loss of riparian habitats, and entrainment in irrigation ditches. Severe drought likely also affects all populations by reducing water availability and reducing the extent of thermally suitable habitat. Projected climate changes will likely influence the severity and scope of these threats in the future. As applied, existing regulatory mechanisms do not appear to be adequate to address the primary threats to arctic grayling. In addition, four of five populations are at risk from random environmental fluctuations and genetic drift due to their low abundance and isolation. The

magnitude of these threats is high because one or more of these threats occurs in each known population in the Missouri River basin. The threats are imminent because they are currently occurring and are expected to continue in the foreseeable future. Therefore, we have assigned the upper Missouri River DPS of arctic grayling an LPN of 3.

Sicklefin redhorse (*Moxostoma* sp.)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Rio Grande cutthroat trout (*Oncorhynchus clarki virginalis*)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Clams

Texas fatmucket (*Lampsilis bracteata*)—The following summary is based on information contained in our files. The Texas fatmucket is a large, elongated freshwater mussel that is endemic to central Texas. This species historically occurred throughout the Colorado and Guadalupe-San Antonio River basins but is now known to occur only in nine streams within these basins in very limited numbers. All existing populations are represented by only one or two individuals and are not likely to be stable or recruiting.

The Texas fatmucket is primarily threatened by habitat destruction and modification from impoundments, which scour river beds, thereby removing mussel habitat; decrease water quality; modify stream flows; and prevent fish host migration and distribution of freshwater mussels. This species is also threatened by sedimentation, dewatering, sand and gravel mining, and chemical contaminants. Additionally, these threats may be exacerbated by the current and projected effects of climate change, population fragmentation and isolation, and the anticipated threat of nonnative species. Threats to the Texas fatmucket and its habitat are not being adequately addressed through existing regulatory mechanisms. Because of the limited distribution of this endemic species and its lack of mobility, these threats are likely to result in the extinction of the Texas fatmucket in the foreseeable future.

The threats are such that the Texas fatmucket warrants listing; the threats are high in magnitude because habitat loss and degradation from impoundments, sedimentation, sand and gravel mining, and chemical contaminants are widespread throughout the range of the Texas fatmucket and profoundly affect its survival and recruitment. These threats are exacerbated by climate change, which will increase the frequency and magnitude of droughts. Remaining populations are small, isolated, and highly vulnerable to stochastic events, which could lead to extirpation or extinction. These threats are imminent because they are ongoing and will continue in the foreseeable future. Habitat loss and degradation have already occurred and will continue as the human population continues to grow in central Texas. Texas fatmucket populations may already be below the minimum viable population requirement, which causes a reduction in the number of populations and an increase in the species' vulnerability to extinction. Based on imminent, high-magnitude threats, we retain an LPN of 2 for the Texas fatmucket.

Texas fawnsfoot (*Truncilla macrodon*)—The following summary is based on information contained in our files. The Texas fawnsfoot is a small, relatively thin-shelled freshwater mussel that is endemic to central Texas. This species historically occurred throughout the Colorado and Brazos River Basins and is now known from only five locations. The Texas fawnsfoot has been extirpated from nearly all of the Colorado River Basin and from much of the Brazos River Basin. Of the populations that remain, only three are likely to be stable and recruiting; the remaining populations are disjunct and restricted to short stream reaches.

The Texas fawnsfoot is primarily threatened by habitat destruction and modification from impoundments, which scour riverbeds, thereby removing mussel habitat, decreasing water quality, modifying stream flows, and preventing fish host migration and distribution of freshwater mussels. In addition, the Texas fawnsfoot is threatened by sedimentation, dewatering, sand and gravel mining, and chemical contaminants. These threats may be exacerbated by the current and projected effects of climate change, population fragmentation and isolation, and the anticipated threat of nonnative species. Threats to the Texas fawnsfoot and its habitat are not being adequately addressed through existing regulatory mechanisms. Because of the limited distribution of this endemic species and its lack of mobility, these threats are likely to result in the extinction of the Texas fawnsfoot in the foreseeable future.

The threats are such that the Texas fawnsfoot warrants listing; the threats are high in magnitude. Habitat loss and degradation from impoundments, sedimentation, sand and gravel mining, and chemical contaminants are widespread throughout the range of the Texas fawnsfoot and profoundly affect its habitat. These threats are exacerbated by climate change, which will increase the frequency and magnitude of droughts. Remaining populations are small, isolated, and highly vulnerable to stochastic events. These threats are imminent because they are ongoing and will continue in the foreseeable future. Habitat loss and degradation has already occurred and will continue as the human population continues to grow in central Texas. The Texas fawnsfoot populations may already be below the minimum viable population requirement, which causes a reduction in the number of populations and an increase in the species' vulnerability to extinction. Based on imminent, high-magnitude threats, we retain an LPN of 2 for the Texas fawnsfoot.

Texas hornshell (*Popenaias popei*)—The following summary is based on information contained in our files and information provided by the New Mexico Department of Game and Fish and Texas Parks and Wildlife Department. The Texas hornshell is a freshwater mussel found in the Black River in New Mexico and in the Rio Grande and the Devils River in Texas. Until March 2008, the only known extant populations were in New Mexico's Black River and one locality in the Rio Grande near Laredo, Texas. In March 2008, two new localities were confirmed in Texas: One in the Devils River, and one in the mainstem Rio Grande in the Rio Grande Wild and Scenic River segment downstream of Big Bend National Park. In 2011, the Rio Grande population near Laredo was resurveyed and found to be large and robust.

The primary threats to the Texas hornshell are habitat alterations such as streambank channelization, impoundments, and diversions for agriculture and flood control (including a proposed low-water diversion dam just downstream of the Rio Grande population near Laredo); contamination of water by oil and gas activity; alterations in the natural riverine hydrology; and increased sedimentation and flood pulses from prolonged overgrazing and loss of native vegetation. Although riverine habitats throughout the species' known occupied range are under constant threat from these ongoing or potential activities, numerous conservation actions to benefit the species are under way in New Mexico, including the reintroduction of the species to the Delaware River in New Mexico, and are beginning in Texas on the Big Bend reach of the Rio Grande. Due to these ongoing conservation efforts, and because at least one of the populations appears to be robust, the magnitude of the threats is moderate. However, the threats to the species are ongoing and remain imminent. Thus, we retain a LPN of 8 for the Texas hornshell.

Golden orb (*Quadrula aurea*)—The following summary is based on information contained in our files. The golden orb is a small, round-shaped freshwater mussel that is endemic to central Texas. This species historically occurred throughout the Nueces-Frio and Guadalupe-San Antonio River Basins and is now known from only nine locations in four rivers. The golden orb has been eliminated from nearly the entire Nueces-Frio River Basin. Four of these nine populations appear to be stable and reproducing, and the remaining five populations are small and isolated and show no evidence of recruitment. The populations in the middle Guadalupe and lower San Marcos Rivers are likely connected. The remaining extant populations are highly fragmented and restricted to short reaches.

The golden orb is primarily threatened by habitat destruction and modification from impoundments, which scour river beds, thereby removing mussel habitat, decreasing water quality, modifying stream flows, and preventing fish host migration and distribution of freshwater mussels. The species is also threatened by sedimentation, dewatering, sand and gravel mining, and chemical contaminants. Additionally, these threats may be exacerbated by the current and projected effects of climate change, population fragmentation and isolation, and the anticipated threat of nonnative species. Threats to the golden orb and its habitat are not being adequately addressed through existing regulatory mechanisms. Because of the limited distribution of this endemic species and its lack of mobility, these threats may result in the extinction of the golden orb in the foreseeable future.

The threats are such that the golden orb warrants listing; the threats are moderate in magnitude. Habitat loss and degradation from impoundments, sedimentation, sand and gravel mining, and chemical contaminants are widespread throughout the range of the golden orb, but several large populations remain, including one that was recently discovered, suggesting that the threats are not high in magnitude. These threats are exacerbated by climate change, which will increase the frequency and magnitude of droughts. These threats are imminent because they are ongoing and will continue in the foreseeable future. Habitat loss and degradation have already occurred and will continue as the human population continues to grow in central Texas. Several golden orb populations may already be below the minimum viable population requirement, which causes a reduction in the number of populations and an increase in the species' vulnerability to extinction. Based on imminent, moderate threats, we retain a LPN of 8 for the golden orb.

Smooth pimpleback (*Quadrula houstonensis*)—The following summary is based on information contained in our files. The smooth pimpleback is a small, round-shaped freshwater mussel that is endemic to central Texas. Based on historical and current data, the smooth pimpleback has declined rangewide and is now known from only nine counties throughout the Colorado River basin and it occurs in 14 counties throughout the Brazos River basin. The species has been eliminated from nearly the entire Colorado River and all but one of its tributaries, and has been eliminated from the upper Brazos River and several tributaries as well. The lower Colorado River, San Saba River, lower Brazos River, Navasota River, Leon River, and Yegua Creek populations appear to be stable and reproducing, but the remaining populations are small, isolated, and represented by only a few individuals.

The smooth pimpleback is primarily threatened by habitat destruction and modification from impoundments, which scour river beds, thereby removing mussel habitat, decreasing water quality, modifying stream flows, and preventing fish host migration and distribution of freshwater mussels. The species is also threatened by sedimentation, dewatering, sand and gravel mining, and chemical contaminants. Additionally, these threats may be exacerbated by the current and projected effects of climate change, population fragmentation and isolation, and the anticipated threat of nonnative species. Threats to the smooth pimpleback and its habitat are not being adequately addressed through existing regulatory mechanisms. Because of the limited distribution of this endemic species and its lack of mobility, these threats may result in the extinction of the smooth pimpleback in the foreseeable future.

The threats are such that the smooth pimpleback warrants listing; the threats are moderate in magnitude. Habitat loss and degradation from impoundments, sedimentation, sand and gravel mining, and chemical contaminants are widespread throughout the range of the smooth pimpleback, but several large populations remain, including one that was recently discovered, suggesting that the threats are not high in magnitude. These threats are exacerbated by climate change, which will increase the frequency and magnitude of droughts. These threats are imminent because they are ongoing and will continue in the foreseeable future. Habitat loss and degradation have already occurred and will continue as the human population continues to grow in central Texas. Several smooth pimpleback populations may already be below the minimum viable population requirement, which causes a reduction in the number of populations and an increase in the species' vulnerability to extinction. Based on imminent, moderate threats, we maintain an LPN of 8 for the smooth pimpleback.

Texas pimpleback (*Quadrula petrina*)—The following summary is based on information contained in our files. The Texas pimpleback is a large, freshwater mussel that is endemic to central Texas. This species historically occurred throughout the Colorado and Guadalupe-San Antonio River Basins, but is now known to only occur in four streams within these basins. Only two populations appear large enough to be stable, the Concho River population and in the San Saba River population, but evidence of recruitment is limited in even in these populations. The remaining two populations are represented by one or two individuals and are highly disjunct, with no evidence of recruitment.

The Texas pimpleback is primarily threatened by habitat destruction and modification from impoundments, which scour riverbeds, thereby removing mussel habitat, decreasing

water quality, modifying stream flows, and preventing fish host migration and distribution of freshwater mussels. This species is also threatened by sedimentation, dewatering, sand and gravel mining, and chemical contaminants. Additionally, these threats may be exacerbated by the current and projected effects of climate change, population fragmentation and isolation, and the anticipated threat of nonnative species. Threats to the Texas pimpleback and its habitat are not being adequately addressed through existing regulatory mechanisms. Because of the limited distribution of this endemic species and its lack of mobility, these threats may result in the extinction of the Texas pimpleback in the foreseeable future.

The threats are such that the Texas pimpleback warrants listing; the threats are high in magnitude because habitat loss and degradation from impoundments, sedimentation, sand and gravel mining, and chemical contaminants are widespread throughout the range of the Texas pimpleback and profoundly affect its survival and recruitment. Remaining populations are small, isolated, and highly vulnerable to stochastic events, which could lead to extirpation or extinction. These threats are exacerbated by climate change, which will increase the frequency and magnitude of droughts. These threats are imminent because they are ongoing and will continue in the foreseeable future. Habitat loss and degradation have already occurred and will continue as the human population continues to grow in central Texas. Texas pimpleback populations may already be below the minimum viable population requirement, which causes a reduction in the number of populations and an increase in the species' vulnerability to extinction. Based on imminent, high-magnitude threats, we retain a LPN of 2 for the Texas pimpleback.

Snails

Black mudalia (*Elimia melanoides*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on April 20, 2010. The black mudalia is a small snail that is found clinging to clean gravel, cobble, boulders, and/or logs in flowing water on shoals and riffles. The historical distribution of the black mudalia encompassed over 250 miles of stream channel in the upper Black Warrior River drainage in Alabama. The species has been extirpated from more than 80 percent of that range by the construction of two major dams on the main stem Black Warrior River and another dam on the lower Sipsey Fork. Other historical causes of range curtailment in the un-dammed river and stream channels of the upper Black Warrior River drainage include coal mine drainage, industrial and municipal pollution events, and agricultural runoff. After being rediscovered in a small portion of its historical range in the Black Warrior drainage, further survey work has recorded the mudalia from 10 shoal populations in 5 streams.

Water quality and habitat degradation are the biggest threats to the continued existence of the black mudalia. Sources of point and nonpoint pollution in the Black Warrior River Basin have been numerous and widespread. Pollution is generated from inadequately treated effluent from industrial plants, sanitary landfills, sewage treatment plants, poultry operations, and cattle feedlots. Surface mining represents another threat to the biological integrity of stream habitats. Runoff from old, abandoned coal mines generates pollution through acidification, increased mineralization, and sediment loading. Most of the stream segments draining into black mudalia habitat currently support their water quality classification standards; however, the reach of the Locust Fork where the species is found is identified on the Alabama 303(d) List (a list of water bodies failing to meet their designated water-use classifications) as impaired by siltation, nutrients, and/or other habitat alterations. Additional surveys that are currently underway will clarify the extent and status of black mudalia populations. The threats are of moderate magnitude as they affect the 10 populations to varying degrees. The threats are ongoing and thus, are imminent. Therefore, we assigned an LPN of 8 to this species.

Magnificent ramshorn (*Planorbella magnifica*)—Magnificent ramshorn, is the largest North American air-breathing freshwater snail in the family Planorbidae. The shell is brown colored (often with leopard like spots) and fragile, thus indicating it is adapted to still or slow flowing aquatic habitats. The magnificent ramshorn is believed to be a southeastern North Carolina endemic; it was known from only four sites in the lower Cape Fear River Basin in North Carolina. Although the complete historic range of the species is unknown, given the size of the species and the fact that it was not reported until 1903 is an indication that the species may have always been rare and localized. The only known surviving individuals of the species are presently being held and propagated at a private residence, and at a lab at NC State University's Veterinary School; another small population is in the process of being established at the NC Wildlife Resources Commission's Watha State Fish Hatchery.

Salinity and pH apparently were major factors limiting the distribution of the magnificent ramshorn, as the snail prefers freshwater bodies with circumneutral pH (i.e., pH within the range of 6.8–7.5). While members of the family Planorbidae are hermaphroditic, it is currently unknown whether magnificent ramshorns self-fertilize their eggs, mate with other individuals of the species, or both. Like other members of the Planorbidae family, the magnificent ramshorn is believed to be primarily a vegetarian, feeding on submerged aquatic plants, algae, and detritus. While several factors have likely contributed to the possible extirpation of the magnificent ramshorn in the wild, the primary factors include loss of habitat associated with the extirpation of beavers (and their impoundments) in the early 20th century, increased salinity and alteration of flow patterns, as well as increased input of nutrients and other pollutants. While efforts have been made to restore habitat for the magnificent ramshorn at one of the sites known to have previously supported the species, all of the sites continue to be affected and/or threatened by the same factors (i.e., salt water intrusion and other water quality degradation, nuisance aquatic plant control, storms, sea-level rise, etc.) believed to have resulted in extirpation of the species from the wild. Currently, only two captive populations exist; a single robust captive population of the species comprised of approximately 200+ adults, and a second small population of 50+ individuals. Although the robust captive population of the species has been maintained since 1993, a single catastrophic event, such as a severe storm, disease, or predator infestation affecting this captive population, could result in the near extinction of the species. Therefore, we assigned this species an LPN of 2.

Sisi snail (*Ostodes strigatus*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The sisi snail is a ground-dwelling species in the Potaridae family, and is endemic to American Samoa. The species is now known from a single population on the island of Tutuila, American Samoa.

This species is currently threatened by habitat loss and modification and by

predation from nonnative predatory snails. The decline of the sisi snail in American Samoa has resulted, in part, from loss of habitat to logging and agriculture and loss of forest structure to hurricanes and nonnative weeds that become established after these storms. All live sisi snails have been found in the leaf litter beneath remaining intact forest canopy. No snails were found in areas bordering agricultural plots or in forested areas that were severely damaged by three hurricanes. Under natural historical conditions, loss of forest canopy to storms did not pose a great threat to the long-term survival of these snails; enough intact forest with healthy populations of snails would support dispersal back into newly regrown forest canopy. However, the presence of nonnative weeds such as mile-a-minute vine (*Mikania micrantha*) may reduce the likelihood that native forests will re-establish in areas damaged by hurricanes. This loss of habitat to storms is greatly exacerbated by expanding agriculture. Agricultural plots on Tutuila have spread from low elevation up to middle and some high elevations, greatly reducing the forested area and thus reducing the resilience of native forests and populations of native snails. These reductions also increase the likelihood that future storms will lead to the extinction of populations or species that rely on the remaining forest canopy. In an effort to eradicate the nonnative giant African snail (*Achatina fulica*), the nonnative rosy carnivore snail (*Euglandia rosea*) was introduced in 1980. The rosy carnivore snail has spread throughout the main island of Tutuila. Numerous studies show that the rosy carnivore snail feeds on endemic island snails, including the sisi snail, and is a major agent in their declines and extirpations. At present, the major threat to long-term survival of the native snail fauna in American Samoa, including the sisi snail, is predation by nonnative predatory snails. These threats are ongoing and are therefore imminent. Since the threats occur throughout the entire range of the species, have a severe effect on the survival of the snails, and lead to a relatively high likelihood of extinction, they are of a high magnitude. Therefore we have retained an LPN of 2 for this species.

Fragile tree snail (*Samoana fragilis*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. A tree-dwelling species, the fragile tree snail is a member of the Partulidae family of snails, and is endemic to the islands of Guam and Rota (Mariana Islands). Requiring cool and shaded native forest habitat, the species is now known from one population on Guam and from one population on Rota.

The fragile tree snail is currently threatened by habitat loss and modification and by predation from nonnative predatory snails and flatworms. Large numbers of Philippine deer (*Cervus mariannus*) (Guam and Rota), pigs (*Sus scrofa*) (Guam), water buffalo (*Bubalus bubalis*) (Guam), and cattle (*Bos taurus*) (Rota) directly alter the understory plant community and overall forest microclimate, making it unsuitable for tree snails. Predation by the nonnative rosy carnivore snail (*Euglandina rosea*) and the Manokwar flatworm (*Platydemus manokwari*) is a serious threat to the survival of the fragile tree snail. Field observations have established that the rosy carnivore snail and the Manokwar flatworm will readily feed on native Pacific Island tree snails, including the Partulidae. The rosy carnivore snail has caused the extirpation of many populations and species of native snails throughout the Pacific islands. The Manokwar flatworm has also contributed to the decline of native tree snails, in part due to its ability to ascend into trees and bushes that support native snails. Areas with populations of the flatworm usually lack partulid tree snails or have declining numbers of snails. Because all of the threats occur rangewide and have a significant effect on the survival of the fragile tree snail, they are high in magnitude, and the species has a relatively high likelihood of extinction. The threats are also ongoing and thus are imminent. Therefore, we have retained an LPN of 2 for this species.

Guam tree snail (*Partula radiolata*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. A tree-dwelling species, the Guam tree snail is a member of the Partulidae family of snails and is endemic to the island of Guam. Requiring cool and shaded native forest habitat, the species is now known from 22 populations on Guam.

This species is primarily threatened by predation from several species, as well as by habitat loss and degradation. Predation by the nonnative rosy carnivore snail (*Euglandina rosea*) and the nonnative Manokwar flatworm (*Platydemus manokwari*) is a serious threat to the survival of the Guam tree snail (see summary for the fragile tree snail, above). In addition, predation by rats (*Rattus* spp.) is a serious and ongoing threat to the Guam tree snail. On Guam, open agricultural fields and other areas prone to erosion were seeded with tangantangan (*Leucaena leucocephala*) by the U.S. Military. *Leucaena leucocephala* grows as a single species stand with no substantial understory. The microclimatic condition within these stands is dry with little accumulation of leaf litter humus and is unsuitable as Guam tree snail habitat. In addition, native forests cannot reestablish and grow where this nonnative weed has become established. Because all of the threats occur rangewide and have a significant effect on the survival of this snail species, they are high in magnitude, and the species has a relatively high likelihood of extinction. The threats are also ongoing and thus are imminent. Therefore, we have retained an LPN of 2 for this species.

Humped tree snail (*Partula gibba*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. A tree-dwelling species, the humped tree snail is a member of the Partulidae family of snails and was originally known from the island of Guam and the Commonwealth of the Northern Mariana Islands (CNMI), including the islands of Rota, Aguiguan, Tinian, Saipan, Anatahan, Sarigan, Alamagan, and Pagan. Until recently, the species was known from a total of 14 populations on the islands of Guam, Rota, Aguiguan, Sarigan, Saipan, Alamagan, and Pagan. However, new (2011) information indicates that the humped tree snail may be found only on the islands of Guam, Saipan, Sarigan, and Pagan. This information also suggests that the individuals identified as humped tree snails on Rota may be a different species. Although still the most widely distributed tree snail endemic in the Mariana Islands, remaining population sizes are often small.

