DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Review of Native Species That Are Candidates or Proposed 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 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 to each species, or to remove species from candidate status. Additional material that we relied on is available in the Species Assessment and Listing Priority Assignment Forms (species assessment forms, previously called candidate forms) for each candidate species.

Overall, this CNOR recognizes 7 new candidates, changes the listing priority number for 24 candidates, and removes 10 species from candidate status. Combined with other decisions for individual species that were published separately from this CNOR, the new number of species that are candidates for listing is 279.

We request additional status information that may be available for the 279 candidate species identified in this CNOR. We will consider this information in preparing listing documents and future revisions to the notice of review, as it will help us in monitoring changes in the status of candidate species and in management for conserving them. We also request information on additional species that we should consider including as candidates as we prepare future updates of this notice.

This document also includes our findings on resubmitted petitions and describes our progress in revising the Lists of Endangered and Threatened Wildlife and Plants during the period May 2, 2005, through August 23, 2006.

DATES: We will accept comments on the Candidate Notice of Review at any time.

ADDRESSES: Submit your comments regarding a particular species to the Regional Director of the Region identified in **SUPPLEMENTARY INFORMATION** as having the lead responsibility for that species. You may submit comments of a more general nature to the Chief, Division of Conservation and Classification, U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, Room 420, Arlington, VA 22203 (703/358–2171). Written comments and materials received in response to this notice will be available for public inspection by appointment at the Division of Conservation and Classification (for comments of a general nature only) or at the appropriate Regional Office listed in **SUPPLEMENTARY INFORMATION.**

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 Division of Conservation and Classification, Arlington, Virginia (see address above), or on our Internet Web site (*http://endangered.fws.gov/candidates/index.html*).

FOR FURTHER INFORMATION CONTACT: The Endangered Species Coordinator(s) in the appropriate Regional Office(s) or Chris Nolin, Chief, Division of Conservation and Classification (703–358–2171).

SUPPLEMENTARY INFORMATION:

Candidate Notice of Review

Background

The Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act), 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 Act, an endangered species is any species which is in danger of extinction throughout all or a significant portion of its range, and a threatened species is any species which 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 to list as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher-priority listing actions.

We maintain this list of candidates for a variety of reasons: To notify the public that these species are facing threats to their survival; to provide advance knowledge of potential listings that could affect decisions of environmental planners and developers; 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 solicit input from interested parties to help us identify those candidate species that may not require protection under the Act or additional species that may require the Act's protections; and to solicit 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 in **SUPPLEMENTARY INFORMATION** or visit our Internet Web site, *http://endangered.fws.gov/candidates/index.html.*

Previous Notices of Review

The Act directed the Secretary of the Smithsonian Institution to prepare a report on endangered and threatened plant species, which was published as House Document No. 94–51. We published a notice in the **Federal Register** on July 1, 1975 (40 FR 27823), in which we announced we would review more than 3,000 native plant species named in the Smithsonian's report and other species added by the 1975 notice for possible addition to the List of Endangered and Threatened Plants, referring to them as species considered to be candidate endangered

or threatened species. We published a new comprehensive notice of review for native plants on December 15, 1980 (45 FR 82479), which took into account the earlier Smithsonian report and other accumulated information. On November 28, 1983 (48 FR 53640), our supplemental plant notice of review announced changes in the status of various species. We published complete updates of the plant notice on September 27, 1985 (50 FR 39526); February 21, 1990 (55 FR 6184); September 30, 1993 (58 FR 51144); and, as part of combined animal and plant notices, on February 28, 1996 (61 FR 7596); September 19, 1997 (62 FR 49398); October 25, 1999 (64 FR 57534); October 30, 2001 (66 FR 54808); June 13, 2002 (67 FR 40657); May 4, 2004 (69 FR 24876); and May 11, 2005 (70 FR 24870). Additionally, on January 8, 2001 (66 FR 1295), we published our resubmitted petition finding for one plant species having an outstanding ''warranted-but-precluded finding'' on a petition to list.

We published earlier comprehensive reviews for vertebrate animals in the **Federal Register** on December 30, 1982 (47 FR 58454), and on September 18, 1985 (50 FR 37958). We published an initial comprehensive review for invertebrate animals on May 22, 1984 (49 FR 21664). We published a combined (*i.e.* vertebrate and invertebrate) animal notice of review on January 6, 1989 (54 FR 554), with minor corrections on August 10, 1989 (54 FR 32833). We again published comprehensive animal notices on November 21, 1991 (56 FR 58804) and November 15, 1994 (59 FR 58982). Beginning in 1996 we published combined animal and plant notices, including those published on February 28, 1996 (61 FR 7596); September 19, 1997 (62 FR 49398); October 25, 1999 (64 FR 57534); October 30, 2001 (66 FR 54808); June 13, 2002 (67 FR 40657); May 4, 2004 (69 FR 24876); and May 11, 2005 (70 FR 24870). Additionally, on January 8, 2001 (66 FR 1295), we published our resubmitted petition findings for 25 animal species having outstanding ''warranted-but-precluded'' petition findings as well as notice of one candidate removal.

On September 21, 1983, we published guidance for assigning a listing priority number (LPN) for each candidate species (48 FR 43098). We continue to use this guidance to assign each candidate a LPN of 1 to 12, depending on the magnitude of threats, imminence of threats, and taxonomic status. Such a priority ranking guidance system is required under section 4(h)(3) of the Act (15 U.S.C. 1533(h)(3)).

This revised notice supersedes all previous animal, plant, and combined notices of review.

Summary of This CNOR

Since publication of the 2004 CNOR on May 11, 2005 (70 FR 24870), we reviewed the available information on candidate species to ensure that a proposed listing is justified for each species and reevaluated the relative listing priority number assigned to each species. We also evaluated the need to emergency-list any of these species, particularly species with high priorities (*i.e.* species with listing priority numbers of 1, 2, or 3). This review and reevaluation ensures that we focus conservation efforts on those species at greatest risk. In addition to reviewing candidate species, the Service has worked on numerous findings in response to petitions to list species and has prepared proposed and final determinations for rules to list species under the Act; some of these findings and determinations have been completed and published in the **Federal Register** while work on others is still underway (see Preclusion and Expeditious Progress, below, for details). Since publication of the CNOR last year the Service has completed and published final rules listing 2 species as endangered and 17 species as threatened; reviewed the status of and published findings that listing proposals are not warranted for 4 species; and published proposed rules for listing for 3 species for which final determinations are pending.

Based on our review of the best available scientific and commercial information, this CNOR identifies 7 new candidate species (*see New Candidates*, below), changes the listing priority number for 24 candidates (*see* Listing Priority Changes in Candidates, below) and determined that listing proposals are not warranted for an additional 10 species and thus have removed them from candidate status (*see Candidate Removals*, below). Combined with the other decisions published separately from this CNOR for individual species that previously were candidates, a total of 279 species, including 140 plant and 139 animal species, are now candidates awaiting preparation of rules proposing their listing. These 279 species, along with the 3 species currently proposed for listing, are included in Table 1.

Table 2 includes 33 species identified in the previous CNOR as either proposed for listing or classified as candidates that are no longer in those categories. This includes the 19 species we listed as threatened or endangered since the previous CNOR and the 4 species for which we published separate findings that listing is not warranted, plus the 10 species that we have determined do not warrant preparation of a rule to propose listing and therefore have removed from candidate status in this CNOR.

New Candidates

Below we present brief summaries of seven new candidates that we are recognizing in this CNOR, including one species of mammal, one bird, two snails, two insects, and one plant. Complete information, including references, can be 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 our Internet Web site (*http://endangered.fws.gov/candidates/index.html*). For each of these seven species, we find that we have on file sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened, but that preparation and publication of a proposal is precluded by higher-priority listing actions (*i.e.* these meet our definition of a candidate species). Two of these seven species were petitioned for listing, and for those two species this constitutes our finding, as required pursuant to section 4(b)(3)(B)(iii) of the Act, 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, and that expeditious progress is being made to add qualified species to the lists of threatened and endangered species and to remove from such lists species for which the protections of the Act are no longer necessary. (Additional information is provided in the sections entitled *Petition Findings* and *Preclusion and Expeditious Progress*, below). We also note below that one other species, a fish, was identified as a candidate earlier this year in a separate finding published in the **Federal Register**.

Mammals

New England cottontail (*Sylvilagus transitionalis*)—The following summary is based on information from our files and information collected during the public comment period on our 90-day petition finding. On August 30, 2000, we received a petition to list this species. We published our 90-day finding on June 30, 2004 (69 FR 39395).

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. New England cottontails are considered habitat specialists, in so far as they are dependent upon early-successional habitats typically described as thickets. The species is the only endemic cottontail in New England.

Historically, the NEC ranged from southeastern New York (east of the Hudson River) north through the Champlain Valley, southern Vermont, the southern half of New Hampshire, southern Maine, and south throughout Massachusetts, Connecticut, and Rhode Island. The species is now considered to be extirpated from Vermont, the current range elsewhere has declined substantially, and occurrences have become increasingly separated. The species' current distribution is fragmented into five apparently isolated metapopulations in about 14 percent of the species' historical range. The range has contracted from approximately 90,000 sq km to 12,180 sq km, and much of the suitable habitat within the current range is in small patches that are not occupied by the NEC. A multi-state, regional inventory conducted in 2001–2004 found New England cottontails were absent from 93% of approximately 2,300 habitat patches within the recent historical range (1990 to present) that were searched for the presence of the species. Many of the occupied sites were quite small (3 acres or less) and are considered by some researchers to be population ''sinks.'' It is estimated that less than one-third of the occupied sites occur on lands in conservation status, and fewer than 10 percent of these sites in conservation status are being managed for early successional forest species such as the NEC.

The primary threat to the New England cottontail is ongoing destruction and modification of its remaining habitat through natural succession processes and through alteration related to human development and other activities. Isolation of occupied patches of habitat by areas of unsuitable habitat, as well as predation, appears to be resulting in local extirpation of New England cottontails from small patches. Based on current land uses in the region, the loss of about 2 percent of its current range per year is expected to continue. Additional threats include competition for food and habitat with introduced eastern cottontails and large numbers of native white-tailed deer, and inadequate regulatory mechanisms in effect to protect the habitat. Based on threats of high magnitude that are imminent, we assigned this species a listing priority number of 2. (*See also* the section entitled *Petition Findings*, below)

Birds

Red knot (*Calidris canutus rufa*)—The following summary is based on information from our files and information provided by petitioners. We received one petition on August 9, 2004, and two others were each received on August 5, 2005.

The *rufa* subspecies is one of six recognized subspecies of red knot and one of three subspecies occurring in North America (hereafter all mention of red knot refers strictly to the *rufa* subspecies). This subspecies makes one of the longest distance migrations known in the animal kingdom as it travels between breeding areas in the central Canadian Arctic and wintering areas that are primarily in southern South America along the coast of Chile and Argentina. They migrate along the Atlantic coast of the United States (U.S.), where they may be found from Maine to Florida. The Delaware Bay area (in Delaware and New Jersey) is the largest known spring migration stopover area, with far fewer migrants congregating elsewhere along the Atlantic coast. The concentration in the Delaware Bay area occurs from the middle of May to early June, corresponding to the spawning season of horseshoe crabs. The knots feed on horseshoe crab eggs, rebuilding energy reserves needed to complete migration to the Arctic and arrive on the breeding grounds in good condition.

Surveys at wintering areas and at Delaware Bay during spring migration indicate a substantial decline in recent years. At the Delaware Bay area, peak counts between 1982 and 1998 were as high as 95,360 knots. Although counts may vary considerably between years, some of the population fluctuations can be attributed to predator-prey cycles in the breeding grounds, and counts show that knots rebound from such reductions. In the past, horseshoe crab eggs were so numerous that a knot could eat enough in two to three weeks to double its weight. Research shows that from 1997 to 2002 an increasing proportion of red knots leaving the Delaware Bay failed to achieve threshold departure masses needed to fly to breeding grounds and survive an initial few days of snow cover, and this corresponded to reduced annual survival rates. Recently, peak counts at the Delaware Bay area have been lower than in the past and do not show a rebound. The peaks were 13,315 in 2004, 15,345 in 2005, and 13,455 in 2006. Counts in recent years at the principal wintering areas in South America also are substantially lower than in the past and do not show a rebound.

The primary factor threatening the red knot is destruction and modification of its habitat, particularly the reduction in key food resources resulting from reductions in horseshoe crabs, which are harvested primarily for use as bait and secondarily to support a biomedical industry. Commercial harvest increased substantially in the 1990's. Since 1999, a series of timing restrictions and substantially lower harvest quotas have been adopted by the Atlantic States Marine Fisheries Commission (ASMFC), as well as New Jersey and Delaware. In May 2006, the ASMFC adopted restrictions effective from October 1, 2006 to September 30, 2008, including a prohibition on harvest and landing of horseshoe crabs in New Jersey and Delaware from January 1 through June 7, harvest of males only from June 8 through December 31, and harvest limited to no more than 100,000 horseshoe crabs per state per year. The ASMFC also adopted other restrictions applicable to Maryland and Virginia. New Jersey has established restrictions which supersede those of the ASMFC; as a result there is a moratorium on all horseshoe crab harvest in New Jersey from May 15, 2006 through June 7, 2008, after which the restrictions adopted by ASMFC apply.

The reductions in commercial harvest since 1999 are substantial: 726,660 horseshoe crab landings for bait were reported in 1999 in Delaware and New Jersey, compared to 173,777 in 2004. However, we do not know whether horseshoe crab populations will rebuild or how long a lag time there may be in increased availability of eggs, as they need 8–10 years to reach sexual maturity and other key information for estimating population response is lacking. A survey in Delaware Bay showed spawning activity was stable or slightly declining from 1999 to 2004. In 2004, availability of horseshoe crab eggs on principal shorebird foraging beaches increased over recent years. The peak number of migrant red knots observed at Delaware Bay increased slightly in 2005 compared to 2004, and in 2006 the peak count was similar to that in 2004. Also, body weights of red knots at the time of departure from Delaware Bay improved in 2005 over previous years. Counts of red knots at key wintering areas in South America, although much reduced from the past, were similar in 2006 to the counts in 2005. Thus in recent years the number of knots has been much lower than in the past and the trend in the abundance is not improving despite

a four-fold reduction in horseshoe crab landings since the late 1990's.

Other identified threat factors include habitat destruction due to beach erosion and various shoreline protection and stabilization projects that are impacting areas used by migrating knots for foraging, the inadequacy of existing regulatory mechanisms, human disturbance, and competition with other species for limited food resources. Also, the concentration of red knots in the Delaware Bay area and at a relatively small number of wintering areas make the species vulnerable to potential large-scale events in those areas such as large oil spills or severe weather.

Overall, we conclude that the threats, in particular the modification of habitat through harvesting of horseshoe crabs to such an extent that it puts the viability of the knot at substantial risk, are of a high magnitude, but are nonimminent because of reductions and restrictions on harvesting horseshoe crabs. Accordingly, we assigned a listing priority number of 6 to this subspecies. (See also the section entitled *Petition Findings*, below)

Fish

Headwater chub (*Gila nigra*)—We previously announced candidate status for this species in a separate warranted-but-precluded 12-month petition finding, published on May 3, 2006 (71 FR 26007).

Snails

Black mudalia (*Elimia melanoides*)—The following summary is based on information in our files. The historical and current range of the black mudalia, an aquatic snail, is in Alabama. The historical range included much of the upper half of the Black Warrior River drainage, including the main stem Black Warrior above Tuscaloosa, as well as the Sipsey Fork and Locust Fork. The black mudalia is currently known from five localized shoals in an approximately 30-mile reach of the upper Locust Fork of the Black Warrior River, and from two shoals in a 1-mile reach of the Blackburn Fork of the Little Warrior River, a tributary of the Locust Fork. The black mudalia requires flowing water, and the construction of two major dams on the main stem Black Warrior River above the Fall Line (Oliver Lock and Dam, 1940; Holt Dam, 1966) and another dam on the lower Sipsey Fork (Bankhead Dam, 1975), impounded much of the species' historical habitat. Dams eliminate or reduce currents within impounded areas, allowing sediments to accumulate on inundated channel habitats. Impounded waters also experience changes in water chemistry that can affect survival or reproduction of black mudalia.

The primary threats to the black mudalia in the areas it currently occupies involve habitat destruction and modification, particularly in relation to poor water quality and habitat deterioration. Point-source discharges and surface runoff cause nutrification, decreased dissolved oxygen concentration, increased acidity and conductivity, and other changes in water chemistry which are likely to seriously affect aquatic snails. Pollution from surface runoff can originate from a wide array of land use activities, and may include sediments, fertilizers, herbicides, pesticides, animal wastes, septic tank and gray water leakage, and oils and greases. Land uses in the vicinity of black mudalia populations include pasture, row crops, timber production, and chicken farms. Because the threats to black mudalia are of a high magnitude and are imminent, we assigned a listing priority of 2 to this species.

Rough hornsnail (*Pleurocera foremani*)—The following summary is based on information in our files. The rough hornsnail is an aquatic snail endemic to the Coosa River system in Alabama. It currently is known to occur at two locations: The lower Yellowleaf Creek in Shelby County, and the lower Coosa River below Wetumpka Shoals in Elmore County. Searches of historical habitats in the Coosa River and its tributaries have failed to locate the species at other localities. The two surviving populations are extremely small and localized. The historical habitats of the rough hornsnail have been extensively modified by six large dams constructed for hydropower production. Dams eliminate or reduce currents within impounded areas, allowing sediments to accumulate on inundated channel habitats. Impounded waters also experience changes in water chemistry that can affect survival or reproduction of pleurocerid snails. Currently, the primary threat to the rough hornsnail is habitat destruction and modification related to poor water quality and habitat deterioration that result from point source discharges and/or surface runoff. These actions cause nutrification, decreased dissolved oxygen concentration, increased acidity and conductivity, and other changes in water chemistry that can seriously affect aquatic snails. Both populations of the rough hornsnail are in areas currently experiencing high human population growth and development. Because the threats are ongoing and are of a high magnitude, we assigned the rough hornsnail a listing priority of 2.

Insects

Florida leafwing butterfly (*Anaea troglodyta floridalis*)—The Florida leafwing is endemic to south Florida and the Keys; it occurs only within pine rocklands that retain its sole hostplant, pineland croton (*Croton linearis*). Once locally common within the formerly widespread pine rockland habitat that occurred within Miami-Dade and Monroe Counties and less common and sporadic within Collier, Martin, Palm Beach, and Broward Counties, the leafwing now has small and isolated populations at only two locations: On Big Pine Key in the lower Florida Keys, and Long Pine Key on the Florida mainland. On Big Pine Key, the butterfly and its habitat occur on National Key Deer Refuge (NKDR) and also on other scattered private and public lands within the vicinity of NKDR. On the Florida mainland, the population on Long Pine Key is within Everglades National Park (ENP). Pine rockland fragments on the mainland near or adjacent to ENP may still retain the potential to support some small, localized, and sporadic populations of the butterfly, but no Florida leafwings have been documented as occurring in such areas outside ENP for the last several years.

Land developments of various types have greatly reduced pinelands in Florida. Within the Keys, pinelands containing the pineland croton hostplant now occur only on Big Pine Key, with an estimated 80 hectares (ha) (198 acres) within NKDR and small, scattered relict sites elsewhere. On the mainland, an estimated 1,068 ha (2,638 acres) of appropriate hostplant-bearing habitat occur within ENP on Long Pine Key; outside that area, in Miami-Dade County, scattered fragments of pine rockland containing pineland croton occur in fragments that collectively total approximately 370 (ha) (916 acres), roughly half of which are in private ownership. Collectively, the Big Pine Key, Long Pine Key, and relict pine rocklands adjacent to ENP presently support an estimated total of 100–800 adult Florida leafwing butterflies at any given time.

The Florida leafwing is vulnerable to impacts that probably did not pose significant risks to its continued existence in the past, when suitable habitat and the species were much more abundant and widespread. Habitat destruction and modification is a continuing problem on public and private lands. This includes habitat loss due to unnatural or altered fire regimes. Natural fires are important in maintaining the herbaceous layer of

pine rocklands, of which the butterfly's sole hostplant, pineland croton, is a part. Without these fires, succession from pinelands to hardwood hammocks is rapid, with loss of suitable habitat for the Florida leafwing. Due to the proximity of remaining pine rockland habitat to urban areas in southern Florida and the Keys, most natural fires have been and are suppressed, often replaced by inconsistent regimes of managed or prescribed fires that do not necessarily result in habitat conditions suitable for the Florida leafwing. Prescribed burning occurs on portions of ENP on Long Pine Key, and ENP is working on incorporating considerations for life histories of select butterfly species into their management. At NKDR, private homes and light commercial uses are embedded within or in close proximity to the fire-sustained pineland habitat. Thus management of pine rocklands is particularly difficult due to the mixed pattern of land ownership and development. Fire suppression to protect residential areas results in the invasion and replacement of native pine rockland habitat by hardwood hammocks, thereby causing continued loss of habitat for the leafwing. Survey data collected from mid-2003 through July 2006 indicate a substantial decline in leafwing numbers on NKDR, even within an area where prescribed burning occurs. Outside of NKDR and ENP, much of the remaining suitable habitat for the Florida leafwing on private land is subject to destruction or modification due to the effects of fire suppression or due to the nature of prescribed fire activities, and continued economic development that results in conversion of pine rocklands to other uses.

The continued existence of the Florida leafwing also is threatened due to other natural and human-related factors. Pesticides used in mosquito control practices are a major threat on Big Pine Key, where nearly all occupied and suitable habitat for the Florida leafwing is exposed to mosquito control chemicals. Studies have shown that the pesticides used for mosquito control at field application rates are extremely toxic to non-target butterflies, skippers, and moths. Essentially all of the pine rocklands within NKDR except one area, Watson's Hammock, are sprayed and residential areas and roadsides across Big Pine Key are treated. Also, chemical drift of pesticides has been found 750 meters (2,460 feet) within the borders of the no-spray zone on Watson's Hammock. Mosquito control poses much less of a risk to the leafwings in ENP, as mosquito control on Long Pine Key is limited to residential areas and campgrounds. Additional natural and human-related factors include the risk of direct mortality and habitat loss due to extreme weather events (*e.g.* hurricanes, tropical storms), and risk of reduced genetic diversity; both of these risks are heightened due to the reduction of the Florida leafwing to small, isolated populations.

The established interest in specimens of the leafwing and information requests regarding its location from collectors, researchers, and others suggests that collection may be occurring and has the potential to occur at any time. However, we do not have sufficient information to conclude that overutilization for commercial, recreational, scientific, or educational purposes is a factor that threatens the Florida leafwing. The principal threats to the Florida leafwing at this time are the destruction, modification, or curtailment of its habitat or range, and other natural or manmade factors affecting its continued existence. Based threats of high magnitude that are imminent, we assigned a listing priority number of 3 to the Florida eafwing butterfly.

Bartram's hairstreak butterfly (*Strymon acis bartrami*)—The following summary is based on information in our files. The Bartram's hairstreak is a subspecies endemic to south Florida and the Keys. Like the Florida leafwing butterfly (described above) it occurs only within pine rocklands that retain its sole hostplant, pineland croton (*Croton linearis*). Once locally common within the formerly widespread pine rockland habitat that occurred within Miami-Dade and Monroe Counties, and less common and sporadic within Collier, Palm Beach, and Broward Counties, the Bartram's hairstreak is now largely restricted to two locations: Big Pine Key in the Florida Keys, and Long Pine Key on the Florida mainland. On Big Pine Key, the butterfly and its habitat occur on National Key Deer Refuge and also on other scattered private and public lands in the vicinity of NKDR. On Long Pine Key the species is within Everglades National Park. Pine rockland fragments near or adjacent to ENP also appear to retain some small, localized, and sporadic populations of the butterfly. The same factors identified as threats to the Florida leafwing butterfly (summarized above) also threaten Bartram's hairstreak. Based on threats of high magnitude that are imminent, we assigned a listing priority number of 3 to Bartram's hairstreak butterfly.

Flowering Plants

Harrisia aboriginum (Aboriginal pricklyapple)—The following summary is based on information in our files. This cylindrical-stemmed cactus currently occurs in coastal strand vegetation and tropical coastal hammocks on coastal islands of Sarasota, Charlotte, and Lee Counties, Florida, from Longboat Key south to Buck Key in the J.N. ''Ding'' Darling National Wildlife Refuge. Populations are likely to be on shell mounds or sites with shelly substrates; plants may be quite close to the mangrove zone, but not in it. This plant always had a restricted distribution and is now vulnerable to extinction because only 10 populations are remaining. Each population occurs just above sea level along the coast, and is threatened by the rise in sea level that has occurred during the past century and is continuing. Each population is also threatened by nonnative plant invasions and, in at least one case, predation by introduced iguanas. Some populations are on private lands, and these are all vulnerable to habitat destruction and/or improper management. Additionally, the proximity to the coast, combined with the very small number of plants in each population, makes the species vulnerable to hurricanes which have the potential to overwash islands and extirpate populations. For these reasons, the magnitude of threats is high. Overall, threats are nonimminent because public land managers have been and are continuing to address exotic invasive plant issues. Therefore, we assigned this species a listing priority number of 5.

Listing Priority Changes in Candidates

We reviewed the listing priority number for all candidate species and are changing the numbers for the following species. Some of the changes reflect actual changes in either the magnitude or imminence of the threats, and in one case, reflects a change in the taxonomy of the species. For some species, our changes in the listing priority number reflect efforts to ensure national consistency as well as closer adherence to the 1983 guidelines in assigning these numbers, rather than a change in the nature of the threats.

Birds

Friendly ground-dove, American Samoa DPS (*Gallicolumba stairi stairi*)—The following summary is based on information contained in our files. 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. All six species have some level of threatened status on the International Union for Conservation of Nature and Natural Resources (IUCN) Red List. 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 morphological differences between the two are minimal.

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. Of the primary threats to the subspecies (predation by nonnative species, poaching, and habitat loss), predation by nonnative species is thought to be occurring now, and predation likely has been occurring for several decades. This predation may be an important impediment to increasing the population. Predation by introduced species has played a significant role in reducing, limiting, and extirpating populations of island birds, especially ground-nesters, 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 are feral cats (*Felis catus*), Polynesian rats (*Rattus exulans*), black rats (*R. rattus*), and Norway rats (*R. norvegicus*).