This species is currently threatened by habitat loss and modification and by predation from several species. Throughout the Mariana Islands, feral ungulates (pigs (*Sus scrofa*), Philippine deer (*Cervus mariannus*), cattle (*Bos taurus*), water buffalo (*Bubalus bubalis*), and goats (*Capra hircus*)) have caused severe damage to native forest vegetation by browsing directly on plants, causing erosion, and retarding forest growth and regeneration. This in turn reduces the quantity and quality of forested habitat for the humped tree snail. Currently, populations of feral ungulates are found on the islands of Guam (deer, pigs, and water buffalo), Rota (deer and cattle), Aguiguan (goats), Saipan (deer, pigs, and cattle),

Alamagan (goats, pigs, and cattle), and Pagan (cattle, goats, and pigs). Goats were eradicated from Sarigan in 1998 and the humped tree snail subsequently increased in abundance on that island, likely in response to the goat removal. However, the population of humped tree snails on Anatahan is likely extirpated due to the massive volcanic explosions of the island beginning in 2003 and still continuing, and the resulting loss of up to 95 percent of the vegetation on the island. Predation by the nonnative rosy carnivore snail (*Euglandina rosea*) and the nonnative Manokwar flatworm (*Platydemus manokwari*) is a serious threat to the survival of the humped tree snail (see summary for the fragile tree snail, above). In addition, predation by rats (*Rattus* spp.) is a serious and ongoing threat to the humped tree snail. The magnitude of threats is high because these nonnative predators have caused significant population declines to the humped tree snail range-wide. These threats are ongoing and thus are imminent. Therefore, we have retained an LPN of 2 for this species.

Langford's tree snail (*Partula langfordi*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. A tree-dwelling species, Langford's tree snail is a member of the Partulidae family of snails and is known from one population on the island of Aguiguan. A survey of Aguiguan in November 2006 failed to find any live Langford's tree snails.

This species is currently threatened by habitat loss and modification and by predation from nonnative predatory snails. In the 1930s, the island of Aguiguan was mostly cleared of native forests to support sugar cane and pineapple production. The abandoned fields and airstrip are now overgrown with nonnative weeds. The remaining native forest understory has suffered greatly from large and uncontrolled populations of alien goats (*Capra hircus*) and the invasion of weeds. Goats have caused severe damage to native forest vegetation by browsing directly on plants, causing erosion, and retarding forest growth and regeneration. This, in turn, reduces the quantity and quality of forested habitat for Langford's tree snail. Predation by the nonnative rosy carnivore snail (*Euglandina rosea*) and by the Manokwar flatworm (*Platydemus manokwari*) (see summary for the fragile tree snail, above) is also a serious threat to the survival of Langford's tree snail. In addition, predation by rats (*Rattus* spp.) is a serious and ongoing threat to Langford's tree snail. All of the threats are occurring rangewide and efforts to control or eradicate the nonnative predatory species or to reduce habitat loss have not occurred. The magnitude of threats is high because they result in direct mortality or significant population declines to Langford's tree snail rangewide. These threats are also ongoing and thus are imminent. Therefore, we have retained an LPN of 2 for this species.

Tutuila tree snail (*Eua zebrina*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. A tree-dwelling species, the Tutuila tree snail is a member of the Partulidae family of snails and is endemic to American Samoa. The species is known from 32 populations on the islands of Tutuila, Manua, and Ofu.

This species is currently threatened by habitat loss and modification and by predation from nonnative predatory snails and rats (*Rattus* spp.). All live Tutuila tree snails were found on understory vegetation beneath remaining intact forest canopy. No snails were found in areas bordering agricultural plots or in forested areas that were severely damaged by three hurricanes (1987, 1990, and 1991). (See summary for the sisi snail, above, regarding impacts of nonnative weeds and of the rosy carnivore snail.) Rats have also been shown to devastate snail populations, and rat-damaged snail shells have been found at sites where the Tutuila snail occurs. At present, the major threat to the long-term survival of the native snail fauna in American Samoa is predation by nonnative predatory snails and rats. The magnitude of threats is high because they result in direct mortality or significant population declines to the Tutuila tree snail rangewide. The threats are also ongoing and thus are imminent. Therefore, we have retained an LPN of 2 for this species.

Huachuca springsnail (*Pyrgulopsis thompsoni*)—The following is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. The Huachuca springsnail inhabits at least 21 spring sites in southeastern Arizona and northern Sonora, Mexico. The springsnail is typically found in shallow water habitats, often in rocky seeps at the spring source. Potential threats include habitat modification and destruction through catastrophic wildfire and unmanaged grazing at the landscape scale. Overall, the threats are low in magnitude, because threats are not occurring throughout the range of the species uniformly and not all populations would likely be affected simultaneously by the known threats. We have no site-specific information indicating that grazing is currently ongoing in or adjacent to occupied habitats, and catastrophic wildfire is not known to be an imminent threat. Accordingly, threats are nonimminent. Therefore, we retain an LPN of 11 for this Huachuca springsnail.

Page springsnail (*Pyrgulopsis morrisoni*)—The following summary is based on information contained in our files. The Page springsnail is known from a complex of springs located within an approximately 0.93-mi (1.5-km) stretch along the west side of Oak Creek around the community of Page Springs, and within springs located along Spring Creek, tributary to Oak Creek, Yavapai County, Arizona.

The primary threat to the Page springsnail has been modification of habitat by domestic use, agriculture, ranching, fish hatchery operations, recreation, and groundwater withdrawal. Many of the springs where the species occurs have been subjected to some level of modification. However, the immediacy of the threat of groundwater withdrawal is uncertain, due to conflicting information regarding immediacy. Based on recent survey data, it appears that the Page springsnail is abundant within natural habitats and persists in modified habitats, albeit at reduced densities. In 2009, the Arizona Game and Fish Department (AGFD) and the Service entered into a 5-year Candidate Conservation Agreement with Assurances (CCAA) to alleviate threats and improve the conservation status of the Page springsnail; the majority of Page springsnail sites are located on State fish hatchery system land and are managed by AGFD. Management plans for the Bubbling Ponds and Page Springs fish hatcheries include commitments to replace lost habitat and to monitor remaining populations of invertebrates such as the Page springsnail. The CCAA for the Page springsnail has resulted in the implementation of conservation measures such as restoration and creation of spring ecosystems, including springs on AGFD properties. The implementation of the CCAA has resulted in measurable benefits to the species and its habitats. Additionally, the National Park Service has expressed an interest in restoring natural springhead integrity to Shea Springs, a site historically occupied by Page springsnail.

Accordingly, we find that ongoing implementation of the CCAA continues to substantially reduce the magnitude

and immediacy of threats to, and to appreciably improve the conservation status of, the species. Therefore, we retain a LPN of 11 for Page springsnail.

Insects

Hawaiian yellow-faced bee (*Hylaeus anthracinus*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus anthracinus* is a species of Hawaiian yellow-faced bee (family Colletidae) found in certain coastal areas and dry lowland forests containing native plant communities on the islands of Hawaii, Kahoolawe, Lanai, Maui, Molokai, and Oahu, Hawaii. *H. anthracinus* is currently known from 16 populations containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. anthracinus* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

Some *Hylaeus anthracinus* populations occur in areas that are managed for one or more of the threats affecting habitat; however, no population is entirely protected from impacts to habitat, and predation on the species is not currently managed at any population site. The threats to *H. anthracinus* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. anthracinus* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus assimulans*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus assimulans* is a species of Hawaiian yellow-faced bee (family Colletidae) found in certain coastal areas and dry lowland forests containing native plant communities on the islands of Hawaii, Kahoolawe, Lanai, Maui, Molokai, and Oahu, Hawaii. *H. assimulans* is currently known from five populations containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. assimulans* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

Some *Hylaeus assimulans* populations occur in areas that are managed for one or more of the threats affecting habitat; however, no population is entirely protected from impacts to habitat, and predation on the species is not currently managed at any population site. The threats to *H. assimulans* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. assimulans* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus facilis*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus facilis* is a species of Hawaiian yellow-faced bee (family Colletidae) with a wide historical range of native plant community habitat including coastal areas, lowland dry and wet forests, and montane mesic forests on the islands of Lanai, Maui, Molokai, and Oahu, Hawaii. Now extirpated from the islands of Lanai and Maui, *H. facilis* is currently known from two populations containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. facilis* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

Both of the *Hylaeus facilis* populations occur in areas that are managed for one or more of the threats affecting habitat; however, neither population is entirely protected from impacts to habitat, and predation upon the species is not currently managed within either population site. The threats to *H. facilis* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. facilis* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus hilaris*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus hilaris* is a cleptoparasitic species of Hawaiian yellow-faced bee (family Colletidae) with a historical range in coastal habitat on the islands of Lanai, Maui, and Molokai, Hawaii. Now extirpated from the islands of Lanai and Maui, *H. hilaris* is currently known from a single population on Molokai containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. hilaris* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the small size of its remaining population, lack of additional populations, competition from European honey bees (*Apis mellifera*), possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

The *Hylaeus hilaris* population occurs within a private preserve that is managed for some of the threats affecting habitat; however, the population is not entirely protected from impacts to habitat, and predation upon the species is not currently managed at all. The threats to *H. hilaris* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. hilaris* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus kuakea*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus kuakea* is a species of Hawaiian yellow-faced bee (family Colletidae) found in lowland mesic forests on the island of Oahu, Hawaii. *H. kuakea* is currently known from two populations containing an unknown number of individuals. This species is threatened

by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. kuakea* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

Both *Hylaeus kuakea* populations occur in areas that are managed for one or more of the threats affecting habitat; however, neither population is entirely protected from impacts to habitat, and predation on the species is not currently managed within either population site. The threats to *H. kuakea* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. kuakea* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus longiceps*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus longiceps* is a species of Hawaiian yellow-faced bee (family Colletidae) found in certain coastal areas and dry lowland forest containing native plant communities on the islands of Lanai, Maui, Molokai, and Oahu, Hawaii. *H. longiceps* is currently known from six populations containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. longiceps* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

Some *Hylaeus longiceps* populations occur in areas that are managed for one or more of the threats affecting habitat; however, no population is entirely protected from impacts to habitat, and predation on the species is not currently managed within any population site. The threats to *H. longiceps* high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. longiceps* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hawaiian yellow-faced bee (*Hylaeus mana*)—The following summary is based on information contained in our files and in the petition that we received for this species on March 23, 2009. *Hylaeus mana* is a species of Hawaiian yellow-faced bee (family Colletidae) found in lowland mesic forests on the island of Oahu, Hawaii. *H. mana* is currently known from four populations containing an unknown number of individuals. This species is threatened by ongoing habitat loss and modification due to the effects of feral ungulates, nonnative plants, wildfire, and climate change. *H. mana* is directly threatened by predation from yellow jacket wasps (*Vespula pensylvanica*) and several species of nonnative ants. Additional indirect threats to the species include the limited number and small size of populations, competition from European honey bees (*Apis mellifera*), the possibility of habitat destruction from stochastic and catastrophic events, and a lack of regulatory mechanisms affording protection to the species.

The *Hylaeus mana* populations occur in areas that are managed for one or more of the threats affecting habitat; however, the population is not entirely protected from impacts to habitat, and predation on the species is not currently managed at all. The threats to *H. mana* are high in magnitude because their severity endangers the species with a high likelihood of extinction throughout its entire range. The threats to *H. mana* are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Hermes copper butterfly (*Hermelycaena* [Lycaena] *hermes*) — Hermes copper butterfly primarily occurs in San Diego County, California, and a few records of the species have been documented in Baja California, Mexico. The species inhabits coastal sage scrub and southern mixed chaparral and is dependent on its larval host plant, Rhamnus crocea (spiny redberry), to complete its lifecycle. Adult Hermes copper butterflies lay single eggs on spiny redberry stems where they hatch and feed until pupation occurs at the base of the plant. Hermes copper butterflies have one flight period occurring in mid-May to early-July, depending on weather conditions and elevation. We estimate there were at least 59 known separate historical populations throughout the species' range since the species was first described. Of the 59 known Hermes copper butterfly populations, 21 are extant, 27 are believed to have been extirpated, and 11 are of unknown status.

Primary threats to Hermes copper butterfly are megafires (large wildfires), and small and isolated populations. Secondary threats include increased wildfire frequency that results in habitat loss, and combined impacts of existing development, possible future (limited) development, existing dispersal barriers, and fires that fragment habitat. Hermes copper butterfly occupies scattered areas of sage scrub and chaparral habitat in an arid region susceptible to wildfires of increasing frequency and size. The likelihood that individuals of the species will be burned as a result of catastrophic wildfires, combined with the isolation and small size of extant populations makes Hermes copper butterfly particularly vulnerable to population extirpation rangewide. Overall, the threats that Hermes copper butterfly faces are high in magnitude because the major threats (particularly mortality due to wildfire and increased wildfire frequency) occur throughout all of the species' range and are likely to result in significant adverse impacts to the status of the species. The threats are nonimminent overall because the impact of wildfire to Hermes copper butterfly and its habitat occurs on a sporadic basis and we do not have the ability to predict when wildfires will occur. This species faces high-magnitude nonimminent threats; therefore, we assigned this species a listing priority number of 5.

Mariana eight spot butterfly (*Hypolimnas octucula mariannensis*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Mariana eight-spot butterfly is a nymphalid butterfly species that feeds upon two host plants, *Procris pedunculata* and *Elatostema calcareum.* Endemic to the islands of Guam and Saipan, the species is now known from only 10 populations on Guam. This species is currently threatened by predation and parasitism. The Mariana eight-spot butterfly has extremely high mortality of eggs and larvae due to predation by nonnative ants and wasps. Because the threats of parasitism and predation by nonnative insects occur rangewide and can cause significant population declines to this species, they are high in magnitude. The threats are imminent because they are ongoing.

Therefore, we retained an LPN of 3 for this subspecies.

Mariana wandering butterfly (*Vagrans egistina*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Mariana wandering butterfly is a nymphalid butterfly species that feeds upon a single host plant species, *Maytenus thompsonii.* Historically, the species was known from and endemic to the islands of Guam and the Commonwealth of the Northern Mariana Islands on the island of Rota. Apparently extirpated from Guam, the species is now restricted to Rota within a single population located in an officially conserved area, but threats to the species or its host plant are not managed. This species is currently threatened by nonnative predation and parasitism. The Mariana wandering butterfly is likely affected by predation from nonnative ants and by nonnative parasitoid wasps. Because the threats of parasitism and predation by nonnative insects occur rangewide and can cause significant population declines to this species leading to a relatively high likelihood of extinction, they are high in magnitude. These threats are imminent because they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Puerto Rican harlequin butterfly (*Atlantea tulita*)—The following summary is based on information in our files and in the petition we received on Feburary 29, 2009. The Puerto Rican harlequin butterfly is endemic to Puerto Rico, and one of the four species endemic to the Greater Antilles within the genus *Atlantea.* This species occurs within the subtropical moist forest in the northern karst region (i.e., municipality of Quebradillas) of Puerto Rico, and in the subtropical wet forest (i.e., Maricao Commonwealth Forest, municipality of Maricao). The Puerto Rican harlequin butterfly has only been found utilizing *Oplonia spinosa* (prickly bush) as its host plant (i.e., plant used for laying the eggs, also serves as a food source for development of the larvae).

The primary threats to the Puerto Rican harlequin butterfly are development, habitat fragmentation, and other natural or manmade factors such as human induced fires, use of herbicides and pesticides, vegetation management, and climate change. These factors would substantially affect the distribution and abundance of the species, as well as its habitat. In addition, the lack of effective enforcement makes the existing policies and regulations inadequate for the protection of the species' habitat. We consider these threats to be high and imminent, because known populations occur in areas that are subject to development, increased traffic, and increased road maintenance and construction. Such threats directly affect populations during all life stages. These threats are expected to continue and potentially increase in the foreseeable future. Therefore, a listing priority number of 2 is assigned to the Puerto Rican harlequin butterfly.

Sequatchie caddisfly (*Glyphopsyche sequatchie*)—The following summary is based on information in our files. No new information was provided in the petition we received on May 11, 2004. The Sequatchie caddisfly is known from two spring runs that emerge from caves in Marion County, Tennessee—Owen Spring Branch and Martin Spring run in the Battle Creek system. Based on an effort to census all Sequatchie caddisfly larvae between 2010 and 2013, Dr. Moulton and Dr. Floyd were unable to arrive at population estimates at Martin and Clear Springs due to low numbers observed. Dr. Moulton and Dr. Floyd estimated a population size of 1,500 to 3,000 individuals at Owen Spring.

Threats to the Sequatchie caddisfly include siltation, predation by rainbow trout, point and nonpoint discharges from municipal and industrial activities, and introduction of toxicants during episodic events. These threats, coupled with the extremely limited distribution of the species, its apparent small population size, the limited amount of occupied habitat, ease of accessibility, and the annual life cycle of the species, are all factors that leave the Sequatchie caddisfly extremely vulnerable to extirpation. Therefore, the magnitude of the threat is high. These threats are gradual and the most important threats are not imminent. Based on high-magnitude and nonimminent threats, we assigned this species a listing priority number of 5.

Clifton Cave beetle (*Pseudanophthalmus caecus*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on May 11, 2004. Clifton Cave beetle is a small, eyeless, reddish-brown, predatory insect that feeds upon small cave invertebrates. It is cave dependent and is not found outside the cave environment. Clifton Cave beetle is only known from two privately owned caves in Woodford County, Kentucky. Soon after the species was first observed in 1963, the cave entrance was blocked due to road construction and placement of fill material. We do not know whether the species still occurs at the original location or if it has been extirpated from the site by the closure of the cave entrance. A 2008 attempt to re-open the cave was unsuccessful. Other caves in the vicinity were surveyed for the species during 1995 and 1996, and only one additional site was found to support the Clifton Cave beetle.

The limestone caves in which the Clifton Cave beetle is found provide a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave ecosystems. The limited distribution of the species makes it vulnerable to isolated events that would only have a minimal effect on more wide-ranging insects. Events such as toxic chemical spills, discharges of large amounts of polluted water or indirect impacts from off-site construction activities, closure of entrances, alteration of entrances, or the creation of new entrances could have serious adverse impacts on this species. Therefore, the magnitude of threat is high for this species. The threats are nonimminent because there are no known projects that would affect the species in the near future. We therefore have assigned an LPN of 5 to this species.

Coleman cave beetle (*Pseudanophthalmus colemanensis*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on April 20, 2010. The Coleman cave beetle is a small, eyeless, reddish-brown predatory insect that feeds upon small cave invertebrates. It is cave dependent and is not found outside the cave environment. It is only known from three Tennessee caves.

The limestone caves in which this species is found provide a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave ecosystems. Caves and the species that are completely dependent upon them receive the energy that forms the basis of the cave food chain from outside the cave. This energy can be in the form of bat guano deposited by cave-dependent bats, large or small woody debris washed or blown into the cave, or tiny bits of organic matter that is carried into the cave by water through small cracks in the rocks overlaying the cave.

The Coleman cave beetle was originally known only from privately owned Coleman Cave in Montgomery County. This cave formerly supported a colony of endangered gray bats. The bats have abandoned this cave because of air flow changes in the cave caused by

closure of an upper entrance to the cave. Although the cave is protected by a cooperative management agreement with the landowner, the upper entrance has not been restored and the bats have not returned to the cave. A new location for the species was discovered in during a biological inventory of Foster Cave (also known as Darnell Cave). One specimen of the species was found during that survey. Foster Cave is on a preserve owned and managed by the Tennessee Department of Conservation. In 2006, specimens of this species were discovered in Bellamy Cave and in Darnell Spring Cave (part of the same cave complex as Foster Cave). All of these sites are in close proximity to each other. Bellamy Cave is owned and managed by the Tennessee Wildlife Resources Agency (TWRA). Both Foster Cave and Bellamy Cave were first acquired and protected by The Nature Conservancy and later transferred to the State for long-term protection and management. The threats are nonimminent because there are no known projects planned that would affect the species in the next few years. Because it occurs at four locations and it receives some protection under a cooperative management agreement and protective ownership, the magnitude of threats is moderate to low. Thus, we have assigned a listing priority number of 11 to this species.

Icebox Cave beetle (*Pseudanophthalmus frigidus*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on May 11, 2004. Icebox Cave beetle is a small, eyeless, reddish-brown, predatory insect that feeds upon small cave invertebrates. It is not found outside the cave environment and is only known from one privately owned cave in Bell County, Kentucky.

The limestone cave in which this species is found provides a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave ecosystems. The species has not been observed since it was originally collected, but species experts believe that it may still exist in the cave in low numbers. The limited distribution of the species makes it vulnerable to isolated events that would only have a minimal effect on more wide-ranging insects. Events such as toxic chemical spills or discharges of large amounts of polluted water, or indirect impacts from off-site construction activities, closure of entrances, alteration of entrances, or the creation of new entrances, could have serious adverse impacts on this species. Therefore, the magnitude of threat is high for this species, because it is limited in distribution and the threats would result in a high level of mortality or reduced reproductive capacity. The threats are nonimminent because there are no known projects that would affect the species in the near future. We therefore have assigned an LPN of 5 to this species.

Inquirer Cave beetle (*Pseudanophthalmus inquisitor*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on May 11, 2004. The inquirer cave beetle is a fairly small, eyeless, reddish-brown predatory insect that feeds upon small cave invertebrates. It is not found outside the cave environment, and is only known from one privately owned Tennessee cave. The limestone cave in which this species is found provides a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave ecosystems. The species was last observed in 2006.

The limited distribution of the species makes it vulnerable to isolated events that would only have a minimal effect on the more wide-ranging insects. The area around the only known site for the species is in a rapidly expanding urban area. The entrance to the cave is protected by the landowner through a cooperative management agreement with the Service, The Nature Conservancy, and Tennessee Wildlife Resources Agency; however, a sinkhole that drains into the cave system is located away from the protected entrance and is near a highway. Events such as toxic chemical spills, discharges of large amounts of polluted water or indirect impacts from off-site construction activities could adversely affect the species and the cave habitat. The magnitude of threat is high for this species, because it is limited in distribution and the threats would have negative impacts on its continued existence. The threats are nonimminent because there are no known projects planned that would affect the species in the near future and it receives some protection under a cooperative management agreement. We therefore have assigned a listing priority number of 5 to this species.

Louisville Cave beetle (*Pseudanophthalmus troglodytes*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Louisville cave beetle is a small, eyeless, reddish-brown, predatory insect that feeds upon cave invertebrates. It is not found outside the cave environment and is only known from two privately owned caves in Jefferson County, Kentucky. The cave entrance at the species' original location was closed due to residential development and placement of fill. We do not know whether the species still occurs at the original location or if it has been extirpated from the site by the closure of the cave entrance. The second cave may still contain the species but access to the cave is restricted due to its location on private land. Several other caves in Jefferson County were surveyed for the species in 1994, but no individuals of the species were observed.

The limestone caves in which this species is found provide a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave ecosystems. The limited distribution of the species makes it vulnerable to isolated events that would only have a minimal effect on more wide-ranging insects. Events such as toxic chemical spills, discharges of large amounts of polluted water, or indirect impacts from off-site construction activities, closure of entrances, alteration of entrances, or the creation of new entrances could have serious adverse impacts on this species. The magnitude of threat is high for this species, because it is limited in distribution and the threats would have severe negative impacts on the species. The threats are nonimminent, because there are no known projects that would affect the species in the near future. We therefore have assigned an LPN of 5 to this species.

Tatum Cave beetle (*Pseudanophthalmus parvus*)—The following summary is based upon information contained in our files. No new information was provided in the petition we received on May 11, 2004. Tatum Cave beetle is a small, eyeless, reddish-brown, predatory insect that feeds upon cave invertebrates. It is not found outside the cave environment and is only known from one privately owned cave in Marion County, Kentucky. Despite searches in 1980, 1996, 2004, and 2005, the species has not been observed in Tatum Cave since 1965.

The limestone cave in which this species is found provides a unique and fragile environment that supports a variety of species that have evolved to survive and reproduce under the demanding conditions found in cave

ecosystems. The species has not been observed since 1965, but species experts believe that it still exists in low numbers. The limited distribution of the species makes it vulnerable to isolated events that would only have a minimal effect on more wide-ranging insects. Events such as toxic chemical spills, discharges of large amounts of polluted water, or indirect impacts from off-site construction activities, closure of entrances, alteration of entrances, or the creation of new entrances could have serious adverse impacts on this species. The magnitude of threat is high for this species, because its limited numbers mean that any threats could severely affect its continued existence. The threats are nonimminent, because there are no known projects that would affect the species in the near future. We therefore have assigned an LPN of 5 to this species.

Orangeblack Hawaiian damselfly (*Megalagrion xanthomelas*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The orangeblack Hawaiian damselfly is a stream and pool-dwelling species endemic to the Hawaiian Islands of Kauai, Oahu, Molokai, Maui, Lanai, and Hawaii. The species no longer is found on Kauai, and is now restricted to 16 populations on the islands of Oahu, Maui, Molokai, Lanai, and Hawaii. This species is threatened by predation from nonnative aquatic species such as fish and predacious insects, and habitat loss through dewatering of streams and invasion by nonnative plants. Nonnative fish and insects prey on the larval-stage naiads of the damselfly, and loss of water reduces the amount of suitable habitat for the naiad life stage. Invasive plants (e.g., California grass (*Brachiaria mutica*)) also contribute to loss of habitat by forming dense, monotypic stands that completely eliminate open water. Nonnative fish and plants are found in all the streams where orangeblack Hawaiian damselflies occur, except at the single Oahu population, where there are no nonnative fish. We have retained an LPN of 8 for this species because, although the threats are ongoing and therefore imminent, they affect the survival of the species to varying degrees throughout the species' range and are of moderate magnitude.

Stephan's riffle beetle (*Heterelmis stephani*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. The Stephan's riffle beetle is an endemic riffle beetle historically found in limited spring environments within the Santa Rita Mountains, Pima County, Arizona. In the most recent surveys conducted in 1993, the Stephan's riffle beetle was documented only in Sylvester Spring in Madera Canyon, Santa Cruz County, within the Coronado National Forest. Suspected potential threats to that spring are largely from habitat modification, and potential changes in water quality and quantity due to catastrophic natural events and climate change. The threats are of low to moderate magnitude based on our current knowledge that the effects of these threats are unlikely to be permanent as they stem from occasional natural events that do not result in permanent water quality degradation. Additionally, there is a higher likelihood that the species will persist in areas that are unaffected by the threats; it is unlikely that all areas of the spring would be simultaneously be affected. Threats from habitat modification have already occurred and are no longer ongoing, and the threats from climate change are expected to occur over many years. Therefore, the threats are not imminent. Thus, we retain an LPN of 11 for the Stephan's riffle beetle.

Arapahoe snowfly (*Capnia arapahoe*)—The following summary is based on information contained in our files. This insect is a winter stonefly associated with clean, cool, running waters. Adult snowflies emerge in late winter from the space underneath stream ice. The Arapahoe snowfly is found only in a short section of Elkhorn Creek, a small tributary of the Cache la Poudre River in the Roosevelt National Forest, Larimer County, Colorado. The species previously occurred downriver at Young Gulch, but habitat likely became unsuitable or other unknown causes likely extirpated the species. Habitats at Young Gulch were further degraded by the High Park Fire in 2012. Climate change is a threat to the Arapahoe snowfly and modifies its habitats by reducing snowpacks, increasing temperatures, fostering mountain pine beetle outbreaks, and increasing the frequency of destructive wildfires. Limited dispersal capabilities, an extremely restricted range, dependence on pristine habitats, and a small population size make the Arapahoe snowfly vulnerable to demographic stochasticity, environmental stochasticity, and random catastrophes. Furthermore, regulatory mechanisms inadequately reduce these threats, which may act cumulatively to affect the species. The threats to the Arapahoe snowfly are high in magnitude because they occur throughout the species' limited range. However, the threats are nonimminent, because the species has been consistently collected at Elkhorn Creek since 1987 and increased temperatures will adversely affect the species in the future. Therefore, we have assigned the Arapaho snowfly an LPN of 5.

Meltwater lednian stonefly (*Lednia tumana*)—The following summary is based on information contained in our files and in the petition we received on July 30, 2007. This species is an aquatic insect in the order Plecoptera (stoneflies). Stoneflies are primarily associated with clean, cool streams and rivers. Eggs and nymphs (juveniles) of the meltwater lednian stonefly are found in high-elevation, alpine, and subalpine streams, most typically in locations closely linked to glacial runoff. The species is generally restricted to streams with mean summer water temperature less than 10 °C (50 °F). The only known meltwater lednian stonefly occurrences are within Glacier National Park (NP), Montana.

Climate change, and the associated effects of glacier loss (with glaciers predicted to be gone by 2030)—including reduced streamflows, and increased water temperatures—are expected to significantly reduce the occurrence of populations and extent of suitable habitat for the species in Glacier NP. In addition, the existing regulatory mechanisms are not adequate to address these environmental changes due to global climate change. We announced candidate status for the meltwater lednian stonefly in a warranted-but-precluded 12-month petition finding published on April 5, 2011 (76 FR 18684). We have assigned the species an LPN of 5 based on three criteria: (1) The high magnitude of threat, which is projected to substantially reduce the amount of suitable habitat relative to the species' current range; (2) the low imminence of the threat based on the lack of documented evidence that climate change is affecting stonefly habitat; and (3) the taxonomic status of the species, which is a full species.

Highlands tiger beetle (*Cicindela highlandensis*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The Highlands tiger beetle is narrowly distributed and restricted to areas of bare sand within scrub and sandhill on ancient sand dunes of the Lake Wales Ridge in Polk and Highlands Counties, Florida. Adult tiger beetles have been most recently found at 40 sites at the

core of the Lake Wales Ridge. In 2004–2005 surveys, a total of 1,574 adults were found at 40 sites, compared with 643 adults at 31 sites in 1996, 928 adults at 31 sites in 1995, and 742 adults at 21 sites in 1993. Of the 40 sites in the 2004–2005 surveys with one or more adults, results ranged from 3 sites with large populations of over 100 adults, to 13 sites with fewer than 10 adults. Results from a limited removal study at four sites and similar studies suggested that the actual population size at some survey sites can be as much as two times as high as indicated by the visual index counts. If assumptions are correct and unsurveyed habitat is included, then the total number of adults at all survey sites might be 3,000 to 4,000.

Habitat loss and fragmentation and lack of fire and disturbances to create open habitat conditions are serious threats; remaining patches of suitable habitat are disjunct and isolated. Populations occupy relatively small patches of habitat and are small and isolated; individuals have difficulty dispersing between suitable habitats. These factors pose serious threats to the species. Although significant progress in implementing prescribed fire has occurred over the last 10 years through collaborative partnerships and the Lake Wales Ridge Prescribed Fire Team, a backlog of long-unburned habitat within conservation areas remains. Overcollection and pesticide use are additional concerns. Because this species is narrowly distributed with specific habitat requirements and small populations, any of the threats could have a significant impact on the survival of the species, leading to a relatively high likelihood of extinction. Therefore, the magnitude of threats is high. Although the majority of its historical range has been lost, degraded, and fragmented, numerous sites are protected and land managers are implementing prescribed fire at some sites; these actions are expected to restore habitat and help reduce threats and have already helped stabilize and improve the populations. Overall, the threats are nonimminent. Therefore, we assigned the Highlands tiger beetle an LPN of 5.

Arachnids

Warton's cave meshweaver (*Cicurina wartoni*)—The following summary is based on information contained in our files. Warton's Cave meshweaver is an eyeless, cave-dwelling, unpigmented, 0.23-inch-long spider known only from female specimens. This meshweaver is known to occur in only one cave (Pickle Pit) in Travis County, Texas. Primary threats to the species and its habitat are predation and competition from red-imported fire ants, surface and subsurface effects from polluted runoff from an adjacent subdivision, unauthorized entry into the area surrounding the cave (for example, the cave gate has been vandalized several times in the past), and trash dumping that may include toxic materials near the cave. The magnitude of threats is considered low to moderate based on observations made during field visits to Pickle Pit in November 2011 and March 2012. For example, Pickle Pit is receiving some protection because it is in a mitigation preserve for the golden-cheeked warbler (*Dendroica chrysoparia*). While adequate fencing has not been completed, the field visitis did not document any trails or other signs of recent human use in the immediate vicinity of the cave. Also, despite the fact that this preserve is not being treated for red-imported fire ants, very few red-imported fire ants were documented in the immediate area. Because fire ants have been found and fencing to eliminate human use has not been completed, the threats are ongoing (imminent). Thus, we assigned this species a LPN of 8.

Crustaceans

Anchialine pool shrimp (*Metabetaeus lohena*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Metabetaeus lohena* is a species of shrimp belonging to the family Alpheidae that inhabits anchialine pools. This species is endemic to the Hawaiian Islands with populations on the islands of Oahu, Maui, and Hawaii, Hawaii. The primary threats to this species are predation by fish (i.e., fish species that do not naturally occur in the pools inhabited by this species) and habitat loss from degradation (primarily from illegal trash dumping). Populations of *M. lohena* on the islands of Maui and Hawaii are located within State Natural Area Reserves (NARs) and in a National Park. Both the State NARs and the National Park prohibit the collection of the species and the disturbance of the pools. However, enforcement of collection and disturbance prohibitions is difficult, and the negative effects from the introduction of fish can occur suddenly and quickly decimate the population. On Oahu, four pools containing this species are located in a National Wildlife Refuge and are protected from collection and disturbance to the pool; however, on State-owned land where the species occurs, there is no protection from collection or disturbance of the pools. Threats to this species could have a significant adverse effect on the survival of the species, leading to a relatively high likelihood of extinction, and are of a high magnitude. The primary threats of predation from fish and loss of habitat due to degradation are nonimminent, because on the islands of Maui and Hawaii no fish were observed in any of the pools where this species occurs, and there has been no documented trash dumping in these pools. We have retained an LPN of 5 for this species.

Anchialine pool shrimp (*Palaemonella burnsi*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Palaemonella burnsi* is a species of shrimp belonging to the family Palaemonidae that inhabits anchialine pools. This species is endemic to the Hawaiian Islands with populations on the islands of Maui and Hawaii. The primary threats to this species are predation by nonnative fish (i.e., fish species that do not naturally occur in the pools inhabited by this species) and habitat loss due to degradation (primarily from illegal trash dumping). This species' populations on Maui are located within a State Natural Area Reserve (NAR). Hawaii's State statutes prohibit the collection of the species and the disturbance of the pools in State NARs. On the island of Hawaii, the species occurs within a State NAR and a National Park, where collection and disturbance are also prohibited. However, enforcement of these prohibitions is difficult, and the negative effects from the introduction of fish can occur suddenly and quickly decimate a population. Therefore, threats to this species could have a significant adverse effect on the survival of the species, leading to a relatively high likelihood of extinction, and are of a high magnitude. The threats are nonimminent, because surveys in 2004 and 2007 did not find fish in the pools where these shrimp occur on Maui or the island of Hawaii. Also, there was no evidence of recent habitat degradation at those pools. We have retained an LPN of 5 for this species.

Anchialine pool shrimp (*Procaris hawaiana*)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Procaris hawaiana* is a species of shrimp belonging to the family Procarididae that inhabits anchialine pool. This species is endemic to the Hawaiian Islands, and is currently known from 2 pools on the island of

Maui and 12 pools on the island of Hawaii. The primary threats to this species are predation from nonnative fish (i.e., fish species that do not naturally occur in the pools inhabited by this species) and habitat loss due to degradation (primarily from illegal trash dumping). This species' populations on Maui are located within a State Natural Area Reserve (NAR). Twelve pools containing this species on the island of Hawaii are also located within a State NAR. Hawaii's State statutes prohibit the collection of the species and the disturbance of the pools in State NARs. However, enforcement of these prohibitions is difficult and the negative effects from the introduction of fish can occur suddenly and quickly decimate a population. In addition, there are no prohibitions for either removal of the species or disturbance to one pool containing this species located outside a NAR on the island of Hawaii. Therefore, threats to this species could have a significant adverse effect on the survival of the species, leading to a relatively high likelihood of extinction, and thus remain at a high magnitude. The threats to the species are nonimminent because during 2004 and 2007 surveys, no nonnative fish were observed in the pools where these shrimp occur on Maui, nor were they observed in the one pool on the island of Hawaii that was surveyed in 2005. In addition, there were no signs of dumping or fill in any of the pools where the species occurs. Therefore, we have retained an LPN of 5 for this species.

Flowering Plants

Abronia alpina (Ramshaw Meadows sand-verbena)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Abronia alpina* is a small perennial herb in the Nyctaginaceae (four-o'clock) family, 2.5 to 15.2 centimeters (1 to 6 inches) across forming compact mats with lavender-pink, trumpet-shaped, and generally fragrant flowers. *Abronia alpina* is known from one main population center at Ramshaw Meadow and a smaller population at the adjacent Templeton Meadow. The meadows are located on the Kern River Plateau in the Sierra Nevada, on lands administered by the Inyo National Forest, in Tulare County, California. The total estimated area occupied is approximately 6 hectares (15 acres). The population fluctuates from year to year without any clear trends. Population estimates for the years from 1985 up to but not including 2012—range from a high of approximately 130,000 plants in 1997 to a low of approximately 40,000 plants in 2003. In 2012, when the population was last monitored, the estimated total population increased to approximately 156,000 plants.

The factors currently threatening *Abronia alpina* include natural and human habitat alteration, lowering of the water table due to erosion within the meadow system, and recreational use within meadow habitats. Lodgepole pines are encroaching upon meadow habitat with trees germinating within *A. alpina* habitat, occupying up to 20 percent of two *A. alpina* subpopulations. Lodgepole pine encroachment may alter soil characteristics by increasing organic matter levels, decreasing porosity, and moderating diurnal temperature fluctuations thus reducing the competitive ability of *A. alpina* to persist in an environment more hospitable to other plant species.

The habitat occupied by *Abronia alpina* directly borders the meadow system, which is supported by the South Fork of the Kern River. The river flows through the meadow, at times coming within 15 m (50 ft) of *Abronia alpina* habitat, particularly in the vicinity of five subpopulations. Past livestock trampling and past removal of bank-stabilizing vegetation by grazing livestock have contributed to downcutting of the river channel through the meadow, leaving the meadow subject to potential alteration by lowering of the water table. In 2001 the Forest Service began resting the grazing allotment for 10 years, thereby eliminating cattle use. The allotment is still being rested while the Forest Service assesses the data collected on the rested allotment for eventual inclusion in an environmental analysis to consider resumption of grazing.

Established hiker, packstock, and cattle trails pass through *A. alpina* subpopulations. Two main hiker trails pass through Ramshaw Meadow, but in 1988 and 1997, they were rerouted out of *A. alpina* subpopulations. Occasional incidental use by horses and hikers sometimes occurs on the remnants of cattle trails that pass through subpopulations in several places. The Service has funded studies to determine appropriate conservation measures for the species and is working with the U.S. Forest Service on developing a conservation strategy for the species.

The remaining threat affects individuals in the population and has not appeared to have population-level effects. Therefore, the threats are low in magnitude. In addition, because the grazing activities have been eliminated for the time being and the hiking trails have been rerouted, the threats are nonimminent. The LPN for *A. alpina* remains an 11 due to the presence of moderate to low threats, and the determination that the threats are nonimminent at this point in time.

Argythamnia blodgettii (Blodgett's silverbush)—The following summary is based on information in our files. No new information was provided in the petition we received on May 11, 2004. Blodgett's silverbush occurs in Florida and is found in open, sunny areas in pine rockland, edges of rockland hammock, edges of coastal berm, and sometimes in disturbed areas at the edges of natural areas. Plants can be found growing from crevices on limestone, or on sand. The pine-rockland habitat where the species occurs in Miami-Dade County and the Florida Keys requires periodic fires to maintain habitat with a minimum amount of hardwoods. There are approximately 22 extant occurrences, 12 in Monroe County and 10 in Miami-Dade County; many occurrences are on conservation lands. However, 4 to 5 sites of the 22 occurrences are thought to be recently extirpated. The estimated population size of Blodgett's silverbush in the Florida Keys, excluding Big Pine Key, is roughly 11,000; the estimated population in Miami-Dade County is 375 to 13,650 plants.

Blodgett's silverbush is threatened by habitat loss, which is exacerbated by habitat degradation due to fire suppression, the difficulty of applying prescribed fire to pine rocklands, and threats from exotic plants. Remaining habitats are fragmented. Threats such as road maintenance and enhancement, infrastructure, and illegal dumping threaten some occurrences. Blodgett's silverbush is vulnerable to natural disturbances, such as hurricanes, tropical storms, and storm surges. Climatic changes, including sea-level rise, are long-term threats that are expected to continue to affect pine rocklands and ultimately substantially reduce the extent of available habitat, especially in the Keys. Overall, the magnitude of threats is moderate because not all of the occurrences are affected by the threats. In addition, land managers are aware of the threats from exotic plants and lack of fire, and are, to some extent, working to reduce these threats where possible. While a number of threats are occurring in some areas, the threat from development is nonimminent since most occurrences are on public land, and sea-level rise is not currently affecting this species. Overall, the threats are nonimminent. Thus, we assigned an LPN of 11 to this species.

Artemisia borealis var. *wormskioldii* (Northern wormwood) —The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Historically known from eight sites, northern wormwood is currently known from two populations, one in Klickitat County and one in Grant County, Washington. This plant is restricted to exposed basalt, cobbly-sandy terraces, and sand habitat along the shore of, and on islands in, the Columbia River. The two populations are separated by 186 river miles (300 kilometers) and three reservoirs (formed behind large hydroelectric dams). Annual monitoring indicates both populations are declining and both remain vulnerable to environmental variability. Surveys have not detected any additional plants.

Threats to northern wormwood include direct loss of habitat through regulation of water levels in the Columbia River and placement of riprap along the river bank; human trampling of plants from recreation; competition with nonnative invasive species; burial by wind- and water-borne sediments; small population sizes; susceptibility to genetic drift and inbreeding; and the potential for hybridization with two other species of *Artemisia.* Ongoing conservation actions have reduced trampling, but have not eliminated or reduced other threats at the Grant County site. Active conservation measures are not currently in place at the Miller Island site in Klickitat County. The magnitude of threat is high for this variety. Although the two remaining populations are demographically isolated, one or both populations could be eliminated by a single disturbance. The threats are imminent because recreational use is ongoing, invasive nonnative species occur at both sites, erosion of the substrate is ongoing at the Klickitat County site, and high water flows may occur unpredictably in any year. Therefore, we have retained a listing priority number (LPN) of 3 for this variety.

Astragalus anserinus (Goose Creek milkvetch) —The following summary is based on information in our files and in the petition received on February 3, 2004. The majority (over 80 percent) of Goose Creek milkvetch sites in Idaho, Utah, and Nevada occur on Federal lands managed by the Bureau of Land Management. The rest of the sites occur as small populations on private and State lands in Utah and on private land in Idaho and Nevada. Goose Creek milkvetch occurs in a variety of habitats, but is typically associated with dry, tuffaceous soils (made up of rock consisting of smaller kinds of volcanic detritus) from the Salt Lake Formation. The species grows on steep or flat sites, with soil textures ranging from silty to sandy to somewhat gravelly. The species tolerates some level of disturbance, based on its occurrence on steep slopes where downhill movement of soil is common.

The primary threat to Goose Creek milkvetch is habitat degradation and modification resulting from an altered wildfire regime, fire suppression activities, and rehabilitation efforts to recover lands that have burned. Other factors that also appear to threaten Goose Creek milkvetch include livestock use and invasive nonnative species. The existing regulatory mechanisms are not adequate to address these threats. Climate change effects to Goose Creek drainage habitats are possible, but we are unable to predict the specific impacts of this change to Goose Creek milkvetch at this time.

The threats to the species are imminent, or currently occurring, largely as a result of land management actions taken since fires initially altered the habitat. The threats associated with livestock grazing and invasive species are imminent throughout a large portion of the species' range. The high magnitude and immediacy of threats leaves the species and its small populations more vulnerable to stochastic events. Therefore, we have assigned the Goose Creek milkvetch an LPN of 2.

Astragalus microcymbus (Skiff milkvetch)—The following summary is based on information contained in our files and in the petition we received on July 30, 2007. Skiff milkvetch is a perennial forb that dies back to the ground every year. It has a very limited range and a spotty distribution within Gunnison and Saguache Counties in Colorado, where it is found in open, park-like landscapes in the sagebrush-steppe ecosystem on rocky or cobbly, moderate to steep slopes of hills and draws.

The most significant threats to skiff milkvetch are recreation, roads, trails, and habitat fragmentation and degradation. Existing regulatory mechanisms are not adequate to protect the species from these threats. Recreational impacts are likely to increase, given the close proximity of skiff milkvetch to the town of Gunnison and the increasing popularity of mountain biking, motorcycling, and all-terrain vehicles. Furthermore, the Hartman Rocks Recreation Area draws users and contains over 40 percent of the skiff milkvetch units. Other threats to the species include residential and urban development; livestock, deer, and elk use; climate change; increasing periodic drought; nonnative invasive cheatgrass; and wildfire. The threats to skiff milkvetch are moderate in magnitude because while serious and occurring rangewide, they do not collectively result in population declines on a short time scale. The threats are imminent because the species is currently facing them in many portions of its range. Therefore, we have assigned skiff milkvetch an LPN of 8.