In February of 2005, a hurricane destroyed the habitat of *G. stairi* in an area on Olosega Island where the species had been most frequently recorded. Although this species has coexisted with severe storms for millennia, 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 of this taxon in American Samoa. The total population size is poorly known, but is unlikely to number more than a few hundred pairs. The distribution of the friendly ground-dove is limited to forested slopes with an open understory and a substrate of fine scree or exposed earth; this habitat is not common in American Samoa. We revised the listing priority number from a 3 to a 6 to better reflect the fact that the threats posed to the friendly ground-dove (its small population size and nonnative predators) are nonimminent but still may occur throughout its range.

Streaked horned lark (*Eremophila alpestris strigata*)—The following information is based on information contained in our files. No new information was provided in the petition received December 11, 2002. The streaked horned lark occurs in British Columbia (Canada), Washington State, and Oregon. The streaked horned lark nests on the ground in sparsely vegetated sites in short-grass dominated habitats, such as native prairies, coastal dunes, fallow agricultural fields, lightly to moderately grazed pastures, seasonal mudflats, airports, and dredged-material formed islands in the Columbia River. It is essentially extirpated from Canada. In Washington State, surveys show that there are approximately 380 remaining breeding birds (Pearson and Altman 2005). In Oregon, the breeding population is estimated to be approximately 400 birds.

The streaked horned lark's breeding habitat is threatened by loss and degradation due to conversion of native grasslands to other uses (such as agriculture, homes, recreational areas, and industry), encroachment of woody vegetation, and invasion of nonnative plant species (*e.g.*, Scot's broom and sod-forming grasses). Native prairies have been nearly eliminated throughout the range of the species. It is estimated that less than 1 to 3 percent of the native grassland and savanna remains. Those that remain have been invaded by nonnative sod-forming grasses. Coastal nesting areas have suffered the same fate. Wintering habitats are seemingly few, and susceptible to unpredictable conversion to unsuitable overwintering habitat. Where larks inhabit nonnative habitats similar in structure to native prairies (such as airports, military reservations, agricultural fields, and dredge formed islands), they are subjected to a variety of unintentional human disturbances such as mowing, recreational and military activities, plowing, flooding, and dredge spoil dumping during the nesting season, as well as intentional disturbances such as at the McChord AFB where falcons and dogs are used to haze the birds in order to avoid aircraft collisions. In some areas, landowners have taken steps to improve streaked horned lark nesting habitat.

The magnitude of threat is high due to small populations with low genetic diversity and patchy and isolated habitats in areas desirable for development. The threat of invasive plant species is high and constant. The numbers of individuals are low and the numbers of populations are few. Overwintering birds are concentrated in larger flocks and subject to unpredictable wintering habitat loss, potentially affecting a large portion of the population at one time. In Washington, known populations occur on airports and two military bases where management and training activities can negatively affect streaked horned lark breeding. In British Columbia, the one potentially remaining site with breeding birds occurs at an airport. The immediacy of threat is imminent, due to the continued loss of suitable lark habitat, risks to the wintering populations, plans for development on and adjacent to two of its nesting areas, use of falcons and dogs to haze breeding birds at McChord AFB, planned expansions of the McChord AFB west ramp and Olympia airport, the planned addition of 130 more helicopters at the Gray Army Airfield, and annual Air Force military training and fire bombing on top of lark nesting habitat. Because of the increased imminence of threats, we changed the listing priority number for the streaked horned lark from 6 to 3.

Reptiles

Black pine snake (*Pituophis melanoleucus lodingi*)— 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 two 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 species. Most of the known Mississippi populations are concentrated on the DeSoto National Forest. Populations occurring on properties managed by city and State agencies as gopher tortoise mitigation banks or wildlife management areas represent the best opportunities for long-term survival of the species in Alabama. Other factors affecting the black pine snake include vehicular mortality and low reproductive rates, which magnify other threats and increase the likelihood of local extinctions. Due to the imminent threat 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 a listing priority number of 3 to this subspecies. Although there is no actual change in threats over the past year, habitat loss represents an ongoing or imminent threat to the black pine snake. Therefore, to help ensure consistency in

the application of our listing priority process, we changed the listing priority number from a 6 to a 3 to reflect that the threats are imminent.

Louisiana pine snake (*Pituophis ruthveni*)—The Louisiana pine snake historically occurred in fire-maintained longleaf-pine ecosystems of west-central Louisiana and extreme east-central Texas. Louisiana pine snakes are closely associated with Baird's pocket gophers (*Geomys breviceps*) and make extensive use of their burrow systems for foraging, nocturnal and diurnal retreats, escape from predators and fire, and hibernation sites. Within some of the best remaining habitat in their historic range, Louisiana pine snakes have not been documented in over a decade. Results of Louisiana pine snake trapping and radiotelemetry surveys suggest that extensive population declines and local extirpations have occurred during the last 50 to 80 years.

Most of the historical longleaf pine habitat of the Louisiana pine snake has been destroyed, and the habitat quality of that which remains has been degraded due to logging, fire suppression, roadways, short-rotation silviculture, and grazing. Louisiana pine snake habitat loss is continuing, albeit at a slower rate than in the past. The best remaining Louisiana pine snake habitat occurs on lands where periodic burning has continued. Other factors affecting Louisiana pine snakes include low fecundity (reproductive output), which magnifies other threats and increases the likelihood of local extinctions, and vehicular mortality, which may significantly affect Louisiana pine snake population and community structure.

The Candidate Conservation Agreement for the Louisiana pine snake, a comprehensive and voluntary partnership encompassing all Federal lands where pine snake occurrences are known, was recently completed in order to protect known Louisiana pine snake populations and maintain the ecosystem upon which it depends. Several private landowners with known Louisiana pine snake populations are interested in joining that partnership or developing a similar one. The pro-active partnerships to address key management concerns and research needs are growing and these conservation efforts have reduced the magnitude of the threats from high to moderate. However, the primary threat from habitat loss continues and is, therefore, imminent. Thus, based on threats of moderate to low magnitude that are imminent, we have changed the listing priority number from a 5 to an 8.

Amphibians

Relict leopard frog (*Rana onca*)—This leopard frog was considered extinct since the 1950s, until it was rediscovered in two relatively small areas in southern Nevada and a spring in extreme northwestern Arizona. We estimate that the current distribution of the species is 10 to 20 percent of its historical distribution. Habitat conversion to agriculture, water diversions, habitat fragmentation such as construction of Hoover Dam and creation of Lake Mead and Lake Mojave, and introduction and establishment of nonnative predators and competitors are believed to be the primary causes of historical population declines and reduction in the range and distribution of the frog. Currently, the primary threats are low numbers of individuals and populations, nonnative predators and competitors, and the potential for water diversion or ground water pumping. A conservation agreement and strategy completed in 2005 will serve as the management plan for the species. As prescribed in the agreement and strategy, annual work plans will be developed and implemented to monitor threats and the status of the species as well as accomplish conservation actions for the species. The magnitude of existing threats is moderate, which we lowered from the previous determination of high magnitude in 2005. This change in magnitude is largely based on successful captive-rearing and translocation efforts. These threats remain nonimminent since there are no known projects or actions that would adversely affect frog populations or threaten surface water associated with known sites occupied by the frog. Thus, we changed the listing priority number from a 5 to an 11 for this species.

Fishes

Cumberland darter (*Etheostoma susanae*)—The following information is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This fish species is an approximately 3-inch member of the family Percidae that is endemic to the upper Cumberland River system (above Cumberland Falls) in Kentucky and Tennessee. Currently, the species is restricted to 16 headwater streams in Kentucky and 2 streams in Tennessee. Within these streams, the Cumberland darter inhabits low-velocity, shallow riffles and backwater areas of moderate- to low-gradient stream reaches with stable sand or sandy-gravel substrates. The primary threat to the species is siltation of instream habitats caused by coal mining activities, silvicultural practices, road construction, and urban development. Because the species is limited to only 18 known populations, the magnitude of threat for the species is high; these populations are isolated from one another by poor-quality habitat, impoundments, or natural barriers. The immediacy of threat is nonimminent because (1) Federal and State water quality laws have reduced water quality and habitat threats to some degree, (2) non-point pollution threats and modification of reach geomorphology and hydrology are cumulative and gradual, and (3) approximately 40 percent of watersheds supporting the species are provided habitat and water quality protection through Federal ownership (Daniel Boone National Forest). Consequently, we assigned a listing priority number of 5 to this species. This represents a change in the previous listing priority number, from 6 to 5, due to a change in taxonomic status for the species, not because of a change in threat magnitude or imminence. The Cumberland Johnny darter, E. nigrum susanae, was elevated to specific status (*E. susanae*, Cumberland darter) based on new molecular evidence showing that this subspecies has distinct mitochondrial DNA haplotypes not found in the Johnny darter, *E. nigrum nigrum*.

Rush darter (*Etheostoma phytophilum*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. This species is endemic to upland portions of the Black Warrior River system in Alabama where it occurs in shallow headwater streams. This species is uncommon and sporadic within its range, as it favors shallow, flowing water in spring runs and spring-associated streams with emergent vegetation. Only three disjunct populations are known: One in the Clear Creek system in Winston County, one in spring-fed tributaries of Turkey Creek in Jefferson County; and one population in Little Cove Creek (Cove Springs) in Etowah County.

The Jefferson County population (Turkey Creek), which is located in a large metropolitan area, is threatened by urbanization and commercialization of its habitat. Siltation from bridge, road, and sewer line construction has been recently documented within the Turkey Creek watershed by academic researchers and Service biologists. The major threat to the Winston County population of rush darters is erosion in Mill Creek, Doe Branch, and Wildcat Branch, and the cumulative increase of

sediments caused from gravel roads and roadside ditches. Within the past year, biologists have observed increased erosion along roads adjacent to Doe and Wildcat Branches which resulted in increased siltation within those streams. Increased urbanization, road maintenance and silviculture practices contribute to increased sedimentation in the watershed. The major threat to the Cove Springs population is contamination of the water with chlorine. Efforts are underway to improve habitat and water quality; however, at this time all populations are being negatively affected by declining water quality. The magnitude of threat is high due to the limited number of populations. We changed the listing priority from a 5 to a 2 based on the imminent threat; the threat is imminent because water quality is currently declining for all populations.

Clams

Altamaha spinymussel (*Elliptio spinosa*)—The following summary is based on information in our files. The Altamaha spinymussel is a freshwater mussel endemic to the Altamaha River drainage of southeastern Georgia. The historical range was restricted to the Coastal Plain portion of the Altamaha River and the lower portions of its three major tributaries, the Ohoopee, Ocmulgee, and Oconee Rivers. The species is associated with stable, coarse to fine sandy sediments of sandbars and sloughs and appears to be restricted to swiftly flowing water. The species appears to be extirpated from the Ohoopee and Oconee Rivers, and its numbers are greatly reduced in the Ocmulgee and Altamaha Rivers. Altamaha spinymussels face severe habitat degradation from a number of sources. Primary among these are threats from sedimentation and contaminants within the rivers that the Altamaha spinymussel inhabits. A new threat of deadhead logging has recently emerged. These threats to the Altamaha spinymussel are further compounded by its limited distribution and the low population size identified in recent survey efforts. Efforts to identify the host fish and expand our understanding of the spinymussels' life cycle have not produced results, attempts to investigate potential impacts caused by heavy metals have not received funding, a survey conducted in 2004 in the Ocmulgee found no spinymussels, and deadhead logging presents an added threat. Consequently, we now consider the threats to be imminent and have changed the listing priority number from a 5 to a 2 for this species.

Insects

Wekiu bug (*Nysius wekiuicola*)—The wekiu bug belongs to the true bug family, Lygaeidae, and is endemic to the island of Hawaii. This species only occurs on the summit of Mauna Kea and feeds upon other insect species which are blown to the summit of this large volcano. The wekiu bug is primarily threatened by the loss of its habitat from astronomy development. In 2004 and early 2005, surveys were conducted that found multiple new locations of the wekiu bug on Mauna Kea summit. Several of these cinder cones within the Mauna Kea Science Reserve, as well as two other cinder cones located in the State Ice Age Natural Area Reserve, are not currently undergoing development nor is development planned. With the discovery of these new locations, the threats, though ongoing, do not occur across the entire range of the wekiu bug. The immediacy of the threats is imminent in some part of the weiku bug's range because ongoing development is occurring in the Keck Observatory Outrigger telescope project area. This development will establish six new interferometry telescopes around the existing Keck facility. A mitigation plan is in place that will require a 3:1 replacement of damaged habitat. However, the effectiveness of this mitigation is untested and unknown. Although the threats are ongoing in some areas of wekiu bug habitat, the recent discoveries of new locations of the wekiu bug in areas that are not subject to the primary threat of astronomy development reduces the magnitude of the threat from high to moderate. Therefore, we are changing the listing priority number for this species from a 2 to an 8.