Astragalus schmolliae (Schmoll milkvetch)—The following summary is based on information contained in our files and in the petition we received on July 30, 2007. Schmoll milkvetch is a narrow endemic perennial plant that grows in the mature pinyon-juniper woodland of mesa tops in the Mesa Verde National Park area and in the Ute Mountain Ute Tribal Park in Colorado.

The most significant threats to the species are degradation of habitat by fire, followed by invasion by nonnative cheatgrass and subsequent increase in fire frequency. These threats currently affect about 40 percent of the species' entire known range, and cheatgrass is likely to increase given (1) its rapid spread and persistence in habitat disturbed by wildfires, fire and fuels management and development of infrastructure, and (2) the inability of land managers to control it on a landscape scale. Other threats to Schmoll milkvetch include fire break clearings, drought, and feral livestock grazing; existing regulatory mechanisms are not adequate to address these threats. The threats to the species overall are imminent and moderate in magnitude, because the species is currently facing them in many portions of its range, but the threats do not collectively result in population declines on a short time scale. Therefore, we have assigned Schmoll milkvetch an LPN of 8.

Astragalus tortipes (Sleeping Ute milkvetch)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Sleeping Ute milkvetch is a perennial plant that grows only on the Smokey Hills layer of the Mancos Shale Formation on the Ute Mountain Ute Indian Reservation in Montezuma County, Colorado.

In 2000, 3,744 plants were recorded at 24 locations covering 500 acres within an overall range of 6,400 acres. Available information from 2000 and 2009 indicated that the species' status was stable at that time. However, previous and ongoing threats from

borrow pit excavation, off-highway vehicles, irrigation canal construction, and a prairie dog colony have had minor impacts that reduced the range and number of plants by small amounts. Off-road-vehicle use of the habitat has reportedly been controlled by fencing. Oil and gas development is active in the general area, but the Service has received no information to indicate that there is development within plant habitat. In 2011, the tribal Environmental Programs Department reported habitat disturbance by vehicles and activity at the shooting range located within the plant habitat. The Tribe reported that the status of the species remained unchanged. The Tribe has been working on a management plan that will include a monitoring program for this species, among others. We had expected the final plan to be released in 2010, but it still has not been completed. We have no documentation concerning the current status of the plants, condition of habitat, and terms of the species management plan being drafted by the Tribe. Thus, at this time, we cannot accurately assess whether populations are being adequately protected from previously existing threats. The threats are moderate in magnitude, since they have had minor impacts. Until the management plan is completed there are no regulatory mechanisms in place to protect the species from the threats described above. Overall, we conclude that threats are moderate to low and nonimminent. Therefore, we assigned an LPN of 11 to this species.

Boechera pusilla (Fremont County rockcress)—The following summary is based on information in our files and in the petition received on July 24, 2007. *Boechera pusilla* is a perennial herb that occupies sparsely vegetated, coarse granite soil pockets in exposed granite-pegmatite outcrops, with slopes generally less than 10 degrees, at an elevation between 2,438 to 2,469 m (8,000 to 8,100 ft). The only known population of *B. pusilla* is located in Wyoming on lands administered by the Bureau of Land Management in the southern foothills of the Wind River Range. *B. pusilla* is likely restricted in distribution by the limited occurrence of pegmatite (a very coarse-grained rock formed from magma or lava) in the area. The specialized habitat requirements of *B. pusilla* have allowed the plant to persist without competition from other herbaceous plants or sagebrush-grassland species that are present in the surrounding landscape.

Boechera pusilla has a threat that is not identified, but that is indicated by the small and overall declining population size. Although the threat is not fully understood, we know it exists as indicated by the declining population. The population size may be declining from a variety of unknown causes, with drought or disease possibly contributing to the trend. The downward trend may have been leveled off somewhat recently, but without improved population numbers, the species may reach a population level at which other stressors become threats. We are unable to determine how climate change may affect the species in the future. To the extent that we understand the species, other potential habitat-related threats have been removed through the implementation of Federal regulatory mechanisms and associated actions. Overutilization, predation, and the inadequacy of regulatory mechanisms are threats to the species. The threats that *B. pusilla* faces are moderate in magnitude, primarily because the population decline has leveled off recently. The threat to *B. pusilla* is imminent because we have evidence that the species is currently facing a threat indicated by reduced population size. The threat appears to be ongoing, although we are unsure of the extent and timing of its effects on the species. Thus, we have assigned *B. pusilla* an LPN of 8.

Calamagrostis expansa (Maui reedgrass)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Calamagrostis expansa* is a perennial grass found in wet forests and bogs, and in bog margins, on the islands of Maui and Hawaii, Hawaii. This species is known from 13 populations totaling fewer than 750 individuals. *C. expansa* is threatened by habitat degradation and loss by feral pigs (*Sus scrofa*), and by competition with nonnative plants. Herbivory by feral pigs is also a potential threat to this species. All of the known populations of *C. expansa* on Maui occur in managed areas. Some pig exclusion fences have been constructed, and control of nonnative plants is ongoing within the exclosures on Maui. On the island of Hawaii, the small population in the Upper Waiakea Forest Reserve has been fenced entirely, but none of the approximately 350 individuals in the Kohala Mountains are protected from pigs. This species is not represented in an *ex situ* collection. Threats to this species from feral pigs and nonnative plants are ongoing, or imminent, and of high magnitude because they significantly affect the species throughout its range, leading to a relatively high likelihood of extinction. Therefore, we have retained an LPN of 2 for this species.

Calochortus persistens (Siskiyou mariposa lily)—The following summary is based on information contained in our files and the petition we received on September 10, 2001. The Siskiyou mariposa lily is a narrow endemic that is restricted to three disjunct ridge tops in the Klamath-Siskiyou Range near the California-Oregon border. The southernmost occurrence of this species is composed of nine separate sites on approximately 17.6 hectares (ha) (43.4 acres (ac)) of Klamath National Forest and privately owned lands that stretch for 10 kilometers (km) (6 miles (mi)) along the Gunsight-Humbug Ridge, Siskiyou County, California. In 2007, a new occurrence was confirmed in the locality of Cottonwood Peak and Little Cottonwood Peak, Siskiyou County, where several populations are distributed over 164 ha (405 ac) on three individual mountain peaks in the Klamath National Forest and on private lands. The northernmost occurrence consists of not more than five Siskiyou mariposa lily plants that were discovered in 1998, on Bald Mountain, west of Ashland, Jackson County, Oregon.

Threats include competition and shading by native and nonnative species fostered by suppression of wildfire; increased fuel loading and subsequent risk of wildfire; fragmentation by roads, firebreaks, tree plantations, and radio-tower facilities; maintenance and construction around radio towers and telephone relay stations located on Gunsight Peak and Mahogany Point; and soil disturbance, direct damage, and nonnative weed and grass species introduction as a result of heavy recreational use and construction of firebreaks. Dyer's woad (*Isatis tinctoria*), an invasive, nonnative plant that may prevent germination of Siskiyou mariposa lily seedlings, poses the most significant threat and has invaded 75 percent of the known lily habitat on Gunsight-Humbug Ridge, the southernmost California occurrence. Forest Service staff and the Klamath-Siskiyou Wildlands Center cite competition with dyer's woad as a significant and chronic threat to the survival of Siskiyou mariposa lily.

The combination of restricted range, extremely low numbers (five plants) in one of three disjunct populations, poor competitive ability, short seed dispersal distance, slow growth rates, low seed production, apparently poor survival rates in some years, herbivory, habitat disturbance, and competition from nonnative invasive plants threaten the

continued existence of this species. However, because efforts are underway to reduce the threat of dyer's woad where it is found and there is no evidence of a decline in *C. persistens* populations where this weed has become most widely distributed, the magnitude of existing threats is moderate. Since the threats of competition from nonnative invasive plants are not anticipated to overwhelm a large portion of the species' range in the immediate future, the threats are nonimminent. Therefore, we retained an LPN of 11 for this species.

Chamaecrista lineata var. *keyensis* (Big Pine partridge pea)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This pea is endemic to the lower Florida Keys, and restricted to pine rocklands, hardwood hammock edges, and roadsides and firebreaks within these ecosystems. Historically, it was known from Big Pine, Cudjoe, No Name, Ramrod, and Little Pine Keys (Monroe County, Florida). In 2005, a small population was detected on lower Sugarloaf Key, but this population was not located after Hurricane Wilma; plants were likely killed by the tidal surge from this storm. It presently occurs on Big Pine Key, with a very small population on Cudjoe Key. It is fairly well distributed in Big Pine Key pine rocklands, which encompass approximately 580 hectares (1,433 acres), approximately 360 hectares (890 acres) of which are within the Service's National Key Deer Refuge (NKDR). Over 80 percent of the population probably exists on NKDR, with the remainder distributed among State, County, and private properties. Hurricane Wilma (October 2005) resulted in a storm surge that covered most of Big Pine Key with sea water. The surge reduced the population by as much as 95 percent in some areas.

Pine rockland communities are maintained by relatively frequent fires. In the absence of fire, shrubs and trees encroach on pine rockland and this subspecies is eventually shaded out. NKDR has a prescribed fire program, although with many constraints on implementation. Habitat loss due to development was historically the greatest threat to the pea. Much of the remaining habitat is now protected on public lands. Absence of fire now appears to be the greatest of the deterministic threats. Given the recent increase in hurricane activity, storm surges are the greatest of the stochastic threats. The small range and patchy distribution of the subspecies increase risk from stochastic events. Climatic changes, including sea-level rise, are serious long-term threats. Models indicate that even under the best of circumstances, a significant proportion of upland habitat will be lost on Big Pine Key by 2100. Additional threats include restricted range, invasive exotic plants, roadside dumping, loss of pollinators, seed predators, and development.

We maintain the previous assessment that hurricanes, storm surges, lack of fire, and limited distribution result in a moderate magnitude of threat because a large part of the range is on conservation lands wherein threats are being addressed, although fire management is at much slower rate than is required. The immediacy of stochastic events like hurricane is generally difficult to characterize, but we conclude with respect to this species that the threat posed by hurricanes is imminent given that hurricanes (and storm surges) of various magnitudes are frequent and recurrent events in the area. Sea-level rise remains uncontrolled, but is nonimminent. Overall, the threats from limited distribution and inadequate fire management are imminent since they are ongoing. In addition, the most consequential threats (hurricanes, storm surges) are frequent, recurrent, and imminent. Therefore, we retained an LPN of 9 for Big Pine partridge pea.

Chamaesyce deltoidea ssp. *pinetorum* (Pineland sandmat)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. The pineland sandmat in only known from Miami-Dade County, Florida. The largest occurrence, estimated at more than 10,000 plants, is located on Long Pine Key within Everglades National Park. All other occurrences are smaller and are in isolated pine rockland fragments in heavily urbanized Miami-Dade County.

Occurrences on private (non-conservation) lands and on one County-owned parcel are at risk from development and habitat degradation and fragmentation. Conditions related to climate change, particularly sea-level rise, will be a factor over the long term. All occurrences of the species are threatened by habitat loss and degradation due to fire suppression, the difficulty of applying prescribed fire, and exotic plants. These threats are severe within small and unmanaged fragments in urban areas. However, the threats of fire suppression and exotics are reduced on lands managed by the National Park Service. Hydrologic changes are another threat. Hydrology has been altered within Long Pine Key due to artificial drainage, which lowered ground water, and by the construction of roads, which either impounded or diverted water. Regional water management intended to restore the Everglades could negatively affect the pinelands of Long Pine Key in the future. At this time, we do not know whether the proposed restoration and associated hydrological modifications will have a positive or negative effect on pineland sandmat. This narrow endemic may be vulnerable to catastrophic events and natural disturbances, such as hurricanes. Overall, the magnitude of threats to this species is moderate; by applying regular prescribed fire, the National Park Service has kept Long Pine Key's pineland vegetation intact and relatively free of exotic plants, and partnerships are in place to help address the continuing threat of exotics on other pine rockland fragments. Overall, the threats are nonimminent because fire management is regularly conducted at the largest occurrence and sea-level rise and hurricanes are longer-term threats. Therefore, we assigned a LPN of 12 to this subspecies.

Chamaesyce deltoidea ssp. *serpyllum* (Wedge spurge)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Systematic surveys of publicly owned pine rockland throughout this plant's range were conducted during 2005–2006 and 2007–2008 to determine population size and distribution. Wedge spurge is a small prostrate herb. It was historically, and remains, restricted to pine rocklands on Big Pine Key in Monroe County, Florida. Pine rocklands encompass approximately 580 hectares (1,433 acres) on Big Pine Key, approximately 360 hectares (890 acres) of which are within the Service's National Key Deer Refuge (NKDR). Most of the species' range falls within the NKDR, with the remainder on State, County, and private properties. It is not widely dispersed within the limited range. Occurrences are sparser in the southern portion of Big Pine Key, which contains smaller areas of NKDR lands than does the northern portion. Wedge spurge inhabits sites with low woody cover (e.g., low palm and hardwood densities) and usually exposed rock or gravel.

Pine rockland communities are maintained by relatively frequent fires. In the absence of fire, shrubs and trees encroach on pine rockland and the subspecies is eventually shaded out. NKDR has a prescribed fire program, although with many constraints on

implementation. Habitat loss due to development was historically the greatest threat to the wedge spurge. Much of the remaining habitat is now protected on public lands. Absence of fire now appears to be the greatest of the deterministic threats. Given the recent increase in hurricane activity, storm surges are the greatest of the stochastic threats. The small range and patchy distribution of the subspecies increases risk from stochastic events. Climatic changes, including sea-level rise, are serious long-term threats. Models indicate that even under the best of circumstances, a significant proportion of upland habitat will be lost on Big Pine Key by 2100. Additional threats include restricted range, invasive exotic plants, roadside dumping, loss of pollinators, seed predators, and development.

We maintain the previous assessment that low fire-return intervals plus hurricane-related storm surges, in combination with a limited, fragmented distribution and threats from sea-level rise, result in a moderate magnitude of threat, in part, because a large part of the range is on conservation lands, where some threats can be substantially controlled. The immediacy of stochastic events like hurricane is generally difficult to characterize, but we conclude with respect to this species that the threat posed by hurricanes is imminent given that hurricanes (and storm surges) of various magnitudes are frequent and recurrent events in the area. Sea-level rise remains uncontrolled, but over much of the range is nonimminent compared to other prominent threats. Threats resulting from limited fire occurrences are imminent. Since major threats are ongoing, overall, the threats are imminent. Therefore, we retained an LPN of 9 for this subspecies.

Chorizanthe parryi var. *fernandina* (San Fernando Valley spineflower)—The following summary is based on information contained in our files and the petition received on December 14, 1999. *Chorizanthe parryi* var. *fernandina* is a low-growing herbaceous annual plant in the buckwheat family. Germination occurs following the onset of late-fall and winter rains and typically represents different cohorts from the seed bank. Flowering occurs in the spring, generally between April and June. The plant currently is known from two disjunct localities: the first is in the southeastern portion of Ventura County on a site within the Upper Las Virgenes Canyon Open Space Preserve, formerly known as Ahmanson Ranch, and the second is in an area of southwestern Los Angeles County known as Newhall Ranch. Investigations of historical locations and seemingly suitable habitat within the range of the species have not revealed any other occurrences.

The threats currently facing *Chorizanthe parryi* var. *fernandina* include threatened destruction, modification, or curtailment of its habitat or range (Factor A), inadequacy of existing regulatory mechanisms (Factor D), and other natural or manmade factors (Factor E). The threats to *Chorizanthe parryi* var. *fernandina* from habitat destruction or modification are slightly less than they were 8 years ago when the species was added to the candidate list. One of the two populations (Upper Las Virgenes Canyon Open Space Preserve) is in permanent, public ownership and is being managed by an agency that is working to conserve the plant; however, the use of adjacent habitat for Hollywood film productions was brought to our attention in 2007, and the potential impacts to *Chorizanthe parryi* var. *fernandina* are not yet clear. During a site visit to the Preserve in April 2012, we noted an abundance of nonnative species that, if not managed, could degrade the quality of the habitat for *C. parryi* var. *fernandina* over time. We will be working with the landowners to manage the site for the benefit of *Chorizanthe parryi* var. *fernandina.*

The other population (Newhall Ranch) is under the threat of development; however, a Candidate Conservation Agreement (CCA) is being developed with the landowner, and it is possible that the remaining plants can also be conserved. Until such an agreement is finalized, the threat of development and the potential damage to the Newhall Ranch population still exists, as shown by the destruction of some plants during installation of an agave farm. Furthermore, cattle grazing on Newhall Ranch may be a current threat. Cattle grazing may harm *Chorizanthe parryi* var. *fernandina* by trampling and soil compaction. Grazing activity could also alter the nutrient (e.g., elevated organic material levels) content of the soils for *Chorizanthe parryi* var. *fernandina* habitat through fecal inputs, which in turn may favor the growth of other plant species that would otherwise not grow so readily on the mineral-based soils. Over time, changes in species composition may render the sites less favorable for the persistence of *Chorizanthe parryi* var. *fernandina. Chorizanthe parryi* var. *fernandina* may be threatened by invasive nonnative plants, including grasses, which could potentially displace it from available habitat; compete for light, water, and nutrients; and reduce survival and establishment.

Chorizanthe parryi var. *fernandina* is particularly vulnerable to extinction due to its concentration in two isolated areas. The existence of only two areas of occurrence, and a relatively small range, makes the variety highly susceptible to extinction or extirpation from a significant portion of its range due to random events such as fire, drought, and erosion. We retained an LPN of 6 for *Chorizanthe parryi* var. *fernandina* due to high-magnitude, nonimminent threats.

Cirsium wrightii (Wright's marsh thistle)—The following summary is based on information from the 12-month warranted-but-precluded finding published November 4, 2010 (75 FR 67925) as well as any new information gathered since then. There are eight general confirmed locations of Wright's marsh thistle in New Mexico: Santa Rosa, Guadalupe County; Bitter Lake National Wildlife Refuge, Chaves County; Blue Spring, Eddy County; La Luz Canyon, Karr Canyon, Silver Springs, and Tularosa Creek, Otero County; and Alamosa Creek, Socorro County. Wright's marsh thistle has been extirpated from all previously known locations in Arizona, and was misidentified and likely not ever present in Texas. The status of the species in Mexico is uncertain, with few verified collections.

Wright's marsh thistle faces threats primarily from natural and human-caused modifications of its habitat due to ground and surface water depletion, drought, invasion of *Phragmites australis,* and from the inadequacy of existing regulatory mechanisms. The species occupies relatively small areas of seeps, springs, and wetland habitat in an arid region plagued by drought and ongoing and future water withdrawals. The species' highly specific requirements of saturated soils with surface or subsurface water flow make it particularly vulnerable. The threats that Wright's marsh thistle faces are moderate in magnitude because the major threats (habitat loss and degradation due to alteration of the hydrology of its rare wetland habitat), while serious and occurring rangewide, do not collectively significantly adversely affect the species. Still, long-term drought, in combination with ground and surface water withdrawal, poses a current and future threat to Wright's marsh thistle and its habitat. All of the threats are ongoing and therefore imminent. In addition to their current existence, we expect these threats to likely intensify in the foreseeable future. Thus, we continue to

assign an LPN of 8 to the Wright's marsh thistle.

Dalea carthagenensis ssp. *floridana* (Florida prairie-clover)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Dalea carthagenensis* var. *floridana* is found in pine rocklands, edges of rockland hammocks, coastal uplands, and marl prairie. *Dalea carthagenensis* var. *floridana* occurs in Big Cypress National Preserve (BCNP) in Monroe and Collier Counties and at six locations within Miami-Dade County, Florida, albeit mostly in limited numbers. There are a total of nine extant occurrences, seven of which are on conservation lands. In addition, plants were reintroduced to a park in Miami-Dade County in 2006, but only four remain.

Existing occurrences are extremely small and may not be viable, especially some of the occurrences in Miami-Dade County. Remaining habitats are fragmented. Climatic changes, including sea-level rise, are long-term threats that are expected to reduce the extent of habitat. This plant is threatened by habitat loss and degradation due to fire suppression, the difficulty of applying prescribed fire to pine rocklands, and threats from exotic plants. Damage to plants by off-road vehicles is a serious threat within the BCNP; damage attributed to illegal mountain biking at the R. Hardy Matheson Preserve has been reduced. One location within BCNP is threatened by changes in mowing practices; this threat is low in magnitude. This species is being parasitized by the introduced insect lobate lac scale (*Paratachardina pseudolobata*) at some localities (e.g., R. Hardy Matheson Preserve), but we do not know the extent of this threat. This plant is vulnerable to natural disturbances, such as hurricanes, tropical storms, and storm surges. Due to its restricted range and the small sizes of most isolated occurrences, this species is vulnerable to environmental (catastrophic hurricanes), demographic (potential episodes of poor reproduction), and genetic (potential inbreeding depression) threats. The magnitude of threats is high because of the limited number of occurrences and the small number of individual plants at each occurrence. The threats are imminent; even though many sites are on conservation lands, these plants still face significant ongoing threats. Therefore, we have assigned an LPN of 3 to Florida prairie-clover.

Dichanthelium hirstii (Hirst Brothers' panic grass)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Dichanthelium hirstii is a perennial grass that occurs in coastal plain intermittent ponds, usually in wet savanna or pine barren habitats, and is known to occur at only three sites in New Jersey, one site in Delaware, and two sites in North Carolina. While all six extant *D. hirstii* populations are located on public land or privately owned conservation lands, threats to the species from encroachment of woody and herbaceous vegetation, competition from rhizomatous perennials, fluctuations in hydrology, and threats associated with small population number and size are significant. Given the naturally fluctuating number of plants found at each site, and the isolated nature of the wetlands (limiting dispersal opportunities), even small changes in the species' habitat could result in local extirpation. Loss of any known sites would constitute a significant contraction of the species' range. Therefore, the threats are high in magnitude. Because most of the potential threats to *D. hirstii* evolve over a period of years before they rise to the level of becoming imminent threats, and, in some cases, are being managed to some extent that delays their onset, the threats are nonimminent. Based on nonimminent threats of a high magnitude, we retain an LPN of 5 for this species.

Digitaria pauciflora (Florida pineland crabgrass)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This perennial grass was historically found in central to southern Miami-Dade County, Florida, most commonly in habitat along the border between pine rockland and marl prairie. Pine rocklands in Miami-Dade County have largely been destroyed by residential, commercial, and urban development and agriculture. With most remaining habitat having been negatively altered, this species has been extirpated from much of its historical range, including likely extirpation from all areas outside of National Parks. Two large occurrences remain within Everglades National Park and Big Cypress National Preserve; plants on Federal lands are protected from the threat of habitat loss due to development. However, any unknown plants, indefinite occurrences, and suitable habitat remaining on private or non-conservation land are threatened by development. Continued development of suitable habitat diminishes the potential for reintroduction into its historical range. Extant occurrences are in low-lying areas and will be affected by climatic changes, including rising sea level.

Fire suppression, the difficulty of applying prescribed fire to pine rocklands, and threats from exotic plants are ongoing threats. Since the only known remaining occurrences are on lands managed by the National Park Service, the threats of fire suppression and exotics are somewhat reduced. The presence of the exotic Old World climbing fern is of particular concern due to its ability to spread rapidly. In Big Cypress National Preserve, plants are threatened by off-road-vehicle use. Changes to hydrology are a potential threat. Hydrology has been altered within Long Pine Key due to artificial drainage, which lowered ground water, and construction of roads, which either impounded or diverted water. Regional water management intended to restore the Everglades has the potential to affect the pinelands of Long Pine Key, where a large population occurs. At this time, it is not known whether Everglades restoration will have a positive or negative effect. This narrow endemic may be vulnerable to catastrophic events and natural disturbances, such as hurricanes. Overall, the magnitude of threats is high. Only two known occurrences remain and the likelihood of establishing a sizable population on other lands is diminished due to continuing habitat loss. Impacts from climatic changes, including sea-level rise, are currently low, but expected to be severe in the future. The majority of threats are nonimminent as they are long-term in nature (water management, hurricanes, and sea-level rise). Therefore, we assigned an LPN of 5 for this species.

Eriogonum corymbosum var. *nilesii* (Las Vegas buckwheat)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Eriogonum kelloggii (Red Mountain buckwheat)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule

that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Eriogonum soredium (Frisco buckwheat)—The following summary is based on information in our files and the petition we received on July 30, 2007. Frisco buckwheat is a narrow endemic perennial plant restricted to soils derived from Ordovician limestone outcrops. The range of the species is less than 5 sq mi (13 sq km) with four known populations. All four populations occur exclusively on private lands in Beaver County, Utah, and each population occupies a very small area with high densities of plants. Available population estimates are highly variable and inaccurate due to the limited access for surveys associated with private lands.

The primary threat to Frisco buckwheat is habitat destruction from precious metal and gravel mining. Mining for precious metals historically occurred within the vicinity of all four populations. Three of the populations are currently in the immediate vicinity of active limestone quarries. Ongoing mining in the species' habitat has the potential to extirpate one population in the near future and extirpate all populations in the foreseeable future. Ongoing exploration for precious metals and gravel indicate that mining will continue, resulting in the loss and fragmentation of Frisco buckwheat populations. Other threats to the species include nonnative species, vulnerability associated with small population size, and climate change. Existing regulatory mechanisms are inadequate to protect the species from these threats. The threats that Frisco buckwheat faces are moderate in magnitude, because while serious and occurring rangewide, the threats do not significantly reduce populations on a short time scale. The threats are imminent because three of the populations are currently in the immediate vicinity of active limestone quarries. Therefore, we have assigned Frisco buckwheat an LPN of 8.

Festuca hawaiiensis (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This species is a cespitose (growing in dense, low tufts) annual found in dry forests on the island of Hawaii, Hawaii. *Festuca hawaiiensis* is known from 4 populations totaling approximately 1,000 individuals in and around the Pohakuloa Training Area. Historically, this species was also found on Hualalai and Puu Huluhulu, but it no longer occurs at these sites. In addition, *F. hawaiiensis* possibly occurred on Maui. This species is threatened by pigs (*Sus scrofa*), goats (*Capra hircus*), mouflon (*Ovis musimon*), and feral sheep (*O. aries*) that degrade and destroy habitat; fire; military training activities; and nonnative plants that outcompete and displace it. Feral pigs, goats, mouflon, and feral sheep have been fenced out of a portion of the populations of *F. hawaiiensis* and nonnative plants have been reduced in the fenced area, but the majority of the populations are still affected by threats from nonnative ungulates. The threats are imminent because they are not controlled and are ongoing in the remaining, unfenced populations. Firebreaks have been established at two populations, but fire is an imminent threat to the remaining populations that have no firebreaks. There are no *ex situ* collections. The threats are of a high magnitude because they could adversely affect the majority of *F. hawaiiensis* populations resulting in direct mortality or reduced reproductive capacity. Therefore, we have retained an LPN of 2 for this species.

Festuca ligulata (Guadalupe fescue)—The following summary is based on information obtained from the original species petition, received in 1975, and from our files, on-line herbarium databases, and scientific publications. Six small populations of Guadalupe fescue, a member of the Poaceae (grass family), have been documented in mountains of the Chihuahuan Desert in Texas and in Coahuila, Mexico. Only two extant populations have been confirmed in the last 5 years: One in the Chisos Mountains, Big Bend National Park, Texas, and one in the privately owned *Area de Protección de Flora y Fauna* (Protected Area for Flora and Fauna—APFF) Maderas del Carmen in northern Coahuila. Despite intensive searches, a population known from Guadalupe Mountains National Park, Texas, has not been found since 1952, and is presumed extirpated. In 2009, botanists confirmed Guadalupe fescue at one site in APFF Maderas del Carmen, but could not find the species at the original site, known as Sierra El Jardín, which was first reported in 1973. Two additional Mexican populations, near Fraile in southern Coahuila, and the Sierra de la Madera in central Coahuila, have not been monitored since 1941 and 1977, respectively. A great amount of potentially suitable habitat in Coahuila and adjacent Mexican states has never been surveyed. A historically unprecedented period of exceptional drought and high temperatures prevailed throughout the species' range from October 2010 until November 2011. We will not know what impacts this unusual weather had on Guadalupe fescue populations until post-drought monitoring has been completed.

The potential threats to Guadalupe fescue include changes in the wildfire cycle and vegetation structure, trampling from humans and pack animals, possible grazing, trail runoff, fungal infection of seeds, small sizes and isolation of populations, and limited genetic diversity. The Service and the National Park Service established a candidate conservation agreement (CCA) in 2008 to provide additional protection for the Chisos Mountains population and to promote cooperative conservation efforts with U.S. and Mexican partners. The threats to Guadalupe fescue are of moderate magnitude and are not imminent due to the provisions of the CCA and other conservation efforts that address threats from trampling, grazing, trail runoff, and genetic diversity, as well as the likelihood that other populations exist in mountains of Coahuila and adjacent Mexican states that have not been surveyed. Thus, we retain an LPN of 11 for the Guadalupe fescue.

Gardenia remyi (Nanu)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Gardenia remyi* is a tree found in mesic to wet forests on the islands of Kauai, Molokai, Maui, and Hawaii, Hawaii. *Gardenia remyi* is known from 19 populations totaling between 85 and 87 individuals. This species is threatened by pigs (*Sus scrofa*), goats (*Capra hircus*), and deer (*Axis axis* and *Odocoileus hemionus*) that degrade and destroy habitat and possibly forage upon the species, and by nonnative plants that outcompete and displace it. *Gardenia remyi* is also threatened by landslides and reduced reproductive vigor on the island of Hawaii. This species is represented in *ex situ* collections. On Kauai, *G. remyi* individuals have been outplanted within ungulate-proof exclosures in two locations. Feral pigs have been fenced out of the west Maui populations of *G. remyi,* and nonnative plants have been reduced in those areas. However, these threats are ongoing in the remaining unfenced populations and are therefore imminent. In addition, the threat from goats and deer is ongoing and imminent

throughout the range of the species because no goat or deer control measures have been undertaken for any of the populations of *G. remyi.* All of the threats are of a high magnitude because habitat destruction, predation, and landslides could significantly affect the entire species, resulting in direct mortality or reduced reproductive capacity and leading to a relatively high likelihood of extinction. Therefore, we have retained an LPN of 2 for this species.

Hedyotis fluviatilis (Kamapuaa)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Hedyotis fluviatilis* is a scandent (climbing) shrub found in mixed shrubland to wet lowland forests on the islands of Oahu and Kauai, Hawaii. This species is known from 11 populations totaling between 400 and 900 individuals. *H. fluviatilis* is threatened by pigs (*Sus scrofa*) and goats (*Capra hircus*) that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Landslides and hurricanes are a potential threat to populations on Kauai. Herbivory by pigs and goats is a likely threat. This species is not represented in an *ex situ* collection. We have retained an LPN of 2 because the severity of the threats to the species is high and the threats are ongoing and therefore imminent.

Joinvillea ascendens ssp. *ascendens* (Ohe)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Joinvillea ascendens* ssp. *ascendens* is an erect herb found in wet to mesic *Metrosideros polymorpha-Acacia koa* (ohia-koa) lowland and montane forests on the islands of Kauai, Oahu, Molokai, Maui, and Hawaii, Hawaii. This subspecies is known from 44 widely scattered populations totaling approximately 200 individuals. The very widely separated populations typically include only one or two individuals. This subspecies is threatened by destruction or modification of habitat by pigs (*Sus scrofa*), goats (*Capra hircus*), and deer (*Axis axis* and *Odocoileus hemionus*), and by nonnative plants that outcompete and displace native plants. Herbivory by pigs, goats, deer, and rats (*Rattus exulans, R. norvegicus,* and *R. rattus*) is a likely threat to this species. Landslides are a potential threat to populations on Kauai and Molokai. Seedlings have rarely been observed in the wild. Seeds germinate in cultivation, but most die soon thereafter. It is uncertain if this rarity of reproduction is typical of this subspecies, or if it is related to habitat disturbance. Feral pigs have been fenced out of a few of the populations of this subspecies, and nonnative plants have been reduced in those populations that are fenced. However, these threats are not controlled and are ongoing in the remaining, unfenced populations. This species is represented in *ex situ* collections. The threats are of high magnitude because habitat degradation, nonnative plants, and predation result in mortality and may severely affect the reproductive capacity of the majority of populations of this species, leading to a relatively high probability of extinction. The threats are ongoing and thus are imminent. Therefore, we have retained an LPN of 3 for this subspecies.

Lepidium ostleri (Ostler's peppergrass)—The following summary is based on information in our files and the petition we received on July 30, 2007. Ostler's peppergrass is a long-lived perennial herb in the mustard family that grows in dense, cushion-like tufts. Ostler's peppergrass is a narrow endemic restricted to soils derived from Ordovician limestone outcrops. The range of the species is less than 5 sq mi (13 sq km) with only four known populations. All four populations occur exclusively on private lands in the southern San Francisco Mountains of Beaver County, Utah. Available population estimates are highly variable and inaccurate due largely to the limited access for surveys associated with private lands.

The primary threat to Ostler's peppergrass is habitat destruction from precious metal and gravel mining. Mining for precious metals historically occurred within the vicinity of all four populations. Three of the populations are currently in the immediate vicinity of active limestone quarries, but mining is only currently occurring in the area of one population. Ongoing mining in the species' habitat has the potential to extirpate one population in the near future. Ongoing exploration for precious metals and gravel indicate that mining will continue, resulting in the loss and fragmentation of Ostler's peppergrass populations. Other threats to species include nonnative species, vulnerability associated with small population size, climate change, and the overall inadequacy of existing regulatory mechanisms. The threats that Ostler's peppergrass faces are moderate in magnitude, because while serious and occurring rangewide, the threats do not collectively result in significant population declines on a short time scale. The threats are imminent because the species is currently facing them across its entire range. Therefore, we have assigned Ostler's peppergrass an LPN of 8.

Linum arenicola (Sand flax)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Sand flax is found in pine rockland and marl prairie habitats, which require periodic wildfires in order to maintain an open, shrub-free subcanopy and reduce leaf-litter levels. Based upon available data, there are 12 extant occurrences of sand flax; 11 others have been extirpated or destroyed. For the most part, only small and isolated occurrences remain in low-lying areas in a restricted range of southern Florida and the Florida Keys. Viability is uncertain for 10 of 12 occurrences.

Sand flax is threatened by habitat loss and degradation due to development; climatic changes, including sea-level rise, which ultimately are likely to substantially reduce the extent of available habitat; fire suppression and difficulty in applying prescribed fire; road maintenance activities; exotic species; illegal dumping; natural disturbances, such as hurricanes, tropical storms, and storm surges; and the small and fragmented nature of the current population. Reduced pollinator activity and suppression of pollinator populations from pesticides used in mosquito control and decreased seed production due to increased seed predation in a fragmented wildland urban interface may also affect sand flax; however, not enough information is known on this species' reproductive biology or life history to assess these potential threats. Some of the threats to the species—including fire suppression, difficulty in applying prescribed fire, road maintenance activities, exotic species, and illegal dumping—threaten nearly all remaining populations. However, some efforts are under way to use prescribed fire to control exotics on conservation lands where this species occurs.

There are some circumstances that may mitigate the impacts of the threats upon the species. For example, a survey conducted in 2009 showed approximately 74,000 plants on a non-conservation, public site in Miami-Dade County; this is far more plants than was previously known. Although a portion of the plants will be affected by development, approximately 60,000 are anticipated to be protected and managed. Still, this project will need to be carefully monitored because impacts would affect the largest known occurrence of the species. In addition, much of the pine rockland on Big Pine

Key, the location of the largest occurrence in the Keys, is protected from development.

Nevertheless, due to the small and fragmented nature of the current population, stochastic events, disease, or genetic bottlenecks may strongly affect this species in the Keys. One example is Hurricane Wilma, which inundated most of the species' habitat on Big Pine Key in 2005, and plants were not found 8–9 weeks post-storm; the density of sand flax declined to zero in all management units at The Nature Conservancy's preserve in 2006. In a 2007 post-hurricane assessment, sand flax was found in northern plots, but not in any of the southern plots on Big Pine Key. More current data are not available.

Overall, the magnitude of threats is high, because the threats affect all 12 known occurrences of the species, and can result in a precipitous decline to the population levels, particularly when combined with the potential impacts from hurricanes or other natural disasters. Because development is not immediate for the majority of the largest population in Miami–Dade County and another population in the Keys is also largely protected from development since much of it is within public and private conservation lands, the threat of habitat loss remains nonimminent. In addition, sea level rise is a long-term threat since we do not have evidence that it is currently affecting any population of sand flax. Therefore, we retained an LPN of 5 for this species.

Myrsine fosbergii (Kolea)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Myrsine fosbergii* is a branched shrub or small tree found in lowland mesic and wet forests, on watercourses or stream banks, on the islands of Kauai and Oahu, Hawaii. This species is currently known from 14 populations totaling a little more than 100 individuals. *Myrsine fosbergii* is threatened by feral pigs (*Sus scrofa*) and goats (*Capra hircus*) that degrade and destroy habitat and may forage upon the plant, and by nonnative plants that compete for light and nutrients. This species is represented in an *ex situ* collection. Although there are plans to fence and remove ungulates from the Helemano area of Oahu, which may benefit this species, no conservation measures have yet been taken to protect this species from nonnative herbivores. Feral pigs and goats are found throughout the known range of *M. fosbergii,* as are nonnative plants. The threats from feral pigs, goats, and nonnative plants are of a high magnitude because they pose a severe threat throughout the limited range of this species, and they are ongoing and therefore imminent. We have retained an LPN of 2 for this species.

Nothocestrum latifolium ('Aiea)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Nothocestrum latifolium* is a small tree found in dry to mesic forests on the islands of Kauai, Oahu, Maui, Molokai, and Lanai, Hawaii. *Nothocestrum latifolium* is known from 17 declining populations totaling fewer than 1,200 individuals. This species is threatened by feral pigs (*Sus scrofa*), goats (*Capra hircus*), and deer (*Axis axis* and *Odocoileus hemionus*) that degrade and destroy habitat and may forage upon it; by nonnative plants that compete for light and nutrients; and by decreased reproductive viability through the loss of pollinators. This species is represented in an *ex situ* collection. Ungulates have been fenced out of four areas where *N. latifolium* currently occurs, hundreds of *N. latifolium* individuals have been outplanted in fenced areas, and nonnative plants have been reduced in some populations that are fenced. However, these ongoing conservation efforts for this species benefit only a few of the known populations. The threats are not controlled and are ongoing in the remaining unfenced populations. In addition, little natural regeneration has been observed in this species. The threats are of a high magnitude, since they are severe enough to affect the continued existence of the species, leading to a relatively high likelihood of extinction. The threats are imminent, since they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Ochrosia haleakalae (Holei)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Ochrosia haleakalae* is a tree found in dry to mesic forests, often on lava, on the islands of Hawaii and Maui. This species is currently known from 8 populations totaling between 64 and 76 individuals. *Ochrosia haleakalae* is threatened by fire; by feral pigs (*Sus scrofa*), goats (*Capra hircus*), and cattle (*Bos taurus*) that degrade and destroy habitat and may directly forage upon it; and by nonnative plants that compete for light and nutrients. This species is represented in *ex situ* collections. Feral pigs, goats, and cattle have been fenced out of one wild and one outplanted population on private lands on the island of Maui and one outplanted population in Hawaii Volcanoes National Park on the island of Hawaii. Nonnative plants have been reduced in the fenced areas. The threat from fire is of a high magnitude and imminent because no control measures have been undertaken to address this threat that could adversely affect most *O. haleakalae* population sites. The threats from feral pigs, goats, and cattle are ongoing to the unfenced populations of *O. haleakalae.* The threat from nonnative plants is ongoing and imminent and of a high magnitude to the wild populations on both islands as this threat adversely affects the survival and reproductive capacity of the majority of the individuals of this species, leading to a relatively high likelihood of extinction. Therefore, we have retained an LPN of 2 for this species.

Pinus albicaulis (Whitebark pine)—The following summary is based on information in our files and in the petition received on December 9, 2008. *Pinus albicaulis* is a hardy conifer found at alpine tree line and subalpine elevations in Washington, Oregon, Nevada, California, Idaho, Montana, and Wyoming, and in British Columbia and Alberta, Canada. In the United States, approximately 96 percent of land where the species occurs is federally owned or managed, primarily by the U.S. Forest Service. *Pinus albicaulis* is a slow-growing, long-lived tree that often lives for 500 and sometimes more than 1,000 years. It is considered a keystone, or foundation, species in western North America, where it increases biodiversity and contributes to critical ecosystem functions.

The primary threat to the species is from disease in the form of the nonnative white pine blister rust and its interaction with other threats. *Pinus albicaulis* also is currently experiencing significant mortality from predation by the native mountain pine beetle. We also anticipate that continuing environmental effects resulting from climate change will result in direct habitat loss for *P. albicaulis.* Models predict that suitable habitat for *P. albicaulis* will decline precipitously within the next 100 years. Past and ongoing fire suppression is also negatively affecting populations of *P. albicaulis* through direct habitat loss. Additionally, environmental changes resulting from changing climatic conditions are acting alone and in combination with the effects of fire suppression to increase the frequency and severity of wildfires. Lastly, the existing regulatory mechanisms are inadequate to address the threats

presented above. The threats that face *P. albicaulis* are high in magnitude because the major threats occur throughout all of the species' range and are having a major population-level effect on the species. The threats are imminent because rangewide disease, predation, fire and fire suppression, and environmental effects of climate change are affecting *P. albicaulis* currently and are expected to continue and likely intensify in the foreseeable future. Thus, we have assigned *P. albicaulis* an LPN of 2.

Platanthera integrilabia (Correll) Leur (White fringeless orchid)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Platanthera integrilabia* is a perennial herb that grows in partially, but not fully, shaded, wet, boggy areas at the head of streams and on seepage slopes in Alabama, Georgia, Kentucky, Mississippi, South Carolina and Tennessee. Historically, there were at least 90 populations of *P. integrilabia.* It is presumed extirpated from North Carolina and Virginia. Currently there are about 60 sites supporting extant populations of the species.

Several populations have been destroyed due to road, residential, and commercial construction; impacts from all-terrain vehicle use; and projects that altered soil and site hydrology such that suitability for the species was reduced. The best available information indicates that many extant populations and their habitat are adversely affected by factors that alter the vegetation communities, soils, and hydrology in the sites where they occur. These factors include right-of-way maintenance, timber harvesting, invasive species encroachment, and prolonged drought. Several of the known populations are in or adjacent to road or powerline rights-of-way. Increased light availability in rights-of-way might enhance growth and reproductive output of *P. integrilabia,* but this positive effect is often short-lived due to encroachment of woody vegetation and aggressive grasses. Mechanical clearing of these areas may benefit the species by periodically restoring adequate light levels, but can promote development of dense, shrubby vegetation due to extensive suckering of woody species. The indiscriminant use of herbicides to manage vegetation in these areas could pose a significant threat to the species. Some of the known sites for the species occur in areas that are managed specifically for timber production. Timber management is not necessarily incompatible with the protection and management of the species, but care must be taken during timber management to ensure the hydrology of bogs supporting the species is not altered. Natural succession following timber harvests has been associated with reduced vigor, flowering, and reproduction in *P. integrilabia* populations, presumably due to altered light and soil moisture resulting from encroachment of woody species and grasses. Because of the species dependence upon moderate-to-high light levels, some type of active management to prevent complete canopy closure is required at most locations. Collecting for commercial and other purposes is a potential threat. Herbivory (primarily deer) threatens the species at several sites. Due to the alteration of habitat and changes in natural conditions, protection and recovery of this species is dependent upon active management rather than just preservation of habitat. Invasive, nonnative plants such as Japanese honeysuckle and kudzu also threaten several sites. Feral hogs have caused soil disturbance and destroyed plants at several sites. The threats are widespread; however, the impact of those threats on the species survival is moderate in magnitude. Several of the sites are protected to some degree from the threats by being within State parks, national forests, wildlife management areas, or other protected land. The threats however are imminent since they are ongoing, and we have therefore assigned an LPN of 8 to this species.

Pseudognaphalium (= *Gnaphalium*) *sandwicensium* var. *molokaiense* (Enaena)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Pseudognaphalium sandwicensium* var. *molokaiense* is a perennial herb found in strand vegetation in dry consolidated dunes on the islands of Molokai and Maui, Hawaii. Historically, this variety was also found on Oahu and Lanai. This variety is known from 5 populations totaling approximately 200 to 20,000 individuals (depending upon rainfall) in the Moomomi area on the island of Molokai, and from 2 populations of a few individuals at Waiehu dunes and at Puu Kahulianapa on west Maui. *Pseudognaphalium s.* var. *molokaiense* is threatened by feral goats (*Capra hircus*) and axis deer (*Axis axis*) that degrade and destroy habitat and possibly browse upon it, and by nonnative plants that compete for light and nutrients. Potential threats also include collection for cultural use and off-road vehicles that directly damage plants and degrade habitat. Weed control is conducted for one population on Molokai; however, no conservation efforts have been initiated to date for the other populations on Molokai or for the individuals on Maui. This species is represented in an *ex situ* collection. The ongoing, and therefore, imminent threats from feral goats, axis deer, nonnative plants, collection, and off-road vehicles are of a high magnitude because no control measures have been undertaken for the Maui population or for the four of the five Molokai populations, and the threats result in direct mortality or significantly reduce reproductive capacity for the majority of the populations, leading to a relatively high likelihood of extinction. Therefore, we have retained an LPN of 3 for this plant variety.