Crustaceans

Anchialine pool shrimp (*Vetericaris chaceorum*)—*Vetericaris chaceorum* is an anchialine pool-inhabiting species of shrimp belonging to the family, Procarididae; it is the only species in its genus. This species is endemic to the Hawaiian Islands and is only known from one population in a single pool on the island of Hawaii. There are two primary threats to this species. First, fish do not naturally occur in the pool inhabited by the species, and it would be highly vulnerable to predation by any intentionally or accidentally introduced fish. Anchialine pools have been used to discard or hold bait-fish and/or aquarium fish. Second, the species is vulnerable to habitat loss due to degradation by dumping or fill, or recreational activities. This activity has occurred in the past but this pool now lies within lands administered by the State of Hawaii Department of Hawaiian Home Lands. There are no conservation efforts underway to eliminate the potential for any of these threats. The magnitude of threats remains high because of the devastating effect that realization of these threats could have on the species because of its restriction to a single pool. However, we changed the listing priority number for this species from a 1 to a 4 because the threats are nonimminent: Fish have not been introduced into the pool (nor is there any reason to believe that introduction is imminent) and a site visit in early 2005 showed there were no signs of dumping or fill.

Anchialine pool shrimp (*Metabetaeus lohena*)—*Metabetaeus lohena* is an anchialine pool inhabiting species of shrimp belonging to the family Alpheidae. This species is endemic to the Hawaiian Islands and is currently known from populations on the islands of Oahu, Maui, and Hawaii. The primary threats to this species are predation by fish (which do not naturally occur in the pools inhabited by this species) and habitat loss from degradation. The pools where this species occurs on Maui and Hawaii are located within State Natural Area Reserves (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 are extensive and happen quickly. Therefore, threats to this species are of a high magnitude. However, we now consider the threat of predation from fish to be nonimminent because no fish were observed during the surveys conducted in the NARs for this shrimp in 2004 and no recent habitat degradation has occurred. In addition, no nonnative fish were observed during several site visits to the Oahu location in 2005. Therefore, we changed the listing priority number of this species from a 2 to a 5.

Anchialine pool shrimp (*Palaemonella burnsi*)—*Palaemonella burnsi* is an anchialine pool inhabiting species of shrimp belonging to the family, Palaemonidae. This species is endemic to the Hawaiian Islands and is currently known from three populations on the island of Maui and one population on the island of Hawaii. The primary threats to this species are predation by fish (which do not naturally occur in the pools inhabited by this species) and habitat loss due to degradation. The pools where this species occurs 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 National Park and collection and disturbance are also prohibited. However, enforcement of these prohibitions is difficult, and the negative effects from the introduction of fish are extensive and happen quickly. Therefore, threats to this species are of high magnitude. However, we no longer consider the threats to be imminent, because during a 2004 survey no fish were observed in the pools where these shrimp occur on Maui or the island of Hawaii and there was no evidence of recent habitat degradation. Therefore, the threats of predation from fish and habitat degradation are nonimminent, and consequently we changed the listing priority number of this species from a 2 to a 5.

Anchialine pool shrimp (*Procaris hawaiana*)—*Procaris hawaiana* is an anchialine pool inhabiting species of shrimp belonging to the family, Procarididae. This species is endemic to the Hawaiian Islands and is currently known from two populations on the island of Maui and one population on the island of Hawaii. The primary threats to this species are predation from fish (which do not naturally occur in the pools inhabited by this species) and habitat loss due to degradation. The pools where this species occurs 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. However, enforcement of these prohibitions is difficult and the negative effects from the introduction of fish are extensive and happen quickly. There are no conservation efforts underway to alleviate the potential for any of these threats in the one pool on the island of Hawaii. Therefore, threats to this species remain at high magnitude. However, we no longer consider the threats to be imminent because, during a 2004 survey, no fish were observed in the pools where these shrimp occur on Maui or the island of Hawaii. In addition, there were no signs of dumping or fill on a site visit to the location on the island of Hawaii in early 2005. Therefore, we changed the listing priority number of this species from a 2 to a 5.

Flowering plants

Abronia alpina (Ramshaw Meadows sand-verbena)—*Abronia alpina* is a small perennial herb, 2.5 to 15.2 centimeters (1 to 6 inches) across forming compact mats with lavender-pink, trumpet-shaped, and generally fragment flowers. *Abronia alpina* is known from one main population center in Ramshaw Meadow on the Kern Plateau of the Sierra Nevada, California and from one subpopulation found in adjacent Templeton Meadow. The total estimated area occupied is approximately 6 hectares (15 acres). Population estimates from 1985–1994 range from a low of 69,652 plants in 1986 to 132,215 plants in 1987. Surveys conducted since 1994 indicate that no significant changes have occurred in population size or location, although, the 2003 survey showed population numbers to be at the low end of the range. The population fluctuates from year to year without any clear trends.

The major threats facing *A. alpina* include habitat disturbance and trampling from incidental livestock trailing, pack animals, and hikers; campsite development; and erosion associated with such disturbances. An additional threat is encroachment of lodgepole pine into areas occupied by the species. Lodgepole pine encroachment has altered the meadow and becoming established within *A. alpina* habitat. 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 Ramshaw Meadow ecosystem is subject to alteration by lowering of the water table due to downcutting of the South Fork of the Kern River (SFKR). The SFKR flows through Ramshaw Meadow, at times coming within 15 meters (50 feet) of *A. alpina* habitat, particularly in the vicinity of five subpopulations. The habitat occupied by *A. alpina* directly borders the meadow system supported by the SFKR. Drying out of the meadow system could affect *A. alpina* pollinators and/or seed dispersal agents. Established hiker, packstock, and cattle trails pass through *A. alpina* subpopulations. Two main hiker trails pass through Ramshaw Meadow, but were rerouted out of *A. alpina* subpopulations where feasible, in 1988 and 1997. Remnants of cattle trails that pass through subpopulations in several places receive occasional incidental use by horses and sometimes hikers. In 2001, the U.S. Forest Service discontinued grazing on the Templeton allotment, which includes Ramshaw Meadow, for a period of 10 years. Consequently, livestock grazing does not currently occur in the two meadow areas where the species is found. However, the Forest Service could change their decision when the 10-year period ends and livestock grazing within *A. alpina* habitat may resume. To ensure consistency in our interpretation of the imminence of threats, we revised the listing priority for *A. alpina* from an 11 to an 8 to reflect the fact that most of these moderate threats are imminent.

Arabis georgiana (Georgia rockcress)—The Georgia rockcress grows in a variety of dry situations, including shallow soil accumulations on rocky bluffs, ecotones of gently sloping rock outcrops, and in sandy loam along eroding river banks. It is occasionally found in adjacent mesic woods, but it will not persist in heavily shaded conditions. Currently a total of 18 populations are known from the Gulf Coastal Plain, Piedmont, and Ridge and Valley physiographic provinces of Alabama and Georgia. Populations of this species typically have a limited number of individuals over a small area.

Habitat degradation, more than outright habitat destruction, is the most serious threat to this species' continued existence. Disturbance associated with timber harvesting, road building, and grazing has created favorable conditions for the invasion of nonnative weeds, especially Japanese honeysuckle (*Lonicera japonica*), in this species' habitat. Eight populations are currently or potentially threatened by the presence of nonnative plants. The heritage programs in Alabama and Georgia have initiated plans for exotic control at several populations. The magnitude of threats to this species is moderate to low due to the number of populations (18) across multiple counties in two states and the insidious nature of the threats. However, since a number of the populations are currently being impacted by nonnative plants, we now consider the threats to be imminent. Thus, we changed the listing priority number from an 11 to an 8 for this species.

Astralagus toritpes (Sleeping Ute milkvetch)—The following information is based on information contained in our files. 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 64,000 acres. Available information from 2000 indicates that the species remains stable. 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 in the past and are potential future threats. Off-highway vehicle use of the habitat is reportedly increasing but we do not have direct evidence of this. Oil and gas development is active in the general area, but we have received no information from the tribe to indicate whether there is development within the habitat for the plants on their land. Because the threats are nonimminent, we changed the listing priority number for Sleeping Ute milkvetch from 8 to 11.

Bidens campylotheca ssp. *waihoiensis* (Kookoolau)—The following information is based on information contained in our files. Kookoolau is an erect, perennial found in wet *Acacia-Metrosideros* (koa-ohia) forest on Maui, Hawaii. *Bidens campylotheca* ssp. *waihoiensis* is known from one population of 200 individuals. It is threatened by cattle, which eat this plant, and degrade and destroy habitat. The area in which all individuals of this subspecies are currently found is fenced and cattle have been removed. The threats remain of high magnitude, but predation, and habitat degradation and destruction by feral cattle are no longer imminent because they are not currently occurring. Therefore, we have changed the listing priority number for this species from 3 to 6.

Castilleja christii (Christ's paintbrush)—The following information is based on information contained in our files. This species of paintbrush is found in one population on the summit of Mount Harrison in Cassia County, Idaho. This endemic species is considered a hemiparasite and it grows in association with subalpine meadow and sagebrush habitats. The population found on 85 ha (220 ac) may be large in number (greater than 10,000 individual plants), but, current population estimates are not available. Monitoring indicates that reproductive stems per plant and plant density have decreased significantly since 1995. Although these trends were upward between 2004 and 2005, it is not known if that trend will continue. The habitat on Mount Harrison is bisected by several roads, has been until recently utilized by unauthorized livestock, and is subject to a high degree of recreational use. However, these threats occur seasonally during the growing season, in late-spring and summer periods, and they are currently being controlled by the U.S. Forest Service with fencing, rock barriers, and interpretative signs. The largest threat to the species is from nonnative invasive plants, the majority of which are smooth brome (*Bromus inermis*). The smooth brome infestation was treated in 2003, 2004, and 2005 by the U.S. Forest Service. The success of treating smooth brome that was present in 13.6 percent of the range of *C. christii* in 2005 will not be known immediately, although there is a commitment in a recently signed Conservation Agreement by the U.S. Forest Service and U.S. Fish and Wildlife Service to continue these efforts until they are successful or for the next 10 years. The magnitude of the threats with these conservation measures appears low at this time. However, the smooth brome continues to threaten the habitat for *C. christii* despite control efforts. Plant monitoring transects still contained significant densities of smooth brome following the eradication efforts in 2005. This threat from smooth brome is imminent because this threat still persists in levels that affect the native plant community that provides habitat for *C. christii*. Thus, we changed the listing priority number from an 11 to an 8 for this species since the threats are imminent.

Chamaesyce deltoidea pinetorum (Pineland sandmat)—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 largest population of the pineland sandmat, estimated at approximately 10,000 plants, is located on Long Pine Key within Everglades National Park. All other populations of the pineland sandmat are smaller and occur on isolated pine rockland fragments in heavily urbanized Miami-Dade County. Those populations on private lands are at risk from development and habitat degradation. Populations on most public and private lands in urban Miami-Dade County are inherently vulnerable to invasion by exotic plants, fire suppression or inadequate prescribed fire, and limited management. Overall, the magnitude of threats to this species is moderate since by applying regular prescribed fire, the National Park Service has kept Long Pine Key's pineland vegetation intact and relatively free of exotic pest plants. In addition, after a thorough review of the status and threats to the pineland sandmat, we determined that the threats are non-imminent. Therefore, we changed the listing priority number from a 9 to a 12 for this subspecies.

Erigeron lemmonii (Lemmon fleabane)—The following summary is based on information contained in our files and the petition received in July of 1975. The species is known from one site in a canyon in the Fort Huachuca Military Reservation of southeastern Arizona. As of 1991, approximately 400 plants were known from this site. No formal surveys have been done since that time, but the population seemed stable throughout the 1990s. The threats to this species are from catastrophic wildfire in the canyon and on-going drought conditions. We do not know if this species has any adaptations to fire. Due to its location on cliffs, we suspect that fires that may have occurred at more regular intervals and burned at low intensities may have had little to no effect on this species. It is due only to lack of fire and the accumulated fuel load that the fire intensity and associated heat may be high enough to damage or kill plants on adjacent cliffs, especially near the ground. On the other hand, the plants that are much higher on the cliff face would probably not be affected. Ft. Huachuca has indicated a willingness to develop a conservation agreement for this species. We now consider the magnitude of threats to be moderate rather than high because we believe that not all of the population would be adversely affected by a wildfire or drought. The threats are still imminent because the likelihood of a fire is high. Therefore, we changed the listing priority number from a 5 to an 8 due to moderate, imminent threats.

Geranium hanaense (Nohoanu)—This species is a decumbent shrub found in bogs on Maui, Hawaii. This species is known from one population with 300 to 500 individuals. *Geranium hanaense* is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. However, feral pigs have been fenced out of and removed from both bogs in which this species currently occurs, and a control program has reduced nonnative plants in all fenced areas. This changes the immediacy of the threats form imminent to nonimminent. Therefore, we have changed the listing priority number for this species from 2 to 5.

Geranium kauaiense (Nohoanu)—Nohoanu is a decumbent subshrub found in bogs and bog margins on Kauai, Hawaii. This species is known from three populations totaling 100 to 200 individuals in the Alakai Swamp area. *Geranium kauaiense* is threatened by pigs that directly prey upon it, degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of the three bogs where *G. kauaiense* currently occurs, and nonnative plants have been greatly reduced in all three fenced bogs, and are not found in the immediate vicinity of any *G. kauaiense* individuals. Because these threats are of high magnitude but no longer are imminent, we have changed the listing priority number from 2 to 5.