Ranunculus hawaiensis (Makou)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Ranunculus hawaiensis* is an erect or ascending perennial herb found in mesic to wet forests dominated by *Metrosideros polymorpha* (ohia) and *Acacia koa* (koa) with scree substrate (loose stones or rocky debris on a slope) on the islands of Maui and Hawaii, Hawaii. This species is currently known from 6 populations totaling 14 individuals on the island of Hawaii. On Maui, it was historically known from an area in east Maui, but individuals have not been seen at this location since 1995. *Ranunculus hawaiensis* is threatened by direct predation by slugs (*Limax maximus, Milax gagates,* and *Vaginulus plebeius*); by degradation and destruction of habitat by feral pigs (*Sus scrofa*), goats (*Capra hircus*), cattle (*Bos taurus*), mouflon (*Ovis musimon*), and feral sheep (*O. aries*); and by competition for light and nutrients by nonnative plants. This species is represented in *ex situ* collections and three populations have been outplanted into protected exclosures; however, feral ungulates and nonnative plants are not controlled in the remaining, unfenced populations. In addition, the threat from introduced slugs is of a high magnitude because slugs occur throughout the limited range of this species and no effective measures have been undertaken to control them or prevent them from causing significant adverse impacts to this species. Overall, the threats from pigs, goats, cattle, mouflon, feral sheep, slugs, and nonnative plants are of a high magnitude, and ongoing (imminent) for *R. hawaiensis.* We have retained an LPN of 2 for this species.

Ranunculus mauiensis (Makou)—The following summary is based on

information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Ranunculus mauiensis* is an erect to weakly ascending perennial herb found in open sites in mesic to wet forests and along streams on the islands of Maui, Kauai, and Molokai, Hawaii. This species is currently known from 14 populations totaling 198 individuals. *Ranunculus mauiensis* is threatened by feral pigs (*Sus scrofa*), goats (*Capra hircus*), mule deer (*Odocoileus hemionus*), axis deer (*Axis axis*), and slugs (*Limax maximus, Milax gagates,* and *Vaginulus plebeius*) that consume it; by feral pigs, goats, and deer that degrade and destroy habitat; and by nonnative plants that compete for light and nutrients. This species is represented in an *ex situ* collection. Feral pigs have been fenced out of one Maui population of *R. mauiensis,* and nonnative plants have been reduced within the fenced area. One individual occurs in the Kamakou Preserve on Molokai, managed by The Nature Conservancy. However, ongoing conservation efforts benefit only two populations. The threats are of high magnitude and are imminent because they are ongoing in the Kauai and the majority of the Maui populations. Therefore, we have retained an LPN of 2 for this species.

Rorippa subumbellata (Tahoe yellow cress)—The following summary is based on information contained in our files and the petition received on December 27, 2000. *Rorippa subumbellata* is a small, branching perennial herb known only from the shores of Lake Tahoe in California and Nevada.

Data collected over the last 25 years generally indicate that species occurrence fluctuates yearly as a function of both lake level and the amount of exposed habitat. Records kept since 1900 show a preponderance of years with high lake levels that would isolate and reduce *R. subumbellata* occurrences at higher beach elevations. From the standpoint of the species, less favorable peak years have occurred almost twice as often as more favorable low-level years. Annual surveys are conducted to determine population numbers, site occupancy, and general disturbance regime. At least within a certain range, the data clearly show that more individuals are present when lake levels are low and less when lake levels are high.

Many *Rorippa subumbellata* sites are intensively used for commercial and public purposes and are subject to various activities such as erosion control, marina developments, pier construction, and recreation. The U.S. Forest Service, California Tahoe Conservancy, and California Department of Parks and Recreation have management programs for *R. subumbellata* that include monitoring, fenced enclosures, and transplanting efforts when funds and staff are available. Public agencies (including the Service), private landowners, and environmental groups collaborated to develop a Conservation Strategy coupled with a Memorandum of Understanding–Conservation Agreement. The Conservation Strategy, completed in 2003, contains goals and objectives for recovery and survival, a research and monitoring agenda, and serves as the foundation for an adaptive management program. Because of the continued commitments to conservation demonstrated by regulatory and land management agencies participating in the conservation strategy, we have determined the threats to *R. subumbellata* from various land uses have been reduced to a moderate magnitude. In high lake level years such as 2011, however, recreational use is concentrated within *R. subumbellata* habitat, and we consider this threat in particular to be ongoing and imminent. Therefore, we are maintaining an LPN of 8 for this species.

Schiedea pubescens (Maolioli)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Schiedea pubescens* is a reclining or weakly climbing vine found in diverse mesic to wet forests on the islands of Maui, Molokai, and Hawaii, Hawaii. It is presumed extirpated from Lanai. Currently, this species is known from 8 populations totaling between 30 and 32 individuals on Maui, from 4 populations totaling between 21 and 22 individuals on Molokai, and from 1 population of 4 to 6 individuals on the island of Hawaii. *Schiedea pubescens* is threatened by feral pigs (*Sus scrofa*) and goats (*Capra hircus*) that consume it and degrade and destroy habitat, and by nonnative plants that compete for light and nutrients. Feral ungulates have been fenced out of the population of *S. pubescens* on the island of Hawaii. Feral goats have been fenced out of a few of the west Maui populations of *S. pubescens.* Nonnative plants have been reduced in the populations that are fenced on Maui. However, the threats are not controlled and are ongoing in the remaining unfenced populations on Maui and the four populations on Molokai. Additional fenced areas are planned for the Hawaii Island population at Pohakuloa Training Area on the island of Hawaii. Nonnative feral ungulates and nonnative plants will be controlled within these fenced areas. Fire is a potential threat to the Hawaii Island population. This species is not represented in an *ex situ* collection. Due to the extremely low number of individuals of this species, the threats from goats and nonnative plants are of a high magnitude. These threats cause mortality and reduced reproductive capacity for the majority of the populations, leading to a relatively high likelihood of extinction. The threats are imminent because they are ongoing with respect to most of the populations. Therefore, we have retained an LPN of 2 for this species.

Sedum eastwoodiae (Red Mountain stonecrop)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Sicyos macrophyllus ('Anunu)—We continue to find that listing this species is warranted but precluded as of the date of publication of this notice of review. However, we are working on a proposed listing rule that we expect to publish prior to making the next annual resubmitted petition 12-month finding. In the course of preparing the proposed listing rule, we are continuing to monitor new information about this species' status so that we can make prompt use of our authority under Section 4(b)(7) in the case of an emergency posing a significant risk to the species.

Solanum conocarpum (marron bacora)—The following summary is based on information in our files and in the petition we received on November 21, 1996. *Solanum conocarpum* is a dry-forest shrub in the island of St. John, U.S. Virgin Islands. Its current distribution includes eight localities in the island of St. John, each ranging from 1 to 144 individuals. The species has been reported to occur on dry, poor soils. It can be locally abundant in exposed topography on sites disturbed by erosion, areas that have received moderate grazing, and around ridgelines as an understory component in diverse woodland communities. A habitat suitability model suggests that the vast majority of *Solanum conocarpum*

habitat is found in the lower elevation coastal scrub forest. Efforts have been conducted to propagate the species to enhance natural populations, and planting of seedlings has been conducted in the island of St. John. *Solanum conocarpum* is threatened by the lack of natural recruitment, absence of dispersers, fragmented distribution, lack of genetic variation, climate change, and habitat destruction or modification by exotic mammal species. These threats are evidenced by the reduced number of individuals, low number of populations, and lack of connectivity between populations. Overall, the threats are of high magnitude; the threats are also ongoing and therefore imminent. Therefore, we assigned a LPN of 2 to this species.

Solanum nelsonii (popolo)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Solanum nelsonii* is a sprawling or trailing shrub found in coral rubble or sand in coastal sites. This species is known from populations on Molokai (approximately 300 individuals), the island of Hawaii (5 individuals), and the northwestern Hawaiian Islands (NWHI), Hawaii. The current populations in the NWHI are found on Kure (unknown number of individuals), Midway (approximately 260 individuals), Laysan (approximately 490 individuals), Pearl and Hermes (unknown number of individuals), and Nihoa (8,000 to 15,000 individuals). On Molokai, *S. nelsonii* is moderately threatened by ungulates which degrade and destroy habitat and which may eat *S. nelsonii.* On Molokai and the NWHI, this species is threatened by nonnative plants that outcompete and displace it. *S. nelsonii* is threatened by herbivory by a nonnative grasshopper (*Schistocera nitens*) in the NWHI. On Kure, Midway, Laysan, and Pearl and Hermes in the NWHI, tsunamis are also a potential threat to *S. nelsonii.* This species is represented in *ex situ* collections. Ungulate exclusion fences, routine fence monitoring and maintenance, and weed control protect the population of *S. nelsonii* on Molokai. Limited weed control is conducted in the NWHI. These threats are of moderate magnitude because of the relatively large number of plants, and the fact that this species is found on more than one island. The threats are imminent for the majority of the populations because they are ongoing and are not being controlled. We therefore retained an LPN of 8 for this species.

Symphyotrichum georgianum (Georgia aster)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. Georgia aster is a relict species of post oak savanna/prairie communities that existed in the Southeast prior to widespread fire suppression and extirpation of large, native, grazing animals. Georgia aster currently occurs in the States of Alabama, Georgia, North Carolina, and South Carolina. The species is presumed extant in 8 counties in Alabama, 22 counties in Georgia, 9 counties in North Carolina, and 15 counties in South Carolina. The species appears to have been eliminated from Florida.

Most remaining populations survive adjacent to roads, utility rights-of-way, and other openings where current land management mimics natural disturbance regimes. Most populations are small (10 to 100 stems), and because the species' main mode of reproduction is vegetative, each isolated population may represent only a few genotypes. Many populations are currently threatened by one or more of the following factors: Woody succession due to fire suppression, development, highway expansion or improvement, and herbicide application. However, the species is still relatively widely distributed, and information indicates that the species is more abundant than when we initially identified it as a candidate for listing. Taking into account its distribution and abundance, and the fact that it is increasing, the magnitude of threats is moderate. The threats are currently occurring and therefore are imminent. Thus we assigned an LPN of 8 for this species.

Trifolium friscanum (Frisco clover)—The following summary is based on information in our files and the petition we received on July 30, 2007. Frisco clover is a narrow endemic perennial herb found only in Utah, with five known populations restricted to sparsely vegetated, pinion-juniper-sagebrush communities and shallow, gravel soils derived from volcanic gravels, Ordovician limestone, and dolomite outcrops. The majority (68 percent) of Frisco clover plants occur on private lands, with the remaining plants found on Federal and State lands.

On the private and State lands, the most significant threat to Frisco clover is habitat destruction from mining for precious metals and gravel. Active mining claims, recent prospecting, and an increasing demand for precious metals and gravel indicate that mining in Frisco clover habitats will increase in the foreseeable future, likely resulting in the loss of large numbers of plants. Other threats to Frisco clover include nonnative, invasive species; vulnerability associated with small population size; and drought associated with climate change. Existing regulatory mechanisms are inadequate to protect the species from these threats. We consider the threats to Frisco clover to be moderate in magnitude because, while serious and occurring rangewide, they are not acting independently or cumulatively to have a highly significant negative impact on its survival or reproductive capacity. The threats are imminent because the species is currently facing them across its entire range. Therefore, we have assigned Frisco clover an LPN of 8.

Ferns and Allies

Cyclosorus boydiae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This species is a small- to medium-sized fern found in mesic to wet forests along stream banks on the islands of Oahu and Maui, Hawaii. Historically, this species was also found on the island of Hawaii, but it has been extirpated there. Currently, this species is known from 7 populations totaling approximately 400 individuals. This species is threatened by feral pigs that degrade and destroy habitat and may eat this plant, and by nonnative plants that compete for light and nutrients. Feral pigs have been fenced out of the largest population on Maui, and nonnative plants have been reduced in the fenced area. No conservation efforts are under way to alleviate threats to the other two populations on Maui, or the two populations on Oahu. This species is represented in an *ex situ* collection. The magnitude of the threats acting upon the currently extant populations is moderate because the largest population is protected from pigs, and nonnative plants have been reduced in this area. The threats are ongoing and therefore imminent. Therefore, we have retained an LPN of 8 for this species.

Huperzia stemmermanniae (Waewaeiole)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. This species is an epiphytic, pendant clubmoss found in mesic-to-wet *Metrosideros polymorpha–Acacia koa* (ohia-koa) forests on the islands of Maui and Hawaii, Hawaii. Only 3 populations are known, totaling approximately 20 individuals. The Maui population has not been observed since 1995. *Huperzia stemmermanniae* is threatened by feral pigs (*Sus scrofa*),

goats (*Capra hircus*), cattle (*Bos taurus*), and axis deer (*Axis axis*) that degrade and destroy habitat, and by nonnative plants that compete for light, space, and nutrients. *H. stemmermanniae* is also threatened by randomly occurring natural events due to its small population size. One individual at Waikamoi Preserve may benefit from fencing for axis deer and pigs. This species is represented in *ex situ* collections. The threats from pigs, goats, cattle, axis deer, and nonnative plants are of a high magnitude because they are sufficiently severe to adversely affect the species throughout its limited range, resulting in direct mortality or significantly reducing reproductive capacity and leading to a relatively high likelihood of extinction. The threats are imminent because they are ongoing. Therefore, we have retained an LPN of 2 for this species.

Microlepia strigosa var. *mauiensis* (Palapalai)—The following summary is based on information contained in our files. No new information was provided in the petition we received on May 11, 2004. *Microlepia strigosa* var. *mauiensis* is a terrestrial fern found in mesic-to-wet forests. It is currently found in Hawaii on the islands of Maui, Oahu, and Hawaii from at least 9 populations totaling at least 50 individuals. There is a possibility that the range of this plant variety could be larger and include the other main Hawaiian Islands. *M. strigosa* var. *mauiensis* is threatened by feral pigs (*Sus scrofa*) that degrade and destroy habitat, and by nonnative plants that compete for light and nutrients. Pigs have been fenced out of some areas on east and west Maui, Oahu, and on Hawaii where *M. strigosa* var. *mauiensis* currently occurs and nonnative plants have been reduced in the fenced areas. However, the threats are not controlled and are ongoing in the remaining unfenced populations on Maui, Oahu, and Hawaii. Therefore, the threats from feral pigs and nonnative plants are imminent. The threats are of a high magnitude because they are sufficiently severe to adversely affect the species throughout its range, resulting in direct mortality or significantly reducing reproductive capacity, leading to a relatively high likelihood of extinction. We therefore retained an LPN of 3 for *M. strigosa* var. *mauiensis.*

Petitions To Reclassify Species Already Listed

We previously made warranted-but-precluded findings on five petitions seeking to reclassify threatened species to endangered status. The taxa involved in the reclassification petitions are three populations of the grizzly bear (*Ursus arctos horribilis*), delta smelt (*Hypomesus transpacificus*), and *Sclerocactus brevispinus* (Pariette cactus). Because these species are already listed under the ESA, they are not candidates for listing and are not included in Table 1. However, this notice of review and associated species assessment forms or 5-year review documents also constitute the resubmitted petition findings for these species. Our updated assessments for these species are provided below. We find that reclassification to endangered status for the three grizzly bear populations, delta smelt, and *Sclerocactus brevispinus* are all currently warranted but precluded by work identified above (see ''Findings for Petitioned Candidate Species''). One of the primary reasons that the work identified above is considered to have higher priority is that the grizzly bear populations, delta smelt, and *Sclerocactus brevispinus* are currently listed as threatened, and therefore already receive certain protections under the ESA. We promulgated regulations extending take prohibitions for wildlife and plants under section 9 to threatened species (50 CFR 17.31 and 50 CFR 17.71, respectively). Prohibited actions under section 9 for wildlife include, but are not limited to, take (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such activity). For plants, prohibited actions under section 9 include removing or reducing to possession any listed plant from an area under Federal jurisdiction (50 CFR 17.61). Other protections that apply to these threatened species even before we complete proposed and final reclassification rules include those under section 7(a)(2) of the ESA whereby Federal agencies must insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered or threatened species.

Grizzly bear (*Ursus arctos horribilis*) North Cascades ecosystem, Cabinet-Yaak, and Selkirk populations (Region 6)—Between 1986 and 2007, we have received and reviewed 10 petitions requesting a change in status for individual grizzly bear populations (51 FR 16363, May 2, 1986; 55 FR 32103, August 7, 1990; 56 FR 33892, July 24, 1991; 57 FR 14372, April 20, 1992; 58 FR 8250, February 12, 1993; 58 FR 38552, July 19, 1993; 58 FR 43856, August 18, 1993; 58 FR 43857, August 18, 1993; 59 FR 46611, September 9, 1994; 63 FR 30453, June 4, 1998; 64 FR 26725, May 17, 1999; 72 FR 14866, March 29, 2007). Through this process, we determined that grizzly bears within the Cabinet-Yaak, Selkirk, and North Cascade ecosystems warrant endangered status. On April 18, 2007, the Service initiated a 5-year review to evaluate the current status of grizzly bears in the lower 48 States (72 FR 19549–19551). This status review was completed on August 29, 2011, and is available online at: *http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A001*. The status review recommended that reclassifying the Cabinet-Yaak, Selkirk, and North Cascades grizzly bear populations as endangered was warranted but precluded. Our updated assessment continues to find that reclassifying these populations as endangered is warranted but precluded and we continue to assign a LPN of 3 for the uplisting of these populations based on high magnitude threats that are ongoing, thus imminent.

Delta smelt (*Hypomesus transpacificus*) (Region 8) (see 75 FR 17667, April 7, 2010, for additional information on why reclassification to endangered is warranted but precluded)—The following summary is based on information contained in our files. In April, 2010 we completed a 12-month finding for delta smelt in which we determined a change in status from threatened to endangered was warranted, although precluded by other high priority listings. The primary rationale for reclassifying delta smelt from threatened to endangered was the significant declines in delta smelt abundance that have occurred since 2001. Delta smelt abundance, as indicated by the Fall Mid-Water Trawl survey, was exceptionally low between 2004 and 2010, increased during the wet year of 2011, and decreased again to a very a low level in 2012.

The primary threats to the delta smelt are direct entrainments by State and Federal water export facilities, summer and fall increases in salinity and water clarity resulting from decreases in freshwater flow into the estuary, and effects from introduced species. Ammonia in the form of ammonium may also be a significant threat to the survival of the delta smelt. Additional potential threats are predation by striped and largemouth bass and inland silversides, entrainment into power plants, contaminants, and small population size. Existing regulatory mechanisms have not proven adequate to halt the decline of delta smelt since the time of listing as a threatened species.

As a result of our analysis of the best available scientific and commercial data, we have retained the

recommendation of uplisting the delta smelt to an endangered species with a LPN of 2, based on high magnitude and imminent threats. The magnitude of the threats is high, because the threats occur rangewide and result in mortality or significantly reduce the reproductive capacity of the species. Threats are imminent because they are ongoing and, in some cases (e.g., nonnative species), considered irreversible.

Sclerocactus brevispinus (Pariette cactus) (Region 6) (see 72 FR 53211, September 18, 2007, and the species assessment form (see **ADDRESSES**) for additional information on why reclassification to endangered is warranted but precluded)—Sclerocactus brevispinus is restricted to clay badlands of the Uinta geologic formation in the Uinta Basin of northeastern Utah. The species is restricted to one population with an overall range of approximately 16 miles by 5 miles in extent. The species' entire population is within a developed and expanding oil and gas field. The location of the species' habitat exposes it to destruction from road, pipeline, and well-site construction in connection with oil and gas development. The species may be collected as a specimen plant for horticultural use. Recreational off-road vehicle use and livestock trampling are additional potential threats. The species is currently federally listed as threatened by its previous inclusion within the species *Sclerocactus glaucus.* The threats are of a high magnitude because any one of the threats has the potential to severely affect this species, a narrow endemic with a highly limited range and distribution. Threats are ongoing and, therefore, are imminent. Thus, we assigned an LPN of 2 to this species for uplisting.

Current Notice of Review

We gather data on plants and animals native to the United States that appear to merit consideration for addition to the Lists of Endangered and Threatened Wildlife and Plants (Lists). This notice of review identifies those species that we currently regard as candidates for addition to the Lists. These candidates include species and subspecies of fish, wildlife, or plants, and DPSs of vertebrate animals. This compilation relies on information from status surveys conducted for candidate assessment and on information from State Natural Heritage Programs, other State and Federal agencies, knowledgeable scientists, public and private natural resource interests, and comments received in response to previous notices of review.

Tables 1 and 2 list animals arranged alphabetically by common names under the major group headings, and list plants alphabetically by names of genera, species, and relevant subspecies and varieties. Animals are grouped by class or order. Plants are subdivided into two groups: (1) Flowering plants and (2) ferns and their allies. Useful synonyms and subgeneric scientific names appear in parentheses with the synonyms preceded by an ''equals'' sign. Several species that have not yet been formally described in the scientific literature are included; such species are identified by a generic or specific name (in italics), followed by ''sp.'' or ''ssp.'' We incorporate standardized common names in these documents as they become available. We sort plants by scientific name due to the inconsistencies in common names, the inclusion of vernacular and composite subspecific names, and the fact that many plants still lack a standardized common name.

Table 1 lists all candidate species, plus species currently proposed for listing under the ESA. We emphasize that in this notice of review we are not proposing to list any of the candidate species; rather, we will develop and publish proposed listing rules for these species in the future. We encourage State agencies, other Federal agencies, and other parties to give consideration to these species in environmental planning.

In Table 1, the ''category'' column on the left side of the table identifies the status of each species according to the following codes:

PE—Species proposed for listing as endangered. Proposed species are those species for which we have published a proposed rule to list as endangered or threatened in the **Federal Register**. This category does not include species for which we have withdrawn or finalized the proposed rule.

PT—Species proposed for listing as threatened.

PSAT—Species proposed for listing as threatened due to similarity of appearance.

C—Candidates: Species for which we have on file sufficient information on biological vulnerability and threats to support proposals to list them as endangered or threatened. Issuance of proposed rules for these species is precluded at present by other higher priority listing actions. This category includes species for which we made a 12-month warranted-but-precluded finding on a petition to list. We made new findings on all petitions for which we previously made ''warranted-but-precluded'' findings. We identify the species for which we made a continued warranted-but-precluded finding on a resubmitted petition by the code ''C*'' in the category column (see ''*Findings for Petitioned Candidate Species''* section for additional information).

The ''Priority'' column indicates the LPN for each candidate species, which we use to determine the most appropriate use of our available resources. The lowest numbers have the highest priority. We assign LPNs based on the immediacy and magnitude of threats, as well as on taxonomic status. We published a complete description of our listing priority system in the **Federal Register** (48 FR 43098, September 21, 1983).

The third column, ''Lead Region,'' identifies the Regional Office to which you should direct information, comments, or questions (see addresses under Request for Information at the end of the **SUPPLEMENTARY INFORMATION** section).

Following the scientific name (fourth column) and the family designation (fifth column) is the common name (sixth column). The seventh column provides the known historical range for the species or vertebrate population (for vertebrate populations, this is the historical range for the entire species or subspecies and not just the historical range for the distinct population segment), indicated by postal code abbreviations for States and U.S. territories. Many species no longer occur in all of the areas listed.

Species in Table 2 of this notice of review are those we included either as proposed species or as candidates in the previous CNOR (published November 21, 2012, at 77 FR 69994) that are no longer proposed species or candidates for listing. Since November 21, 2012, we listed 81 species, withdrew 1 proposed listing, and removed 11 species from the candidate list. The first column indicates the present status of each species, using the following codes (not all of these codes may have been used in this CNOR):

E—Species we listed as endangered.

T—Species we listed as threatened.

Rc—Species we removed from the candidate list because currently available information does not support a proposed listing.

Rp—Species we removed from because we have withdrawn the proposed listing.

The second column indicates why we no longer regard the species as a candidate or proposed species using the following codes (not all of these codes may have been used in this CNOR):

A—Species that are more abundant or widespread than previously believed

and species that are not subject to the degree of threats sufficient to warrant continuing candidate status, or issuing a proposed or final listing.

F—Species whose range no longer includes a U.S. territory.

I—Species for which we have insufficient information on biological vulnerability and threats to support issuance of a proposed rule to list.

L—Species we added to the Lists of Endangered and Threatened Wildlife and Plants.

M—Species we mistakenly included as candidates or proposed species in the last notice of review.

N—Species that are not listable entities based on the ESA's definition of ''species'' and current taxonomic understanding.

U—Species that are not subject to the degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status due, in part or totally, to conservation efforts that remove or reduce the threats to the species.

X—Species we believe to be extinct.

The columns describing lead region, scientific name, family, common name, and historical range include information as previously described for Table 1.

Request for Information

We request you submit any further information on the species named in this notice of review as soon as possible or whenever it becomes available. We are particularly interested in any information:

(1) Indicating that we should add a species to the list of candidate species;

(2) Indicating that we should remove a species from candidate status;

(3) Recommending areas that we should designate as critical habitat for a species, or indicating that designation of critical habitat would not be prudent for a species;

(4) Documenting threats to any of the included species;

(5) Describing the immediacy or magnitude of threats facing candidate species;

(6) Pointing out taxonomic or nomenclature changes for any of the species;

(7) Suggesting appropriate common names; and

(8) Noting any mistakes, such as errors in the indicated historical ranges.

Submit information, materials, or comments regarding a particular species to the Regional Director of the Region identified as having the lead responsibility for that species. The regional addresses follow:

Region 1. Hawaii, Idaho, Oregon, Washington, American Samoa, Guam, and Commonwealth of the Northern Mariana Islands. Regional Director (TE), U.S. Fish and Wildlife Service, Eastside Federal Complex, 911 NE. 11th Avenue, Portland, OR 97232–4181 (503/231–6158).

Region 2. Arizona, New Mexico, Oklahoma, and Texas. Regional Director (TE), U.S. Fish and Wildlife Service, 500 Gold Avenue SW., Room 4012, Albuquerque, NM 87102 (505/248–6920).

Region 3. Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. Regional Director (TE), U.S. Fish and Wildlife Service, 5600 American Blvd. West, Suite 990, Bloomington, MN 55437–1458 (612/713–5334).

Region 4. Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Puerto Rico, and the U.S. Virgin Islands. Regional Director (TE), U.S. Fish and Wildlife Service, 1875 Century Boulevard, Suite 200, Atlanta, GA 30345 (404/679–4156).

Region 5. Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, and West Virginia. Regional Director (TE), U.S. Fish and Wildlife Service, 300 Westgate Center Drive, Hadley, MA 01035–9589 (413/253–8615).

Region 6. Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming. Regional Director (TE), U.S. Fish and Wildlife Service, P.O. Box 25486, Denver Federal Center, Denver, CO 80225–0486 (303/236–7400).

Region 7. Alaska. Regional Director (TE), U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, AK 99503–6199 (907/786–3505).

Region 8. California and Nevada. Regional Director (TE), U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2606, Sacramento, CA 95825 (916/414–6464).

We will provide information received in response to the previous CNOR to the Region having lead responsibility for each candidate species mentioned in the submission. We will likewise consider all information provided in response to this CNOR in deciding whether to propose species for listing and when to undertake necessary listing actions (including whether emergency listing under section 4(b)(7) of the ESA is appropriate). Information and comments we receive will become part of the administrative record for the species, which we maintain at the appropriate Regional Office.

Before including your address, phone number, email address, or other personal identifying information in your submission, be advised that your entire submission—including your personal identifying information—may be made publicly available at any time. Although you can ask us in your submission to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Authority

This notice of review is published under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: October 28, 2013.

Daniel M. Ashe,

Director, Fish and Wildlife Service.

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
MAMMALS						
PE		R3	*Myotis septentrionalis*		Bat, northern long-eared	U.S.A. (AL, AR, CT, DE, DC, FL, GA, IL, IN, IA, KS, KY, LA, ME, MD, MA, MI, MN, MS, MO, MT, NE, NH, NJ, NY, NC, ND, OH, OK, PA, RI, SC, SD, TN, VT, VA, WV, WI, WY); Canada (AB, BC, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT).
C*	3	R1	*Emballonura semicaudata rotensis.*	Emballonuridae	Bat, Pacific sheath-tailed (Mariana Islands subspecies).	U.S.A. (GU, CNMI).
C*	3	R1	*Emballonura semicaudata semicaudata.*	Emballonuridae	Bat, Pacific sheath-tailed (American Samoa DPS).	U.S.A. (AS), Fiji, Independent Samoa, Tonga, Vanuatu.
C*	6	R2	*Tamias minimus atristriatus.*	Sciuridae	Chipmunk, Peñasco least.	U.S.A. (NM).
C*	2	R5	*Sylvilagus transitionalis*	Leporidae	Cottontail, New England	U.S.A. (CT, MA, ME, NH, NY, RI, VT).
C*	6	R8	*Martes pennanti*	Mustelidae	Fisher (west coast DPS)	U.S.A. (CA, CT, IA, ID, IL, IN, KY, MA, MD, ME, MI, MN, MT, ND, NH, NJ, NY, OH, OR, PA, RI, TN, UT, VA, VT, WA, WI, WV, WY), Canada.
PT	12	R6	*Lynx canadensis*	Felidae	Lynx, Canada (New Mexico population).	U.S.A. (CO, ID, ME, MI, MN, MT, NH, NY, OR, UT, VT, WA, WI, WY), Canada.
PE	3	R2	*Zapus hudsonius luteus*	Zapodidae	Mouse, New Mexico meadow jumping.	U.S.A. (AZ, CO, NM).
PT	3	R1	*Thomomys mazama glacialis.*	Geomyidae	Pocket gopher, Roy Prairie.	U.S.A. (WA).
PT	3	R1	*Thomomys mazama pugetensis.*	Geomyidae	Pocket gopher, Olympia	U.S.A. (WA).
PT	3	R1	*Thomomys mazama tumuli.*	Geomyidae	Pocket gopher, Tenino	U.S.A. (WA).
PT	3	R1	*Thomomys mazama yelmensis.*	Geomyidae	Pocket gopher, Yelm	U.S.A. (WA).
C*	2	R6	*Cynomys gunnisoni*	Sciuridae	Prairie dog, Gunnison's (populations in central and south-central Colorado, north-central New Mexico).	U.S.A. (CO, NM).
C*	8	R1	*Urocitellus endemicus*	Sciuridae	Squirrel, Southern Idaho ground.	U.S.A. (ID).
C*	5	R1	*Urocitellus washingtoni*	Sciuridae	Squirrel, Washington ground.	U.S.A. (WA, OR).
C*	9	R1	*Arborimus longicaudus*	Cricetidae	Vole, Red (north Oregon coast DPS).	U.S.A. (OR).
C*	9	R7	*Odobenus rosmarus divergens.*	Odobenidae	Walrus, Pacific	U.S.A. (AK), Russian Federation (Kamchatka and Chukotka).
PT	6	R6	*Gulo gulo luscus*	Mustelidae	Wolverine, North American (Contiguous U.S. DPS).	U.S.A. (CA, CO, ID, MT, OR, UT, WA, WY).

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
BIRDS						
C*	3	R1	*Porzana tabuensis*	Rallidae	Crake, spotless (American Samoa DPS).	U.S.A. (AS), Australia, Fiji, Independent Samoa, Marquesas, Philippines, Society Islands, Tonga.
PT	3	R8	*Coccyzus americanus*	Cuculidae	Cuckoo, yellow-billed (Western U.S. DPS).	U.S.A. (Lower 48 States), Canada, Mexico, Central and South America.
C*	9	R1	*Gallicolumba stairi*	Columbidae	Ground-dove, friendly (American Samoa DPS).	U.S.A. (AS), Independent Samoa.
PT	3	R5	*Calidris canutus rufa*	Scolopacidae	Knot, red	U.S.A. (Atlantic coast), Canada, South America.
C*	8	R7	*Gavia adamsii*	Gaviidae	Loon, yellow-billed	U.S.A. (AK), Canada, Norway, Russia, coastal waters of southern Pacific and North Sea.
C*	5	R8	*Synthliboramphus hypoleucus*.	Alcidae	Murrelet, Xantus's	U.S.A. (CA), Mexico.
C*	8	R6	*Anthus spragueii*	Motacillidae	Pipit, Sprague's	U.S.A. (AR, AZ, CO, KS, LA, MN, MS, MT, ND, NE, NM, OK, SD, TX), Canada, Mexico.
C*	2	R2	*Amazona viridigenalis*	Psittacidae	Parrot, red-crowned	U.S.A. (TX), Mexico.
PT	2	R2	*Tympanuchus pallidicinctus*.	Phasianidae	Prairie-chicken, lesser	U.S.A. (CO, KA, NM, OK, TX).
C*	8	R6	*Centrocercus urophasianus*.	Phasianidae	Sage-grouse, greater	U.S.A. (AZ, CA, CO, ID, MT, ND, NE, NV, OR, SD, UT, WA, WY), Canada (AB, BC, SK).
PT	3	R8	*Centrocercus urophasianus*.	Phasianidae	Sage-grouse, greater (Bi-State DPS).	U.S.A. (AZ, CA, CO, ID, MT, ND, NE, NV, OR, SD, UT, WA, WY), Canada (AB, BC, SK).
C*	6	R1	*Centrocercus urophasianus*.	Phasianidae	Sage-grouse, greater (Columbia Basin DPS).	U.S.A. (AZ, CA, CO, ID, MT, ND, NE, NV, OR, SD, UT, WA, WY), Canada (AB, BC, SK).
PE	2	R6	*Centrocercus minimus*	Phasianidae	Sage-grouse, Gunnison	U.S.A. (AZ, CO, NM, UT).
C*	3	R1	*Oceanodroma castro*	Hydrobatidae	Storm-petrel, band-rumped (Hawaii DPS).	U.S.A. (HI), Atlantic Ocean, Ecuador (Galapagos Islands), Japan.
C*	11	R4	*Dendroica angelae*	Emberizidae	Warbler, elfin-woods	U.S.A. (PR).
REPTILES						
PT		R2	*Thamnophis rufipunctatus*.	Colubridae	Gartersnake, narrow-headed.	U.S.A. (AZ, NM).
PT	3	R2	*Thamnophis eques megalops*.	Colubridae	Gartersnake, northern Mexican.	U.S.A. (AZ, NM, NV), Mexico.
C*	8	R3	*Sistrurus catenatus*	Viperidae	Massasauga (= rattlesnake), eastern.	U.S.A. (IA, IL, IN, MI, MN, MO, NY, OH, PA, WI), Canada.
C*	3	R4	*Pituophis melanoleucus lodingi*.	Colubridae	Snake, black pine	U.S.A. (AL, LA, MS).
C*	5	R4	*Pituophis ruthveni*	Colubridae	Snake, Louisiana pine	U.S.A. (LA, TX).
C*	3	R2	*Chionactis occipitalis klauberi*.	Colubridae	Snake, Tucson shovel-nosed.	U.S.A. (AZ).
C*	5	R2	*Gopherus morafkai*	Testudinidae	Tortoise, Sonoran desert	U.S.A. (AZ, CA, NV, UT).
C*	8	R4	*Gopherus polyphemus*	Testudinidae	Tortoise, gopher (eastern population).	U.S.A. (AL, FL, GA, LA, MS, SC).

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
C*	6	R2	*Kinosternon sonoriense longifemorale.*	Kinosternidae	Turtle, Sonoyta mud	U.S.A. (AZ), Mexico.
			AMPHIBIANS			
C*	9	R8	*Rana luteiventris*	Ranidae	Frog, Columbia spotted (Great Basin DPS).	U.S.A. (AK, ID, MT, NV, OR, UT, WA, WY), Canada (BC).
PE	3	R8	*Rana muscosa*	Ranidae	Frog, mountain yellow-legged (northern California DPS).	U.S.A (CA, NV).
PT	2	R1	*Rana pretiosa*	Ranidae	Frog, Oregon spotted	U.S.A. (CA, OR, WA), Canada (BC).
PE		R8	*Rana sierrae*	Ranidae	Frog, Sierra Nevada yellow-legged frog.	U.S.A. (CA, NV).
C*	8	R8	*Lithobates onca*	Ranidae	Frog, relict leopard	U.S.A. (AZ, NV, UT).
C*	8	R4	*Notophthalmus perstriatus.*	Salamandridae	Newt, striped	U.S.A. (FL, GA).
C*	8	R4	*Gyrinophilus gulolineatus*	Plethodontidae	Salamander, Berry Cave	U.S.A. (TN).
PE	8	R2	*Eurycea naufragia*	Plethodontidae	Salamander, Georgetown.	U.S.A. (TX).
PE	2	R2	*Eurycea chisholmensis*	Plethodontidae	Salamander, Salado	U.S.A. (TX).
PT	11	R8	*Anaxyrus canorus*	Bufonidae	Toad, Yosemite	U.S.A. (CA).
C	3	R2	*Hyla wrightorum*	Hylidae	Treefrog, Arizona (Huachuca/Canelo DPS).	U.S.A. (AZ), Mexico (Sonora).
C*	2	R4	*Necturus alabamensis*	Proteidae	Waterdog, black warrior (= Sipsey Fork).	U.S.A. (AL).
			FISHES			
C*	8	R2	*Gila nigra*	Cyprinidae	Chub, headwater	U.S.A. (AZ, NM).
C*	7	R6	*Iotichthys phlegethontis*	Cyprinidae	Chub, least	U.S.A. (UT).
C*	9	R2	*Gila robusta*	Cyprinidae	Chub, roundtail (Lower Colorado River Basin DPS).	U.S.A. (AZ, CO, NM, UT, WY).
C*	11	R6	*Etheostoma cragini*	Percidae	Darter, Arkansas	U.S.A. (AR, CO, KS, MO, OK).
C	8	R4	*Etheostoma sagitta*	Percidae	Darter, Cumberland arrow.	U.S.A. (KY, TN).
PE	2	R5	*Crystallaria cincotta*	Percidae	Darter, diamond	U.S.A. (KY, OH, TN, WV).
C	2	R4	*Etheostoma spilotum*	Percidae	Darter, Kentucky arrow	U.S.A. (KY).
C*	8	R4	*Percina aurora*	Percidae	Darter, Pearl	U.S.A. (LA, MS).
C*	3	R6	*Thymallus arcticus*	Salmonidae	Grayling, Arctic (upper Missouri River DPS).	U.S.A. (AK, MI, MT, WY), Canada, northern Asia, northern Europe.
C*	5	R4	*Moxostoma* sp.	Catostomidae	Redhorse, sicklefin	U.S.A. (GA, NC, TN).
PE	5	R2	*Notropis oxyrhynchus*	Cyprinidae	Shiner, sharpnose	U.S.A. (TX).
PE	5	R2	*Notropis buccula*	Cyprinidae	Shiner, smalleye	U.S.A. (TX).
C*	3	R8	*Spirinchus thaleichthys*	Osmeridae	Smelt, longfin (San Francisco bay-delta DPS).	U.S.A. (AK, CA, OR, WA), Canada.
PE	3	R2	*Catostomus discobolus yarrowi.*	Catostomidae	Sucker, Zuni bluehead	U.S.A. (AZ, NM).
PSAT	N/A	R1	*Salvelinus malma*	Salmonidae	Trout, Dolly Varden	U.S.A. (AK, WA), Canada, East Asia.
C*	9	R2	*Oncorhynchus clarki virginalis.*	Salmonidae	Trout, Rio Grande cutthroat.	U.S.A. (CO, NM).
			CLAMS			
C*	2	R2	*Lampsilis bracteata*	Unionidae	Fatmucket, Texas	U.S.A. (TX).
C*	2	R2	*Truncilla macrodon*	Unionidae	Fawnsfoot, Texas	U.S.A. (TX).
C*	8	R2	*Popenaias popei*	Unionidae	Hornshell, Texas	U.S.A. (NM, TX), Mexico.
C*	8	R2	*Quadrula aurea*	Unionidae	Orb, golden	U.S.A. (TX).
C*	8	R2	*Quadrula houstonensis*	Unionidae	Pimpleback, smooth	U.S.A. (TX).

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
C*	2	R2	*Quadrula petrina*	Unionidae	Pimpleback, Texas	U.S.A. (TX).
SNAILS						
C*	8	R4	*Elimia melanoides*	Pleuroceridae	Mudalia, black	U.S.A. (AL).
C*	2	R4	*Planorbella magnifica*	Planorbidae	Ramshorn, magnificent	U.S.A. (NC).
C*	2	R1	*Ostodes strigatus*	Potaridae	Sisi snail	U.S.A. (AS).
C*	2	R1	*Samoana fragilis*	Partulidae	Snail, fragile tree	U.S.A. (GU, MP).
C*	2	R1	*Partula radiolata*	Partulidae	Snail, Guam tree	U.S.A. (GU).
C*	2	R1	*Partula gibba*	Partulidae	Snail, Humped tree	U.S.A. (GU, MP).
C*	2	R1	*Partula langfordi*	Partulidae	Snail, Langford's tree	U.S.A. (MP).
C*	2	R1	*Eua zebrina*	Partulidae	Snail, Tutuila tree	U.S.A. (AS).
C*	11	R2	*Pyrgulopsis thompsoni*	Hydrobiidae	Springsnail, Huachuca	U.S.A. (AZ), Mexico.
C*	11	R2	*Pyrgulopsis morrisoni*	Hydrobiidae	Springsnail, Page	U.S.A. (AZ).
INSECTS						
C*	2	R1	*Hylaeus anthracinus*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus assimulans*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus facilis*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus hilaris*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus kuakea*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus longiceps*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
C*	2	R1	*Hylaeus mana*	Colletidae	Bee, Hawaiian yellow-faced.	U.S.A. (HI).
PE	3	R4	*Strymon acis bartrami*	Lycaenidae	Butterfly, Bartram's scrub-hairstreak.	U.S.A. (FL).
PE	3	R4	*Anaea troglodyta floridalis.*	Nymphalidae	Butterfly, Florida leafwing.	U.S.A. (FL).
C*	5	R8	*Hermelycaena* [*Lycaena*] *hermes.*	Lycaenidae	Butterfly, Hermes copper	U.S.A. (CA).
C*	3	R1	*Hypolimnas octucula mariannensis.*	Nymphalidae	Butterfly, Mariana eight-spot.	U.S.A. (GU, MP).
C*	2	R1	*Vagrans egistina*	Nymphalidae	Butterfly, Mariana wandering.	U.S.A. (GU, MP).
C*	2	R4	*Atlantea tulita*	Nymphalidae	Butterfly, Puerto Rican harlequin.	U.S.A. (PR).
C*	5	R4	*Glyphopsyche sequatchie.*	Limnephilidae	Caddisfly, Sequatchie	U.S.A. (TN).
C	5	R4	*Pseudanophthalmus insularis.*	Carabidae	Cave beetle, Baker Station (= insular).	U.S.A. (TN).
C*	5	R4	*Pseudanophthalmus caecus.*	Carabidae	Cave beetle, Clifton	U.S.A. (KY).
C*	11	R4	*Pseudanophthalmus colemanensis.*	Carabidae	Cave beetle, Coleman	U.S.A. (TN).
C	5	R4	*Pseudanophthalmus fowlerae.*	Carabidae	Cave beetle, Fowler's	U.S.A. (TN).
C*	5	R4	*Pseudanophthalmus frigidus.*	Carabidae	Cave beetle, icebox	U.S.A. (KY).
C	5	R4	*Pseudanophthalmus tiresias.*	Carabidae	Cave beetle, Indian Grave Point (= Soothsayer).	U.S.A. (TN).
C*	5	R4	*Pseudanophthalmus inquisitor.*	Carabidae	Cave beetle, inquirer	U.S.A. (TN).
C*	5	R4	*Pseudanophthalmus troglodytes.*	Carabidae	Cave beetle, Louisville	U.S.A. (KY).
C	5	R4	*Pseudanophthalmus paulus.*	Carabidae	Cave beetle, Noblett's	U.S.A. (TN).
C*	5	R4	*Pseudanophthalmus parvus.*	Carabidae	Cave beetle, Tatum	U.S.A. (KY).
C*	8	R1	*Megalagrion xanthomelas.*	Coenagrionidae	Damselfly, orangeblack Hawaiian.	U.S.A. (HI).