Pediocactus peeblesianus var. *fickeiseniae* (Fickeisen plains cactus) '' The Fickeisen plains cactus is a small cactus known from the Gray Mountain vicinity to the Arizona strip in Coconino and Mohave Counties, Arizona. The cactus grows on exposed layers of Kaibab limestone on canyon margins and well-drained hills in Navajoan desert or grassland. In 1999, the Arizona Game and Fish Department noted 23 occurrences for the species, including historical ones. The species is located on BLM, Forest Service, tribal, and possibly State lands. Recent reports from the BLM and Navajo Nation describe populations of the species as being in decline. The main human-induced threats to this cactus are off-road vehicles and trampling associated with livestock grazing. Monitoring data has detected mortality associated with livestock grazing. Illegal collection of this species has been noted in the past, but we do not know if it is a continuing threat. The populations that have been monitored have been affected, in part, by the continuing drought. There has been very low recruitment and rabbits and rodents have consumed adult plants since there is reduced forage available during these dry conditions. In our prior assessments, we concluded that threats were not imminent. However, using a consistent interpretation of imminence related to whether threats are on-going, we are correcting our ranking to reflect that the threats are imminent. As a result, we changed the LPN for this plant variety from a 6 to a 3.

Potentilla basaltica (Soldier Meadow cinquefoil or basalt cinquefoil)—Soldier Meadow cinquefoil is a low growing, rhizomatous, herbaceous perennial that is associated with alkali meadows, seeps, and occasionally marsh habitats bordering perennial thermal springs, outflows, and meadow depressions. In Humboldt County, Nevada, the species is known only from Soldier Meadow, which is located at the northern extreme of the western arm of the Black Rock Desert in the transition zone between the Basin and Range Physiographic Province and the Columbia Plateau Province. In northeastern California, the species is known from Ash Valley near Ash Creek in Lassen County. In Nevada, Soldier Meadow cinquefoil has been documented from 10 discrete occurrences within an area of about 70 acres that supports about 130,000 individuals. The California population occupies less than an acre on private lands and supports fewer than 1,000 plants.

The species and its habitat are threatened by increasing recreational use in the areas where it occurs as well as historic livestock grazing and activities associated with the use of authorized and unauthorized roads. Conservation measures implemented recently by the Bureau of Land Management include the installation of fencing to exclude livestock wild horses, burros and other large mammals; closing of access roads to spring, riparian, and wetland areas and the limiting of vehicles to designated routes; the establishment of a designated campground away from the habitats of sensitive species; the installation of educational signage and, an increased staff presence, including law enforcement and a volunteer site steward during the six-month period of peak visitor use. These conservation measures have reduced the magnitude of threat to the species from high to moderate; all remaining threats are nonimminent and involve long-term changes to the habitat for the species resulting from past impacts. In consideration of these conservation measures, we lowered the listing priority number from 5 to 11.

Other Taxonomic Changes in Candidates

Flowering Plants

Physaria tuplashensis, (White Bluffs bladder-pod)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. This species is in the Cruciferae (Mustard family). Historically and currently, White Bluffs bladder-pod has only been known from a single population that occurs along the White Bluffs of the Columbia River in Franklin County, Washington. *Physaria tuplashensis* was originally described as *Lesquerella tuplashensis* in 1996, which is the name we have used for it in prior CNORs. In 2002, there was a suggestion that the *Lesquerella* and *Physaria* genera should be united as *Physaria*, and that *L. tuplashensis* should be reduced to *P. douglasii* subspecies *tuplashensis*. A recent study (2005) recommended accepting the new genus name of *Physaria* and, supported by metamorphic work, proposed retaining full species status for the taxon, and a new nomenclature: *Physaria tuplashensis*. We recognize this new nomenclature in this notice. There are no changes in the magnitude or imminence of threats to the taxon, so we continue to assign a listing priority number of 5 to this species.

Candidate Removals

As summarized below, we have evaluated the threats to the following 10 species and considered factors that, individually and in combination, presently or potentially could pose a risk to these species and their habitat. After a review of the best available scientific and commercial data, we conclude that listing these 10 species under the Endangered Species Act is not warranted because the species are not likely to become endangered species within the foreseeable future throughout all or a significant portion of their range. Therefore, we find that proposing a rule to list these species is not warranted, and 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 this determination in the event that new information indicates that the threats to these species are of a considerably greater magnitude or imminence than identified through assessments of information in our files, as summarized here. The summary below also notes four other species for which we published separate findings removing them from candidate status since the most recent CNOR.

Birds

Many-colored fruit-dove (*Ptilinopus perousii perousii*)—The following summary is based on information contained in our files. *P. p. perousii*, is found in American Samoa on the four main islands of Tutuila, Olosega, Ofu, and Tau, and in Independent Samoa. It is primarily associated with mature rainforest habitat. The many-colored fruit-dove is highly mobile and may travel large distances, presumably in search of fruiting banyans (*Ficus prolixa* and *F. obliqua*). The American Samoa population of *P. p. perousii* is the only population of this subspecies under U.S. jurisdiction. The primary threats we recognized in the past are its small population size, stochastic natural disturbances such as hurricanes, the accidental introduction of new pathogens or parasites, and possibly predation by introduced mammalian predators. We previously assigned a listing priority number of 12 to this taxon, reflecting threats that we determined were of low magnitude and not imminent. Five years of monitoring documented an increase in the relative abundance of the subspecies prior to Hurricane Heta in January of 2004 and Hurricane Olaf in February 2005. The upward trend has been stalled by these severe storms, but continued monitoring should indicate whether (as we expect) effects of the 2004 and 2005 hurricanes have caused a temporary, but natural,

interruption in the trend of increase, or whether hurricane effects have reversed this trend. Avian malaria, once thought to possibly pose a threat to this subspecies, likely is not pathogenic in Samoa. The stable distribution of the subspecies and recent documented increase in relative abundance in American Samoa suggest that the threats summarized above currently are not having a detrimental effect on the subspecies' overall population, and it is unlikely to become endangered within the foreseeable future. Therefore, listing is not warranted.

Gunnison sage-grouse (*Centrocercus minimus*)—*See* separate revised 12-month petition finding published in the **Federal Register** on April 18, 2006 (71 FR 19953).

Reptiles

Cagle's map turtle (*Graptemys caglei*)—The following information is based on information contained in our files, including information from the petition received April 26, 1991. Cagle's map turtle occurs in scattered sites in seven counties in Texas on the Guadalupe, San Marcos, and Blanco Rivers. We previously identified loss and degradation of riverine habitat from large and small impoundments (dams or reservoirs) as the primary threat to the Cagle's map turtle. One effect of impoundment is the loss of riffle and riffle/pool transition areas used by males for foraging. Depending on its size, a dam itself may be a partial or complete barrier to Cagle's map turtle movement and could fragment populations. In the past, construction of smaller impoundments and human activities on the rivers known to be occupied by the Cagle's map turtle have likely eliminated or reduced foraging and basking habitats. Currently, there are no firm plans for reservoirs in the Guadalupe-San Antonio River System. Cagle's map turtle is also vulnerable to overcollecting and target shooting but actions taken by Texas Parks and Wildlife Department (TPWD) have increased protection of the species against collecting and shooting. Cagle's map turtle was listed as threatened by TPWD, effective November 16, 2000, and TPWD regulations prohibit the taking, possession, transportation, or sale of any of the animal species designated by state law as endangered or threatened without the issuance of a permit. Estimates of population numbers of the species in the Guadalupe and San Marcos Rivers in 1991 and 2001 indicates an overall population increase, although estimated populations at some sites declined. Because of stable population size, increased protection, and no foreseeable threats from reservoir construction, we find that listing Cagle's map turtle is not warranted.

Amphibians

Boreal toad (Southern Rocky Mountains DPS) (*Bufo boreas boreas*)—*see* separate revised 12-month petition finding published in the **Federal Register** on September 29, 2005 (70 FR 56880).

Insects

Lesser Adams Cave beetle (*Pseudanophthalmus cataryctos* Krekeler) and Greater Adams Cave beetle (*P. pholeter* Krekeler)—*see* **Federal Register** notice published on December 8, 2005 (70 FR 72973).

Po'olanui gall fly (*Phaeogramma* sp.)—Because there is no published name or description for this fly, this taxa is not considered valid and does not meet the Act's definition of a species and is not eligible for listing. Therefore, we find that listing is not warranted.

Crustaceans

Anchialine pool shrimp (*Antecaridina lauensis*)—This species has a disjunct, Indo-Pacific distribution. It has been reported from the Fiji Islands, Mozambique Channel (Madagascar), the Red Sea-Dahlak, Ryukyu and Daito Islands (Japan), the Solomon Islands and the Hawaiian Islands. In Hawaii, *A. lauensis* is known from two pool groups on Maui (Ahihi-Kinau State Natural Area Reserve) and two pools on the southern end of the island of Hawaii (Lua o Palahemo, and one on private land). Like other anchialine pool shrimp species, it is believed that this species inhabits an extensive network of water-filled interstitial spaces (cracks and crevices) leading to and from the actual pool, and this trait has precluded researchers from obtaining population size estimates during surveys for the species. In Lua o Palahemo on the island of Hawaii, *A. lauensis* co-occurs with two other candidate species of anchialine pool shrimp, *Procaris hawaiana* and *Vetericaris chaceorum*, and with *Calliasmata pholidota* (see below).

Although we have information on the threats to the population in Hawaii, population numbers and threats to the species where it occurs elsewhere in the world are unknown. We find that listing is not warranted because there is insufficient information on the species' status throughout its range to determine whether it warrants protection under the Act. We are unable to consider listing the Hawaii population as a distinct population segment since this animal is not a vertebrate.

Anchialine pool shrimp (*Calliasmata pholidota*) '' This species has a disjunct, Indo-Pacific distribution. It has been reported from the Red Sea-Sinai Peninsula, Funafuti Atoll (Ellice Islands), and the Hawaiian Islands of Maui and Hawaii. On the island of Hawaii, *C. pholidota* occurs in one pool at Ka Lae (South Point) at Lua o Palahemo and in one pool group in the Manuka Natural Area Reserve (NAR). On Maui, *C. pholidota* is found in four pool groups in the Ahihi-Kinau NAR. At Lua o Palahemo, *C. pholidota* co-occurs with two other candidate species of anchialine pool shrimp, *Procaris hawaiana* and *Vetericaris chaceorum*, and with *Antecaridina lauensis* (see above). Like other anchialine pool shrimp species, it is believed that this species inhabits an extensive network of water-filled interstitial spaces (cracks and crevices) leading to and from the actual pool, and this trait has precluded researchers from obtaining more accurate population size estimates during surveys for the species. Worldwide species status information, including population numbers and threats to the species outside the U.S. is unknown. We find that listing is not warranted because there is insufficient information on the species status throughout its range to determine whether this species warrants protection under the Act. We are unable to consider listing the Hawaii population as a distinct population segment since this animal is not a vertebrate.

Flowering Plants

Aliciella cespitosa (= *Gilia caespitosa*) (wonderland alice-flower or Rabbit Valley gilia)—The wonderland alice-flower (also known as Rabbit Valley gilia) is a plant within the Phlox family found in Wayne County, Utah. The species is primarily associated with sand-filled pockets and crevices of Navajo Sandstone on slopes having mechanical weathering or erosion of rock in pinyon-juniper/mountain mahogany vegetation communities between 5,200 and 9,000 feet in elevation.

This species occurs in more sites and is much more abundant than was initially thought. In 1996 we knew of 6 population areas with an estimated total of 5,000 plants. However, increased surveys from 2000 to 2003 identified 50 known sites at the 6 population areas, with an estimated 25,350 individual plants. For the past several years our assessments of this species concluded that threats were moderate to low and were nonimminent, and we assigned it

a listing priority number of 11. We identified potential collection of plants and seeds as a significant threat. However, we have no evidence that collection is occurring, or if it is occurring that it is impacting the overall status of the species. We also have no information to suggest that collection in the future is likely to put populations at risk at any of the sites currently known to be occupied. Other threats we identified included impacts associated with recreational trails, off-road vehicle use, livestock trampling, and low natural recruitment. Although some of these threats are ongoing, they are localized, and appear to have little impact. The majority of sites are not easily accessible, and the factors that currently or potential could impact individuals have not been shown to affect the species rangewide, nor do we expect that to become the case. In addition, a Conservation Agreement and Strategy, signed in 1996 and currently being updated, promotes continued cooperation among the agencies and helps to direct a variety of conservation actions, including: Inventory remaining suitable habitats; identify research needs and conduct studies; refine monitoring protocols; continue monitoring; implement land management policies and regulations for protection of Navajo endemic plant species; and continue to pursue public awareness opportunities. Based on our updated assessment, we find that listing this species is not warranted.

Astragalus equisolensis (horseshoe milkvetch)—Horseshoe milkvetch is a plant in the pea family and is found on the Duchesne River Formation in Uintah county, Utah and Mesa county, Colorado. It is associated with mixed desert and salt desert shrub vegetation communities that are generally dominated by sagebrush, shadscale and horsebrush. Surveys in 1992 estimated the population at 10,000 in Utah and there is no recent information indicating it has declined; the Colorado population is a recent discovery. The only potential threat of substance is from future energy development, but that does not threaten the species through most of its range. Based on available information, including the recent discovery of the species in Colorado and an apparent low level of potential threat, we do not have sufficient information to justify a determination that the species should be proposed for listing. Therefore, we find that listing this species is not warranted.

Castilleja aquariensis (Aquarius paintbrush)—The Aquarius paintbrush is a plant in the figwort family found only on the Aquarius plateau of south central Utah. Habitat characteristics are meadow openings and open spruce-fir stands. A recent survey conducted in 2004 and 2005 counted 74,100 individuals, a much higher number than earlier estimates. Factors affecting the species include off-road vehicle use; wildlife and livestock grazing; predation by pocket gophers, aphids, crickets and grasshoppers; and low precipitation. However, we do not have any evidence that these factors are a significant threat to population levels. Therefore, we find that listing the species is not warranted.

Paronychia congesta (Bushy whitlow-wort)—Bushy whitlow-wort is endemic to Jim Hogg County, Texas, known from only two populations that occur within the drainage of two tributaries of the Arroyo Grande. Historically, this species was documented only from the type locality with 2,000 individual plants counted. A second small population of 100 individuals was found two miles north-northeast of the type locality in 1987. The two known populations occur on small areas that cover approximately 5 and 15 acres. Little quantitative data have been collected for this species, therefore we do not know whether populations have expanded or contracted. The sparse information that is available suggests the current range and distribution of the species has not changed from the historical description. The types of factors believed to potentially adversely affect this species include destruction, modification, and fragmentation of the habitat, as well as eradication of individual plants. However, conversion of rangeland to residential development is not considered a significant threat since this part of southern Texas is not undergoing rapid residential or industrial development. The extent of alteration of the whitlow-wort's habitat via conversion of native brush to nonnative forage grasses is unknown since all of its habitat is privately owned and not accessible. Other potential threats include displacement or destruction of individual plants by construction activities associated with highways, pipeline installation, oil and gas exploration, well-pad construction and right-of-way maintenance. However, we do not have any information on the likely implementation of these potential activities and no ongoing imminent threats have been identified for this species. We have determined that listing is not warranted because insufficient information exists on biological vulnerability and threats to support a proposal to list this species.

Sidalcea hickmanii parishii (Parish's checkerbloom)—Parish's checkerbloom is an herbaceous perennial plant in the mallow family (Malvaceae), with multiple stems emerging annually from a woody root crown. It most commonly appears following fires, apparently having evolved to rapidly take advantage of unvegetated openings in forest or chaparral. Most historic collections, and all currently known populations, are known from open areas along roads, trails, firebreaks, small landslides, or in recently burned areas. All known populations are on USDA Forest Service lands. Parish's checkerbloom has been collected from San Bernardino, Santa Barbara, and San Luis Obispo Counties, California. Its distribution in San Bernardino County appears to be particularly restricted, although the vagueness of historical location information and the plant's emergence primarily following fire make it difficult to accurately assess its distribution. The discovery of a new, albeit small, population found on the desert-facing slopes of the San Bernardino Mountains in 2000 suggests that habitat not previously considered suitable may in fact be so.

Threats identified for this taxon fall into two groups—those that negatively affect individual or small groups of plants (the ''expressed'' portions of what may be larger populations in seedbanks), and those that have the potential to substantially alter a large area of surrounding habitat or damage any unexpressed seedbanks that may occur in surrounding soils. Activities in the former group include livestock grazing on individual plants along roads and grading of existing roads. Those in the later group include altered fire regimes (*e.g.* aggressive fire suppression, prescribed burning in winter or spring), post-fire livestock grazing, development or expansion of roads and facilities (*e.g.* recreational, military communication facilities, or development of private inholdings), and invasion by nonnative species. The southern portion of this taxon's range, in San Bernardino County, is most vulnerable to these activities due to its more restricted distribution there, its closer proximity to human population centers, and the area's greater recreational use.

Review of recent information indicates the number of populations located is greater and the known range of the taxon is larger than we previously understood. Also, our conclusion regarding the magnitude and the immediacy of the threats has shifted with the additional information we have about the species. We considered the magnitude of threats to individuals, as well as habitat with unexpressed seedbank, was greater when we only knew of 3 small extant locations for the species as compared to now, when we

are aware of 5 extant locations, including 1 with a large population. We also considered the immediacy of the threats to be greater when we only knew of 3 small extant locations for the species. For some human-caused activities, such as road grading and construction of fire breaks, we have had the opportunity to observe that these activities most likely caused the expression of a portion of the seedbank, in a sense providing some of the same habitat conditions that are provided by wildfire (removal of litter, scarification of seed). This suggests that at least certain human activities can be altered (such as in timing of grading) so that they will not negatively impact the species. Although there is great uncertainty regarding how and to what extent future wildfires may release the seedbank of this species, we do not believe that the threat from lack of fires or any human-caused activities are imminent (as compared to a known threat from a planned activity with a definite timeline, such as a housing development) or substantial. Therefore, we find that listing is not warranted.

Petition Findings

The Act provides two mechanisms for considering species for listing. One method allows the Secretary, on his own initiative, to identify species for listing under the standards of section 4(a)(1). We implement this 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. Under section 4(b)(3)(A), when we receive such a petition, we must determine within 90 days, to the maximum extent practicable, whether the petition presents substantial information 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, section 4(b)(5) and 4(b)(6) govern further procedures regardless of whether we issued the proposal in response to a petition); or

3. The petitioned action is warranted but that (a) the immediate proposal of a regulation and final promulgation of regulation implementing the petitioned action is precluded by pending proposals, and (b) expeditious progress is being made to add qualified species to the lists of endangered or threatened species. (We refer to this as a ''warranted-but-precluded finding.'')

Section 4(b)(3)(C) of the Act 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 are required to publish new 12-month findings on these ''resubmitted'' petitions on an annual basis.

On December 5, 1996, we made a final decision to redefine ''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 6, 1996). Therefore, 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.

This publication also provides notice of substantial 90-day findings and the warranted-but-precluded 12-month findings pursuant to section 4(b)(3) for candidate species listed on Table 1 that we identified on our own initiative, and that subsequently have been the subject of a petition to list. Even though all candidate species identified through our own initiative already have received the equivalent of substantial 90-day and warranted-but-precluded 12-month findings, we reviewed the status of the newly petitioned candidate species and through this CNOR are publishing 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.

Pursuant to section 4(b)(3)(C)(i) of the Act, once a petition is filed regarding a candidate species, we must make a 12-month petition finding in compliance with section 4(b)(3)(B) of the Act at least once a year, until we publish a proposal to list the species or make a final not-warranted finding. We make this annual finding for petitioned candidate species through the CNOR.

Section 4(b)(3)(C)(iii) of the Act 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, whether it was identified through our own initiative or through the petition process, we will make prompt use of the emergency listing authority under section 4(b)(7). 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 also constitute the Service's annual finding on the status of petitioned species pursuant to section 4(b)(3)(C)(i).

On June 20, 2001, the United States Court of Appeals for the Ninth Circuit held that the 1999 CNOR (64 FR 57534, October 25, 1999) did not demonstrate that we fulfilled the second component of the warranted-but-precluded 12-month petition findings for the Gila chub and Chiracahua leopard frog (*Center for Biological Diversity* v. *Norton*, 254 F.3d 833 (9th Cir. 2001)). The court found that the one-line designation in the table of candidates in the 1999 CNOR, with no further explanation, did not satisfy section 4(b)(3)(B)(iii)'s requirement that the Service publish a finding ''together with a description and evaluation of the reasons and data on which the finding is based.'' The court suggested that this one-line statement of candidate status also precluded meaningful judicial review.

On June 21, 2004, the United States District Court for Oregon agreed that we can use the CNOR as a vehicle for making petition findings and that our reasoning for why listing is precluded does not need to be based on an assessment at a regional level (as opposed to a national level) (*Center for Biological Diversity* v. *Norton* Civ. No. 03–1111–AA (D. Or.)). However, this court found that our discussion on why listing the candidate species were precluded by other actions lacked

specificity; in the list of species that were the subject of listing actions that precluded us from proposing to list candidate species, we did not state the specific action at issue for each species in the list and we did not indicate which actions were court-ordered.

On June 22, 2004, in a similar case, the United States District Court for the Eastern District of California also concluded that our determination of preclusion may appropriately be based on a national analysis (*Center for Biological Diversity* v. *Norton* No. CV S–03–1758 GEB/DAD (E.D. Cal.)). This court also found that the Act's imperative that listing decisions be based solely on science applies only to the determination about whether listing is warranted, not the question of when listing is precluded.

On March 24, 2005, the United States District Court for the District of Columbia held that we may not consider critical habitat activities in justifying our inability to list candidate species, requiring that we justify both our preclusion findings and our demonstration of expeditious progress by reference to listing proceedings for unlisted species (*California Native Plant Society* v. *Norton*, Civ. No. 03–1540 (JR) (D.D.C.)). The court further found that we must adequately itemize priority listings, explain why certain species are of high priority, and explain why actions on these high-priority species preclude listing species of lower priority. The court approved our reliance on national rather than regional priorities and workload in establishing preclusion and approved our basic explanation that listing candidate species may be precluded by statutorily mandated deadlines, court-ordered actions, higher-priority listing activities, and a limited budget.

We drafted the previous CNOR to address the concerns of these courts and continue to incorporate those changes that addressed the courts' concerns in this CNOR. 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, which includes the lead region and the listing priority number for each species. Our preclusion determinations are further based upon our budget for listing activities for unlisted species and we explain the priority system and why the work we have accomplished does preclude action on listing candidate species.

Pursuant to section 4(b)(3)(C)(ii) and the Administrative Procedure Act (5 U.S.C. 206), any party with standing may challenge the merits of any not-warranted or warranted-but-precluded petition finding incorporated in this CNOR. The analysis included herein, together with the administrative record for the decision at issue (particularly the supporting species assessment form), will provide an adequate basis for a court to review the petition finding.

Nothing in this document or any of our policies should be construed as in any way modifying the Act's requirement that we make a resubmitted 12-month petition finding for each petitioned candidate within one year of the date of publication of this CNOR. If we fail to make any such finding on a timely basis, whether through publication of a new CNOR or some other form of notice, any party with standing may seek judicial review.

In this CNOR, we are addressing the concerns of the courts by adding more specific information into our discussion on preclusion (*see* below). In preparing this CNOR, we reviewed the current status of and threats to the 245 candidates and 5 listed species for which we have received a petition and for which we have found listing or reclassification from threatened to endangered 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.

This is the first 12-month petition finding for two species, the New England cottontail and the red knot, that were petitioned prior to this CNOR but for which we have not already published a separate warranted-but-precluded 12-month finding. We previously published a separate substantial 90-day petition finding for the New England cottontail (69 FR 39395).

Our review included updating the status of and threats to petitioned candidate or listed species for which we published findings, pursuant to section 4(b)(3)(B), 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.

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. As discussed above, 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 May 2, 2005, through August 23, 2006. We will continue to monitor the status of all candidate species, including petitioned species, as new information becomes available. This review will determine if a change in status is warranted, including the need to emergency-list a species under section 4(b)(7) of the Act.

In addition to identifying petitioned candidate species in Table 1 below, we also present brief summaries of why these particular candidates warrant 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://endangered.fws.gov/.* As described above, under section 4 of the Act we may 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 a species to the lists of species determined to be threatened species or endangered species under the Act. Below we describe the actions that continue to preclude the immediate proposal of a regulation and final promulgation of a regulation implementing the petitioned action, and we describe the expeditious progress we are making to add qualified species to the lists of endangered or threatened species.

Preclusion and Expeditious Progress

Preclusion is a function of the listing priority of a species in relation to the resources that are available and competing demands for those resources. (As described above in the Summary, the listing priority of a species is represented by the listing priority number we assign to it.) Thus, in any given fiscal year (FY), multiple factors dictate whether it will be possible to undertake work on a proposed listing regulation or whether promulgation of such a proposal is warranted but precluded by higher priority listing actions.

The resources available for listing actions are determined through the annual appropriations process, and we cannot spend more than is appropriated for the Listing Program without

violating the Anti-Deficiency Act (31 U.S.C. 1341 (a)(1)(A)). The number of listing actions that we can undertake in a given year also is influenced by the complexity of those listing actions, *i.e.*, more complex actions generally are more costly. For example, for FY 2005, the costs (excluding publication costs) for conducting a 12-month finding, without a proposed rule, ranged from approximately $11,000 for one species with a restricted range and involving a relatively uncomplicated analysis, to $305,000 for another species that was wide-ranging and involved a complex analysis.

In FY 1998 and for each fiscal year since then, Congress placed a statutory cap on funds which may be expended for listing and critical habitat actions (*i.e.*, the Listing Program), equal to the amount expressly appropriated for that purpose in that fiscal year. This cap was designed to prevent funds appropriated for other ESA functions, or for other Service programs, from being used for listing or critical habitat actions (*see* House Report 105–163, 105th Congress, 1st Session, July 1, 1997).

Beginning in FY 2002, Congress also put in place the critical habitat ''subcap,'' which put an upper limit on the Listing Program funds that could be spent on work related to critical habitat designations for already listed species. Recognizing that designation of critical habitat for species already listed would consume most of the overall Listing Program appropriation, Congress put the subcap in place to ensure that some funds would be available to make other listing determinations: ''The critical habitat designation subcap will ensure that some funding is available to address other listing activities'' (H.R. Rep. No. 103, 107th Cong., 1st Sess. 2001 at 30, 2001 WL 695998). Because the Service has had to use virtually the entire critical habitat subcap to address court-mandated designations of critical habitat, Congress and the Courts have in effect determined, through the listing cap, the critical habitat subcap, and the amount of funds needed to address court-mandated critical habitat designations, the amount available for other listing activities. It is this amount (*i.e.*, the funds in the listing cap other than those needed to address court-mandated critical habitat for already listed species) that is used in the determination here of preclusion and expeditious progress.