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
C	2	R8	*Ambrysus funebris*	Naucoridae	Naucorid bug (= Furnace Creek), Nevares Spring.	U.S.A. (CA).
C*	8	R3	*Papaipema eryngii*	Noctuidae	Moth, rattlesnake-master borer.	U.S.A. (AR, IL, KY, NC, OK).
C*	11	R2	*Heterelmis stephani*	Elmidae	Riffle beetle, Stephan's	U.S.A. (AZ).
PT	8	R3	*Hesperia dacotae*	Hesperiidae	Skipper, Dakota	U.S.A. (MN, IA, SD, ND, IL), Canada.
PE	2	R3	*Oarisma poweshiek*	Hesperiidae	Skipperling, Poweshiek	U.S.A. (IA, IL, IN, MI, MN, ND, SD, WI), Canada (MB).
C*	5	R6	*Capnia arapahoe*	Capniidae	Snowfly, Arapahoe	U.S.A. (CO).
C*	5	R6	*Lednia tumana*	Nemouridae	Stonefly, meltwater lednian.	U.S.A. (MT).
C*	5	R4	*Cicindela highlandensis*	Cicindelidae	Tiger beetle, highlands	U.S.A. (FL).
ARACHNIDS						
C*	8	R2	*Cicurina wartoni*	Dictynidae	Meshweaver, Warton's cave.	U.S.A. (TX).
CRUSTACEANS						
C	8	R5	*Stygobromus kenki*	Crangonyctidae	Amphipod, Kenk's	U.S.A. (DC).
C*	5	R1	*Metabetaeus lohena*	Alpheidae	Shrimp, anchialine pool	U.S.A. (HI).
C*	5	R1	*Palaemonella burnsi*	Palaemonidae	Shrimp, anchialine pool	U.S.A. (HI).
C*	5	R1	*Procaris hawaiana*	Procarididae	Shrimp, anchialine pool	U.S.A. (HI).
FLOWERING PLANTS						
C*	11	R8	*Abronia alpina*	Nyctaginaceae	Sand-verbena, Ramshaw Meadows.	U.S.A. (CA).
PE	8	R4	*Agave eggersiana*	Agavaceae	No common name	U.S.A. (VI).
PT	8	R4	*Arabis georgiana*	Brassicaceae	Rockcress, Georgia	U.S.A. (AL, GA).
C*	11	R4	*Argythamnia blodgettii*	Euphorbiaceae	Silverbush, Blodgett's	U.S.A. (FL).
C*	3	R1	*Artemisia borealis var. wormskioldii.*	Asteraceae	Wormwood, northern	U.S.A. (OR, WA).
C*	2	R6	*Astragalus anserinus*	Fabaceae	Milkvetch, Goose Creek	U.S.A. (ID, NV, UT).
C	3	R1	*Astragalus cusickii* var. *packardiae.*	Fabaceae	Milkvetch, Packard's	U.S.A. (ID).
C*	8	R6	*Astragalus microcymbus*	Fabaceae	Milkvetch, skiff	U.S.A. (CO).
C*	8	R6	*Astragalus schmolliae*	Fabaceae	Milkvetch, Schmoll	U.S.A. (CO).
C*	11	R6	*Astragalus tortipes*	Fabaceae	Milkvetch, Sleeping Ute	U.S.A. (CO).
PE	2	R1	*Bidens amplectens*	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	8	R6	*Boechera* (*Arabis*) *pusilla*	Brassicaceae	Rockcress, Fremont County or small.	U.S.A. (WY).
PE	8	R4	*Brickellia mosieri*	Asteraceae	Brickell-bush, Florida	U.S.A. (FL).
C*	2	R1	*Calamagrostis expansa*	Poaceae	Reedgrass, Maui	U.S.A. (HI).
C*	11	R8	*Calochortus persistens*	Liliaceae	Mariposa lily, Siskiyou	U.S.A. (CA, OR).
C*	9	R4	*Chamaecrista lineata* var. *keyensis.*	Fabaceae	Pea, Big Pine partridge	U.S.A. (FL).
C*	12	R4	*Chamaesyce deltoidea pinetorum.*	Euphorbiaceae	Sandmat, pineland	U.S.A. (FL).
C*	9	R4	*Chamaesyce deltoidea serpyllum.*	Euphorbiaceae	Spurge, wedge	U.S.A. (FL).
C*	6	R8	*Chorizanthe parryi* var. *fernandina.*	Polygonaceae	Spineflower, San Fernando Valley.	U.S.A. (CA).
C*	8	R2	*Cirsium wrightii*	Asteraceae	Thistle, Wright's	U.S.A. (AZ, NM), Mexico.
C*	3	R4	*Dalea carthagenensis* var *floridana.*	Fabaceae	Prairie-clover, Florida	U.S.A. (FL).
C*	5	R5	*Dichanthelium hirstii*	Poaceae	Panic grass, Hirst Brothers'.	U.S.A. (DE, GA, NC, NJ).
C*	5	R4	*Digitaria pauciflora*	Poaceae	Crabgrass, Florida pineland.	U.S.A. (FL).
C*	6	R8	*Eriogonum corymbosum* var. *nilesii.*	Polygonaceae	Buckwheat, Las Vegas	U.S.A. (NV).
C	5	R8	*Eriogonum diatomaceum*	Polygonaceae	Buckwheat, Churchill Narrows.	U.S.A (NV).

TABLE 1—CANDIDATE NOTICE OF REVIEW (ANIMALS AND PLANTS)—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Category	Priority					
C*	5	R8	*Eriogonum kelloggii*	Polygonaceae	Buckwheat, Red Mountain.	U.S.A. (CA).
C*	8	R6	*Eriogonum soredium*	Polygonaceae	Buckwheat, Frisco	U.S.A. (UT).
C*	2	R1	*Festuca hawaiiensis*	Poaceae	No common name	U.S.A. (HI).
C*	11	R2	*Festuca ligulata*	Poaceae	Fescue, Guadalupe	U.S.A. (TX), Mexico.
C*	2	R1	*Gardenia remyi*	Rubiaceae	Nanu	U.S.A. (HI).
PE	5	R4	*Gonocalyx concolor*	Ericaceae	No common name	U.S.A. (PR).
C*	2	R1	*Hedyotis fluviatilis*	Rubiaceae	Kampua'a	U.S.A. (HI).
PE	2	R4	*Helianthus verticillatus*	Asteraceae	Sunflower, whorled	U.S.A. (AL, GA, TN).
PT	5	R8	*Ivesia webberi*	Rosaceae	Ivesia, Webber	U.S.A. (CA, NV).
C*	3	R1	*Joinvillea ascendens ascendens*.	Joinvilleaceae	'Ohe	U.S.A. (HI).
PE	5	R4	*Leavenworthia crassa*	Brassicaceae	Gladecress, fleshy-fruit	U.S.A. (AL).
PT	3	R4	*Leavenworthia exigua* var. *laciniata*.	Brassicaceae	Gladecress, Kentucky	U.S.A. (KY).
C*	8	R6	*Lepidium ostleri*	Brassicaceae	Peppergrass, Ostler's	U.S.A. (UT).
C*	5	R4	*Linum arenicola*	Linaceae	Flax, sand	U.S.A. (FL).
PE	3	R4	*Linum carteri* var. *carteri*	Linaceae	Flax, Carter's small-flowered.	U.S.A. (FL).
PE	3	R8	*Mimulus fremontii* var. *vandenbergensis*.	Phrymaceae	Monkeyflower, Vandenberg.	U.S.A. (CA).
C*	2	R1	*Myrsine fosbergii*	Myrsinaceae	Kolea	U.S.A. (HI).
C*	2	R1	*Nothocestrum latifolium*	Solanaceae	'Aiea	U.S.A. (HI).
C*	2	R1	*Ochrosia haleakalae*	Apocynaceae	Holei	U.S.A. (HI).
PT	2	R6	*Penstemon grahamii*	Scrophulariaceae	Beardtongue, Graham's	U.S.A. (CO, UT).
PT	9	R6	*Penstemon scariosus* var. *albifluvis*.	Scrophulariaceae	Beardtongue, White River.	U.S.A. (CO, UT).
PE	8	R4	*Physaria globosa*	Brassicaceae	Bladderpod, Short's	U.S.A. (IN, KY, TN).
C*	2	R6	*Pinus albicaulis*	Pinaceae	Pine, whitebark	U.S.A. (CA, ID, MT, NV, OR, WA, WY), Canada (AB, BC).
C*	8	R4	*Platanthera integrilabia*	Orchidaceae	Orchid, white fringeless	U.S.A. (AL, GA, KY, MS, NC, SC, TN, VA).
C*	3	R1	*Pseudognaphalium* (=*Gnaphalium*) *sandwicensium* var. *molokaiense*.	Asteraceae	'Ena'ena	U.S.A. (HI).
C*	2	R1	*Ranunculus hawaiensis*	Ranunculaceae	Makou	U.S.A. (HI).
C*	2	R1	*Ranunculus mauiensis*	Ranunculaceae	Makou	U.S.A. (HI).
C*	8	R8	*Rorippa subumbellata*	Brassicaceae	Cress, Tahoe yellow	U.S.A. (CA, NV).
C*	2	R1	*Schiedea pubescens*	Caryophyllaceae	Ma'oli'oli	U.S.A. (HI).
C*	5	R8	*Sedum eastwoodiae*	Crassulaceae	Stonecrop, Red Mountain.	U.S.A. (CA).
C*	2	R1	*Sicyos macrophyllus*	Cucurbitaceae	'Anunu	U.S.A. (HI).
C	12	R4	*Sideroxylon reclinatum austrofloridense*.	Sapotaceae	Bully, Everglades	U.S.A. (FL).
C*	2	R4	*Solanum conocarpum*	Solanaceae	Bacora, marron	U.S.A. (PR).
C*	8	R1	*Solanum nelsonii*	Solanaceae	Popolo	U.S.A. (HI).
C	8	R2	*Streptanthus bracteatus*	Brassicaceae	Twistflower, bracted	U.S.A. (TX).
C*	8	R4	*Symphyotrichum georgianum*.	Asteraceae	Aster, Georgia	U.S.A. (AL, FL, GA, NC, SC).
C*	8	R6	*Trifolium friscanum*	Fabaceae	Clover, Frisco	U.S.A. (UT).
PT	5	R4	*Varronia (=Cordia) rupicola*.	Boraginaceae	No common name	U.S.A. (PR), Anegada.
FERNS AND ALLIES						
C*	8	R1	*Cyclosorus boydiae*	Thelypteridaceae	No common name	U.S.A. (HI).
C*	2	R1	*Huperzia* (= *Phlegmariurus*) *stemmermanniae*.	Lycopodiaceae	Wawae'iole	U.S.A. (HI).
C*	3	R1	*Microlepia strigosa* var. *mauiensis* (= *Microlepia mauiensis*).	Dennstaedtiaceae	Palapalai	U.S.A. (HI).
C	3	R4	*Trichomanes punctatum floridanum*.	Hymenophyllaceae	Florida bristle fern	U.S.A. (FL).

TABLE 2—ANIMALS AND PLANTS FORMERLY CANDIDATES OR FORMERLY PROPOSED FOR LISTING

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Code	Expl.					
MAMMALS						
E	L	R4	*Eumops floridanus*	Molossidae	Bat, Florida bonneted	U.S.A. (FL).
Rc	A	R1	*Thomomys mazama couchi.*	Geomyidae	Pocket gopher, Shelton	U.S.A. (WA).
Rc	N	R1	*Thomomys mazama douglasii.*	Geomyidae	Pocket gopher, Brush Prairie.	U.S.A. (WA).
Rc	A	R1	*Thomomys mazama louiei.*	Geomyidae	Pocket gopher, Cathlamet.	U.S.A. (WA).
Rc	A	R1	*Thomomys mazama melanops.*	Geomyidae	Pocket gopher, Olympic	U.S.A. (WA).
Rc	X	R1	*Thomomys mazama tacomensis.*	Geomyidae	Pocket gopher, Tacoma	U.S.A. (WA).
BIRDS						
T	L	R1	*Eremophila alpestris strigata.*	Alaudidae	Horned lark, streaked	U.S.A. (OR, WA), Canada (BC).
Rc	A	R7	*Brachyramphus brevirostris.*	Alcidae	Murrelet, Kittlitz's	U.S.A. (AK), Russia.
AMPHIBIANS						
E	L	R2	*Eurycea waterlooensis*	Plethodontidae	Salamander, Austin blind	U.S.A. (TX).
E	L	R2	*Plethodon neomexicanus*	Plethodontidae	Salamander, Jemez Mountains.	U.S. A. (NM).
E	L	R2	*Eurycea tonkawae*	Plethodontidae	Salamander, Jollyville Plateau.	U.S.A. (TX).
FISHES						
E	L	R3	*Cottus* sp.	Cottidae	Sculpin, grotto	U.S.A. (MO).
T	L	R4	*Elassoma alabamae*	Elassomatidae	Sunfish, spring pygmy	U.S.A. (AL).
CLAMS						
E	L	R4	*Ptychobranchus subtentum.*	Unionidae	Kidneyshell, fluted	U.S.A. (AL, KY, TN, VA).
E	L	R4	*Lampsilis rafinesqueana*	Unionidae	Mucket, Neosho	U.S.A. (AR, KS, MO, OK).
E	L	R4	*Lexingtonia dolabelloides*	Unionidae	Pearlymussel, slabside	U.S.A. (AL, KY, TN, VA).
T	L	R4	*Quadrula cylindrica cylindrica.*	Unionidae	Rabbitsfoot	U.S.A. (AL, AR, GA, IN, IL, KS, KY, LA, MS, MO, OK, OH, PA, TN, WV).
SNAILS						
E	L	R1	*Partulina semicarinata*	Achatinellidae	Snail, Lanai tree	U.S.A. (HI).
E	L	R1	*Partulina variabilis*	Achatinellidae	Snail, Lanai tree	U.S.A. (HI).
E	L	R1	*Newcombia cumingi*	Achatinellidae	Snail, Newcomb's tree	U.S.A. (HI).
E	L	R2	*Pyrgulopsis texana*	Hydrobiidae	Springsnail, Phantom	U.S.A. (TX).
E	L	R2	*Pseudotryonia adamantina.*	Hydrobiidae	Tryonia, Diamond	U.S.A. (TX).
E	L	R2	*Tryonia circumstriata*	Hydrobiidae	Tryonia, Gonzales	U.S.A. (TX).
E	L	R2	*Tryonia cheatumi*	Hydrobiidae	Tryonia, Phantom	U.S.A. (TX).
Rc	N	R2	*Sonorella rosemontensis*	Helminthoglyptidae	Talussnail, Rosemont	U.S.A. (AZ).
INSECTS						
E	L	R1	*Drosophila digressa*	Drosophilidae	fly, Hawaiian Picture-wing	U.S.A. (HI).
E	L	R8	*Plebejus shasta charlestonensis.*	Lycaenidae	Blue, Mt. Charleston	U.S.A. (NV).
E	L	R1	*Euphydryas editha taylori*	Nymphalidae	Checkerspot butterfly, Taylor's (= Whulge).	U.S.A. (OR, WA), Canada (BC)
Rp	U	R6	*Cicindela albissima*	Cicindelidae	Tiger beetle, Coral Pink Sand Dunes.	U.S.A. (UT).

TABLE 2—ANIMALS AND PLANTS FORMERLY CANDIDATES OR FORMERLY PROPOSED FOR LISTING—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Code	Expl.					
CRUSTACEANS						
E	L	R2	*Gammarus hyalleloides*	Gammaridae	Amphipod, diminutive	U.S.A. (TX).
E	L	R2	*Gammarus pecos*	Gammaridae	Amphipod, Pecos	U.S.A. (TX)
E	L	R1	*Vetericaris chaceorum*	Procaridae	Shrimp, anchialine pool	U.S.A. (HI).
FLOWERING PLANTS						
E	L	R1	*Bidens campylotheca pentamera*.	Asteraceae	Ko‘oko‘olau	U.S.A. (HI).
E	L	R1	*Bidens campylotheca waihoiensis*.	Asteraceae	Ko‘oko‘olau	U.S.A. (HI).
E	L	R1	*Bidens conjuncta*	Asteraceae	Ko‘oko‘olau	U.S.A. (HI).
E	L	R1	*Bidens hillenbrandiana hillebrandina*.	Asteraceae	Ko‘oko‘olau	U.S.A. (HI).
E	L	R1	*Bidens micrantha ctenophylla*.	Asteraceae	Ko‘oko‘olau	U.S.A. (HI).
E	L	R1	*Calamagrostis hillebrandii*	Poaceae	Reedgrass, Hillebrand’s	U.S.A. (HI).
E	L	R1	*Canavalia pubescens*	Fabaceae	‘Awikiwiki	U.S.A. (HI).
E	L	R4	*Chromolaena frustrata*	Asteraceae	Thoroughwort, Cape Sable.	U.S.A. (FL).
E	L	R4	*Consolea corallicola*	Cactaceae	Cactus, Florida semaphore.	U.S.A. (FL).
E	L	R1	*Cyanea asplenifolia*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea duvalliorum*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea horrida*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea kunthiana*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea magnicalyx*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea maritae*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea marksii*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea munroi*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea obtusa*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea profuga*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea solanacea*	Campanulaceae	Haha	U.S.A. (HI).
E	L	R1	*Cyanea tritomantha*	Campanulaceae	‘Aku	U.S.A. (HI).
E	L	R1	*Cyrtandra ferripilosa*	Gesneriaceae	Ha‘iwale	U.S.A. (HI).
E	L	R1	*Cyrtandra filipes*	Gesneriaceae	Ha‘iwale	U.S.A. (HI).
E	L	R1	*Cyrtandra nanawaleensis*	Gesneriaceae	Ha‘iwale	U.S.A. (HI).
E	L	R1	*Cyrtandra oxybapha*	Gesneriaceae	Ha‘iwale	U.S.A. (HI).
E	L	R1	*Cyrtandra wagneri*	Gesneriaceae	Ha‘iwale	U.S.A. (HI).
E	L	R2	*Echinomastus erectocentrus* var. *acunensis*.	Cactaceae	Cactus, Acuna	U.S.A. (AZ), Mexico.
T	L	R1	*Eriogonum codium*	Polygonaceae	Buckwheat, Umtanum Desert.	U.S.A. (WA).
E	L	R1	*Festuca molokaiensis*	Poaceae	No common name	U.S.A. (HI).
E	L	R1	*Geranium hanaense*	Geraniaceae	Nohoanu	U.S.A. (HI).
E	L	R1	*Geranium hillebrandii*	Geraniaceae	Nohoanu	U.S.A. (HI).
E	L	R4	*Harrisia aboriginum*	Cactaceae	Pricklyapple, aboriginal (shellmound applecactus).	U.S.A. (FL).
Rc	A	R8	*Hazardia orcuttii*	Asteraceae	Orcutt’s hazardia	U.S.A. (CA), Mexico.
T	L	R2	*Hibiscus dasycalyx*	Malvaceae	Rose-mallow, Neches River.	U.S.A. (TX).
E	L	R2	*Leavenworthia texana*	Brassicaceae	Gladecress, Texas golden.	U.S.A. (TX).
E	L	R1	*Mucuna sloanei* var. *persericea*.	Fabaceae	Sea bean	U.S.A. (HI).
E	L	R1	*Myrsine vaccinioides*	Myrsinaceae	Kolea	U.S.A. (HI).
E	L	R2	*Pediocactus peeblesianus* var. *fickeiseniae*.	Cactaceae	Cactus, Fickeisen plains	U.S.A. (AZ).
E	L	R1	*Peperomia subpetiolata*	Piperaceae	‘Ala ‘ala wai nui	U.S.A. (HI).
Rc	A	R8	*Phacelia stellaris*	Hydrophyllaceae	Phacelia, Brand’s	U.S.A. (CA), Mexico.
E	L	R1	*Phyllostegia bracteata*	Lamiaceae	No common name	U.S.A. (HI).
E	L	R1	*Phyllostegia floribunda*	Lamiaceae	No common name	U.S.A. (HI).
E	L	R1	*Phyllostegia haliakalae*	Lamiaceae	No common name	U.S.A. (HI).
E	L	R1	*Phyllostegia pilosa*	Lamiaceae	No common name	U.S.A. (HI).

TABLE 2—ANIMALS AND PLANTS FORMERLY CANDIDATES OR FORMERLY PROPOSED FOR LISTING—Continued

[Note: See end of SUPPLEMENTARY INFORMATION for an explanation of symbols used in this table.]

Status		Lead region	Scientific name	Family	Common name	Historical range
Code	Expl.					
T	L	R1	*Physaria douglasii tuplashensis.*	Brassicaceae	Bladderpod, White Bluffs	U.S.A. (WA).
E	L	R1	*Pittosporum halophilum*	Pittosporaceae	Hoawa	U.S.A. (HI).
E	L	R1	*Pittosporum hawaiiense*	Pittosporaceae	Hoawa	U.S.A. (HI).
E	L	R1	*Platydesma remyi*	Rutaceae	No common name	U.S.A. (HI).
E	L	R1	*Pleomele fernaldii*	Agavaceae	Hala pepe	U.S.A. (HI).
Rc	A	R8	*Potentilla basaltica*	Rosaceae	Cinquefoil, Soldier Meadow.	U.S.A. (NV).
E	L	R1	*Pritchardia lanigera*	Arecaceae	Loulu	U.S.A. (HI).
E	L	R1	*Schiedea diffusa macraei*	Caryophyllaceae	No common name	U.S.A. (HI).
E	L	R1	*Schiedea hawaiiensis*	Caryophyllaceae	No common name	U.S.A. (HI).
E	L	R1	*Schiedea jacobii*	Caryophyllaceae	No common name	U.S.A. (HI).
E	L	R1	*Schiedea laui*	Caryophyllaceae	No common name	U.S.A. (HI).
E	L	R1	*Schiedea salicaria*	Caryophyllaceae	No common name	U.S.A. (HI).
Rc	U	R4	*Solidago plumosa*	Asteraceae	Goldenrod, Yadkin River	U.S.A. (NC).
E	L	R2	*Sphaeralcea gierischii*	Malvaceae	Mallow, Gierisch	U.S.A. (AZ, UT).
E	L	R1	*Stenogyne cranwelliae*	Lamiaceae	No common name	U.S.A. (HI).
E	L	R1	*Stenogyne kauaulaensis*	Lamiaceae	No common name	U.S.A. (HI).
E	L	R1	*Wikstroemia villosa*	Thymelaeaceae	Akia	U.S.A. (HI).

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