Congress also recognized that the availability of resources was the key element in deciding whether we would issue a listing proposal or make a ''warranted but precluded'' finding for a given species. The Conference Report accompanying Public Law 97–304, which established the current statutory deadlines and the warranted-but-precluded finding, states (in a discussion on 90-day petition findings that by its own terms also covers 12-month findings) that the deadlines were ''not intended to allow the Secretary to delay commencing the rulemaking process for any reason other than that the existence of pending or imminent proposals to list species subject to a greater degree of threat would make allocation of resources to such a petition [*i.e.*, for a lower-ranking species] unwise.'' Therefore, in fiscal year 2005, the outer parameter within which ''expeditious progress'' must be measured is that amount of progress that could be achieved by spending $5.6 million, which included $4.6 million available in the Listing Program appropriation not within the critical habitat subcap plus approximately $1.0 million from the critical habitat subcap that was not needed to comply with court orders or court-approved settlement agreements for critical habitat designations. The rest of the critical habitat subcap funds were used to comply with court orders or court-approved settlement agreements for designating critical habitat for previously listed species, and thus were not available for other listing activities.

Our process is to 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. However, through court orders and court-approved settlements, federal district courts have mandated that we must complete certain listing activities with respect to specified species and have established the schedules by which we must complete those activities. The species involved in these court-mandated listing activities are not always those that we have identified as being most in need of listing. A large majority of the appropriation available for new listings of species (*i.e.* $5.6 million) was consumed by such court-mandated listing activities in FY 2005, and by ordering or sanctioning these actions the courts essentially determined that these were the highest priority actions to be undertaken with available funding. Copies of the court orders and settlement agreements referred to below are available from the Service and are part of the administrative record for these resubmitted petition findings.

On December 8, 2004, the President signed the 2005 Interior and Related Agencies Appropriations Act (Pub. L. 108–447), which, as a result of the subcap and subsequent rescissions, in effect included $4,643,000 for listing activities not related to critical habitat designations for species that already are listed. However, as discussed above, a relatively small portion of the critical habitat subcap was used for listing actions resulting in a total of $5,604,178 being expended for listing actions. This appropriation was fully allocated to fund the following categories of actions in the Listing Program: Essential litigation-related, and administrative- and program-management functions; compliance with court orders and court-approved settlement agreements requiring that petition findings or listing determinations be completed by a specific date; section 4 listing actions with absolute statutory deadlines; and a few high-priority listing actions. While more funds were available in FY 2005 than in previous years to work on listing actions that were not the subject of court-orders or court-approved settlement agreements, based on the available funds and their allocation for these purposes, only limited FY 2005 funds were available for work on proposed listing determinations for the following candidate species included in Table 1 of this notice: Arctic grayling, Georgia pigtoe, interrupted rocksnail, *Astelia waialealae, Cyrtandra kaulantha,* and *Phyllostegia hispida.*

FY 2005 LISTING ALLOCATION

	Allocated	Available balance
FY05 Appropriation (including space reprogramming)	$5,604,178	$5,604,178
Space reprogramming (program's portion of rent for building space)	254,749	5,349,429
Regional & Washington Offices (staff salaries & benefits)	1,344,660	4,004,769
Printing	612,405	3,392,364
90-day findings	613,224	2,779,140

FY 2005 LISTING ALLOCATION—Continued

	Allocated	Available balance
12-month findings	1,342,159	1,436,981
Proposed Listing/CH	579,370	857,611
Final Listing/CH	550,116	307,495
Attorney Fees/Litigation Expenses	307,400	95

Specific details regarding the individual actions taken using the FY 2005 funding, which precluded our ability to undertake listing proposals for any of the candidate species, except the species noted above, are provided below (information on the cost of individual actions is part of our administrative record).

We note here that the category of ''high-priority listing actions'' mentioned above refers to actions for which no timeline has been established by a court order or settlement agreement, and that also are not subject to an absolute statutory deadline. Our ability to work on such listing actions is quite limited. Until FY 2006, our allocation of Listing Program funds has included a limited amount of funding (100,000) to each Regional office to ensure that the office maintains minimal core capacity (at least one staff person) for listing actions (*e.g.*, evaluating the status of species to help ensure that a emergency listing action can be taken if necessary, and participating in work to meet the statutory requirement to annually review and make findings on resubmitted petitions). In a Region that faces a relatively limited workload in the Listing Program with regard to deadlines resulting from court orders or settlement agreements, and a relatively limited workload related to meeting statutory deadlines, some of this ''capability'' funding may be available to address high priority listing actions. However, in most Regions the limited amount of capability funding for Regional offices included in an allocation is used for work associated with supporting listing actions related to court orders or settlement agreements, and for meeting statutory deadlines. This work includes providing training and oversight of field personnel and reviewing their work and making recommendations to the Regional Director on listing actions. Where this is the case, there are no funds available for high-priority listing actions.

The overall Listing Program situation in FY 2006 is similar to that in FY 2005. For FY 2006, Congress appropriated $5,131,000 (after rescissions) to the listing program for activities other than critical habitat designations for already listed species (Pub. L. 109–54, signed on August 2, 2005). We have fully allocated the $5,131,000 to fund the following listing actions: Any emergency listings; essential litigation-related, administrative, and program management functions; compliance with court orders or court-approved settlement agreements requiring petition findings or listing determinations; statutorily-required petition findings; other high-priority listing actions; and work on proposed listing determinations for some high-priority candidate species. In addition, by the end of FY 2005 we had realized some savings, largely in printing costs, as compared to our estimated costs. Therefore, we were able to reallocate these remaining FY 2005 funds to help cover some of the printing costs associated with listing actions in FY 2006. As a result, The FY 2006 funds needed for printing costs were reduced and we are able to fund more work than otherwise would have been possible with only our FY 2006 listing budget.

FY 2006 LISTING ALLOCATION

	Allocated	Available \ balance
FY06 Appropriation (including space reprogramming)	$5,130,594	$5,130,594
Space reprogramming (program's portion of rent for building space)	261,817	4,868,777
Regional & Washington Offices (staff salaries and benefits)	1,610,150	3,258,627
Printing	33,000	3,225,627
90-day findings	508,796	2,716,831
12-month findings	1,350,653	1,366,178
Proposed Listing/CH	813,460	552,718
Final Listing/CH	452,718	100,000
Attorney Fees/Litigation Expenses	100,000	0

For FY 2006 we have eliminated capability funding, and instead have allocated to the regions an amount necessary to support a regional office staff capable of supervising the workload of packages in the region. With respect to funds appropriated for designation of critical habitat, the majority of these funds in the critical habitat subcap will be spent complying with designating critical habitat under court-order or court-approved settlement agreements. We allocated a small portion of the money not needed to fund these critical habitat designations for work on statutorily-required petition findings. While we have more funds in FY 2006 (than in FY 2005) available for listing actions that are not court-ordered or the subject of court-approved settlement agreements, we must use the majority of these funds to work on or complete statutorily-required petition findings. During the current fiscal year, we will issue proposed listing rules for the highest priority candidate species only if doing so does not jeopardize our ability to comply with court orders, court-approved settlement agreements, or unqualified statutory deadlines. Thus, as of the date of the publication of this CNOR, we anticipate that we will have only limited FY 2006 funds available to work on proposals to list any of the candidate species included in Table 1. Consequently we continue to find that proposals to list all of the petitioned candidate species included in Table 1

are warranted but precluded, except the Arctic grayling, Georgia pigtoe, interrupted rocksnail, *Astelia waialealae*, *Cyrtandra kaulantha*, and *Phyllostegia hispida* (which are being funded this year). We note also that all of the actions that demonstrate our expeditious progress on listing that we have completed to date or will complete in FY 2006 (see below) contribute to the preclusion of work on listing proposals for these candidate species.

In addition to being precluded by lack of available funds, work on proposed rules for candidates with lower priority (*i.e.*, those that have listing priority numbers of 4–12) is also precluded by the need to issue proposed rules for higher priority species facing high-magnitude, imminent threats (*i.e.*, listing priority numbers of 1–3). Table 1 shows the listing priority number for each candidate species. Finally, proposed rules for reclassification of threatened species to endangered are lower priority, since the listing of the species already affords the protection of the Act and implementing regulations.

As explained above, part of the basis for making a warranted-but-precluded finding is that expeditious progress is being made to add and remove qualified species to the Lists. Our progress in FY 2005 includes work in the following categories: (1) Preparation and publication of final listing determinations involving 6 species; (2) preparation of final listing determinations (not completed in FY 2005) for 13 species; (3) preparation of proposed listing actions (not yet completed so not yet published) for 8 species; and (4) listing petition findings for 303 species (includes 10 completed, 33 not completed, and 260 resubmitted findings). Specific information regarding each of these categories for FY 2005 is provided below, followed by a description of our anticipated FY 2006 progress.

FY 2005 (1) Final listing determinations—We prepared and published in the **Federal Register** final listing determinations for six species, all of which had absolute statutory deadlines imposed by section 4(b)(6). These included final regulations listing the following species:

- Southwest Alaska distinct population segment of the northern sea otter (70 FR 46365; August 9, 2005; LPN=3) (This final listing was not the result of a deadline established by a court order or a court-approved settlement agreement. Rather, this was the highest priority listing action for the Alaska Region. The Alaska Region generally has not faced the relatively heavy Listing Program workload experienced by several other Regions, and consequently was able to use their limited Regional office capability funding in FY 2005 to support the completion of this listing regulation. We could not have utilized this capability funding to complete listing actions in other Regions without eliminating the ability of this Region to monitor the status of candidate species and address any emergency situations that might arise).
- Koster's springsnail, Roswell springsnail, Noel's amphipod, and Pecos assiminea (70 FR 46303; August 9, 2005, LPN=2) (The work on the final listing package that included these four species was in response to a court-approved settlement agreement as well as having an absolute statutory deadline).
- Salt Creek tiger beetle (70 FR 58335; October 6, 2005; LPN=3) (The work on this species was in response to a court-order).

We note that the work on these species, except the northern sea otter and Salt Creek tiger beetle, included funding for the designation of critical habitat. The critical habitat subcap pertains to critical habitat designations for species already listed; we may use listing funds for critical habitat designation work conducted in conjunction with a listing action, as was the case with these four species. This work was necessary to comply with the Act's deadline for designating critical habitat: Concurrent with listing or within one year thereafter if concurrent designation is not determinable.

(2) We funded work on final listing determinations for the Gila chub and 12 species of picture wing flies from Hawaii for which work was not completed in FY 2005. The work on these species was also in response to court-approved settlement agreements.

(3) We funded work on proposed listing determinations for the following species for which work was not completed in FY 2005: Cowhead Lake tui chub (reproposal), fluvial Arctic grayling (distinct population segment of the Upper Missouri River) (LPN=3) (the work on this species was also in response to a court-approved settlement agreement), Georgia pigtoe (LPN=2), interrupted rocksnail (LPN=2), *Astelia waialealae* (LPN=2), *Cyrtandra kaulantha* (LPN=2), *Penstemon grahamii* (Graham's beardtongue) (LPN=2) (the work on this species was also in response to a court-approved settlement agreement), and *Phyllostegia hispida* (LPN=2).

(4) We funded work on 300 petition findings. This involved 90-day findings, initial 12-month findings, and findings on resubmitted petitions. As explained below, in some instances, the work has been based on meeting deadlines established by court order or by settlement agreements. In other instances, the work has been done in order to meet statutory deadlines. All 12-month findings are subject to an unqualified statutory deadline. With regard to 90-day findings, the decision in *Biodiversity Legal Foundation* v. *Badgley,* 309 F.3d 1166 (9th Cir. 2002), held that the Act requires that 90-day petition findings (*i.e.*, the initial finding as to whether a petition contains substantial information, which the Act directs us to make within 90 days of receipt of a petition, if practicable) must be made no later than 12 months after receipt of the petition, regardless of whether it is practicable to do so. Thus, all 90-day findings are arguably subject to an absolute statutory deadline. As a result of this ruling, which was contrary to our previous interpretation of section 4(b)(3) of the Act, we have been working to issue petition findings on most of the outstanding petitions for those species that we have not previously determined to warrant candidate status.

Some petition findings are ''complete'' actions. This includes 12-month petition findings in which we determine that listing was not warranted and 90-day petition findings in which we determine that the petition did not present substantial information. In these cases, our listing work is complete.

In FY 2005, we funded work on and published petition findings for the following 10 species: Pygmy rabbit (not-substantial 90-day finding) (70 FR 29253; May 20, 2005), California spotted owl (substantial 90-day finding) (70 FR 35607; June 21, 2005), boreal toad (not-warranted 12-month finding) (70 FR 56880; September 29, 2005), headwater chub and Lower Colorado River Basin population of the roundtail chub (substantial 90-day finding) (70 FR 39981; July 12, 2005), American eel (substantial 90-day finding) (70 FR 38849; July 6, 2005), 3 springsnails (Jackson Lake, Harney Lake, and Columbia) (substantial 90-day finding) (70 FR 20515; April 20, 2005), and *Dalea tentaculoides* (Gentry indigo bush) (not-warranted 12-month finding) (70 FR 56426; September 27, 2005). All 12-month findings have absolute statutory deadlines. Because of *Badgley*, all 90-day findings arguably also have absolute statutory deadlines. In addition, the work on all these species, with the following exception, was in response to court orders or court-approved settlement agreements. The American eel was the highest priority listing action for the Northeast Region.

The Northeast Region generally has not faced the relatively heavy Listing Program workload experienced by several other Regions, and consequently was able to use their limited Regional office capability funding in FY 2005 to support the completion of this petition finding. We could not have utilized this capability funding to complete listing actions in other Regions without eliminating the ability of this Region to monitor the status of candidate species and address any emergency situations that might arise.

The allocated funds also supported work on petition findings that were not completed in FY 2005 for the following 34 species (we worked on these petition findings pursuant to a court order, a court-approved settlement agreement, or to meet statutory deadlines; those marked with a ''+'' we worked on pursuant to a court order/court-approved settlement agreement, the others (unmarked) we worked on to meet statutory deadlines): Yellowstone population of buffalo (90-day finding), New England cottontail (warranted but precluded 12-month finding—published as part of this CNOR), Douglas County subspecies of northern pocket gopher+ (90-day finding), Anacapa deer mouse (90-day finding), American dipper+ (90-day finding), long-tailed duck+ (90-day finding), red knot (90-day finding), yellow-billed loon+ (90-day finding), southeastern snowy plover and wintering population of piping plover (90-day finding), cerulean warbler (12-month finding), Mexican garter snake+ (90-day finding), northern water snake (90-day finding), Berry Cave salamander (90-day finding), American eel (12-month finding), kokanee (90-day finding), longnose sucker (90-day finding), California golden trout (12-month finding), Yellowstone cutthroat trout+ (12-month finding) (we published the opening of a comment period for a 12-month finding for this species on September 1, 2005; 70 FR 52059), Black Hills (Cooper's Rocky) mountainsnail+ (90-day finding), Uinta mountainsnail+ (90-day finding), *Cicurina cueva*+ (12-month finding) (*we published two notices to* reopen the comment period (on May 23, 2005, and August 16, 2005) (70 FR 29471 and 70 FR 48093) in order to provide the public an opportunity to consider and comment on new information we received after publishing the 90-day finding for this species), 4 subspecies of *Pseudocopacodes enus* (12-month finding), Andrew's dune scarab beetle (90-day finding), 3 invertebrates (*Stygobromus kenki, Stygobromus phreaticus,* and *Acanthocyclops columbiensis*—90-day finding), *Castanea ozarkensis* (Ozark chinquapin) (90-day finding), *Gilia* (=Alicellia) *tenuis* (Mussentuchit gilia)+ (90-day finding), *Sidalcea hendersonii* (Henderson's checkermallow) (90-day finding), *Usnea longissima* (90-day finding).

In addition, we completed some initial and some resubmitted petition findings required by statute for a total of 260 petitioned species that are candidates. We published these findings on May 11, 2005, as part of the previous Candidate Notice of Review (CNOR) (70 FR 24870). Since we had identified the majority of these species as candidates prior to receiving a petition to list them, we had already assessed their status using funds from our Candidate Conservation Program (a separate budget item within the Endangered Species Program).

Our anticipated progress in FY 2006 includes work in the following categories: (1) Work toward preparation and publication of final listing actions for 15 species; (2) work toward preparation and publication of proposed listing actions for 6 species; and (3) work on petition findings for 72 species that are not candidate species (we made or are making these petition findings pursuant to a court order, a court-approved settlement agreement, or to meet statutory deadlines), initial petition findings for 2 species that are also included in this notice as candidate species, resubmitted petition findings for 245 candidate and 5 listed species that were petitioned prior to the last CNOR, and revised 12-month petition findings for 10 candidate species that are we removing from candidate status through this notice. Specific information regarding each of these categories for FY 2006 is provided below. We note also that Regions will continue to monitor the status of candidates and prepare emergency listing packages as needed.

FY 2006 (1) We funded work on the final listing determinations for the following species: Queen Charlotte goshawk (remand of our previous listing determination), Gila chub (70 FR 66663; November 2, 2005, LPN=2), 12 species of picture-wing flies from Hawaii (71 FR 26835; May 9, 2006) (prior to publishing the final rule, we published a notice to reopen the comment period on the proposed listing rule; 70 FR 57851; October 4, 2005), and *Penstemon grahamii* (Graham's beardtongue) (work not yet completed). These final listing determinations were in response to court orders or court-approved settlement agreements. Additionally, since the Gila chub, 12 species of picture-wing flies, and Graham's beardtongue were proposed for listing, a final listing determination is subject to an absolute statutory deadline.

(2) We funded listing determinations for flat-tailed horned lizard (remand of our withdrawal of a proposed rule to list) (we published a withdrawal of the proposed rule on June 28, 2006; 71 FR 36745)(we also had published notices to reopen the comment period on our reinstated proposed rule on March 2 and again on April 21, 2006; 71 FR 10631 and 71 FR 20637), fluvial Arctic grayling (distinct population segment of the Upper Missouri River) (LPN=3) (the work on this species was also in response to a court-approved settlement agreement), Cowhead Lake tui chub (reproposal), and *Penstemon grahamii* (Graham's beardtongue) (71 FR 3157; January 19, 2006). We also funded work on proposed listing proposals for the following 5 high-priority candidate species for which work was not completed in FY 2006 prior to the publication of this CNOR: Rough hornsnail (LPN=2), black mudalia (LPN=2), Georgia pigtoe (LPN=2), interrupted rocksnail (LPN=2), *Astelia waialealae* (LPN=2), *Cyrtandra kaulantha* (LPN=2), and *Phyllostegia hispida* (LPN=2).

(3) We funded work on and published petition findings for the following species (listing actions for species marked with a ''+'' are per court order/court-approved settlement agreement in addition to having a statutory deadline): Gunnison's prairie dog+ (not-substantial 90-day finding) (71 FR 6241; February 7, 2006); Douglas County subspecies of the northern pocket gopher+ (not-substantial 90-day finding (71 FR 7715; February 14, 2006); polar bear (substantial 90-day finding) (71 FR 6745; January 9, 2006); Black Hills, South Dakota, population of the American dipper+ (not-substantial 90-day finding) (71 FR 4341; January 26, 2006); Florida scrub-jay+ (not-substantial 90-day petition findings on 2 petitions to reclassify as endangered) (71 FR 4092; January 25, 2006); Gunnison sage-grouse+ (not-warranted 12-month finding) (71 FR 19953; April 18, 2006); California spotted owl+ (not warranted 12-month finding) (71 FR 298896; May 24, 2006) (we also published a notice to reopen the comment period on the 90-day petition on October 14, 2005; 70 FR 60051); northern Mexican gartersnake+ (substantial 90-day finding) (71 FR 315; January 4, 2006); Siskiyou Mountains and Scotts Bar salamanders+ (not-substantial 90-day finding) (71 FR 23886; April 25, 2006); Distinct Population Segment of the roundtail

chub in the Lower Colorado River Basin and the Headwater chub+ (not-warranted and warranted 12-month findings) (71 FR 26007; May 3, 2006), Yellowstone cutthroat trout+ (not-warranted 12-month finding) (71 FR 8818; February 21, 2006); Black Hills (Cooper's Rocky) mountainsnail+ (not-substantial 90-day finding) (71 FR 9988; February 28, 2006), Uinta mountainsnail+ (not-substantial 90-day finding) (70 FR 69303; November 15, 2005); Greater Adams cave beetle and Lesser Adams cave beetle (not-warranted 12-month finding) (70 FR 72973; December 8, 2005); Casey's June beetle (substantial 90-day finding) (71 FR 44960; August 8, 2006); Andrews' Dune scarab beetle (not-substantial 90-day finding) (71 FR 26444 May 5, 2006); island marble butterfly+ (substantial 90-day finding) (71 FR 7497; February 13, 2006); Hermes copper butterfly (not-substantial 90-day finding) (71 FR 44966; August 8, 2006); Sand Mountain blue butterfly (substantial 90-day finding) (FR 71 44988; August 8, 2006); Thorne's hairstreak butterfly (not-substantial 90-day finding) (71 FR 44980; August 8, 2006); *Cicurina cueva*+ (not-warranted 12-month finding) (70 FR 75071; December 19, 2005); 16 insect species from Algondones Dunes (not-substantial 90-day finding) (71 FR 47765; August 18, 2006); *Agave eggersiana* and *Solanum conocarpum*+ (not-warranted 12-month finding) (71 FR 11367; March 7, 2006); *Gilia* (=*Aliciella*) *tenuis*+ (Mussentuchit gilia) (not-substantial 90-day finding) (71 FR 4337; January 26, 2006); and *Sidalcea hendersonii* (Henderson's checkermallow—not-substantial 90-day finding) (71 FR 8252; February 16, 2006). We funded work on statutorily-required petition findings for the following species (not yet completed so not yet published): Polar bear (12-month finding) (we reopened the comment period on the status review for the 12-month petition finding on May 17, 2006; 71 FR 28653) , Utah prairie dog (90-day finding on reclassification to endangered), black-footed albatross (90-day finding), tricolored blackbird (90-day finding), long-tailed duck+ (90-day finding), southwestern population of bald eagle (90-day finding), Columbian sharp-tailed grouse (90-day finding), yellow-billed loon+ (90-day finding), Mono Basin population of greater sage-grouse (90-day finding), southeastern snowy plover and wintering population of piping plover (12-month finding), cerulean warbler (12-month finding), northern Mexican garter snake+ (12-month finding), northern water snake (12-month finding), Tucson shovel-nosed snake (90-day finding), Florida population of gopher tortoise (90-day finding), Berry Cave salamander (12-month finding), Jollyville plateau salamander (90-day finding), American eel (12-month finding), San Felipe gambusia (90-day finding), longnose sucker (12-month finding), 3 springsnails (Jackson Lake, Harney Lake, and Columbia) (12-month finding), 3 invertebrates (*Stygobromus kenki, Stygobromus phreaticus,* and *Acanthocyclops columbiensis*) (12-month finding), island marble butterfly+ (12-month finding), Mt. Charleston blue butterfly (90-day finding), *Astragalus anserinus* (Goose Creek milkvetch) (90-day finding), *Astragalus debequaeus* (DeBeque milkvetch) (90-day finding), *Castanea ozarkensis* (Ozark chinquapin) (90-day finding), *Sclerocactus brevispinus* (Pariette cactus) (90-day finding). We funded work on statutorily-required initial 12-month petition findings for the New England cottontail (substantial 90-day finding was published on June 30, 2004) and red knot (we also made the statutorily-required 90-day finding through this CNOR), which are being published as part of this CNOR (warranted but precluded findings). We also funded work on resubmitted petitions findings for 245 candidate species and 5 listed species (species petitioned prior to the last CNOR). Note, we have not updated our resubmitted petition findings for the Columbia Basin population of the greater sage-grouse or for the Missouri River population of fluvial Arctic grayling in this notice as we are considering new information and will update our findings at a later date. As explained above, these resubmitted petition findings are required by statute and findings for these 245 candidates and 5 listed species are being published as part of this CNOR. We also funded revised 12-month petition findings for 10 candidate species that we are removing from candidate status, which are being published as part of this CNOR (*see Summary of Candidate Removals*). We are also funding work on the next annual review of those resubmitted petition findings, which will be published as part of the next CNOR. Because the majority of these 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. We also 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.

As with our ''precluded'' finding, ''expeditious progress'' is a function of the resources that are available and the competing demands for those funds. As discussed above, the funds in the Listing Program that would be otherwise available for adding other qualified species to the Lists in FY 2005 and FY 2006 have been spent or must be spent on complying with court orders and court-approved settlement agreements to make petition findings, court orders and court-approved settlement agreements to make final listing determinations for other species, meeting statutory deadlines for petition findings or listing determinations, a few high-priority Service-initiated listing determinations, essential litigation support, and administrative and management tasks. We note that we are not discussing specific actions we have taken on progress towards removing species from the lists of threatened or endangered species in this notice since that work is conducted with appropriations to our Recovery program, a separately-budgeted component of the Endangered Species Program. However, we do note that in FY 2005 we delisted one species (*Helianthus eggertii* (Eggert's sunflower); 70 FR 48482; August 18, 2005) and, to date in FY2006, we have delisted two species (the Arizona Distinct Population Segment of the Cactus Ferruginous Pygmy-owl; 71 FR 19452; April 14, 2006; and, *Agave arizonica* (Arizona agave); 71 FR 35195; June 19, 2006).

The majority of the money to add qualified species to the list is consumed in complying with court orders or court-approved settlement agreements requiring petition findings or listing determinations, and essential litigation-related, administrative, and program management functions related to these findings and determinations (including preparing and allocating budgets, responding to Congressional and public inquiries, public outreach, gathering and assessing the scientific information used as the basis for our listing decisions, writing the document, and reviewing those listing recommendations made by our Field and Regional Office staff). Therefore, 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 Act, these actions described above collectively constitute expeditious progress.

Although we have not been able to resolve the listing status of many of the candidates, several programs in the Service contribute to the conservation of these species. In particular, we have a separate budgeted program, the Candidate Conservation program, which 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. If sufficiently successful, this eliminates the need to list them, allowing us to remove them from the candidate list. Through this program, we work with our partners (other Federal agencies, State agencies, Tribes, private landowners, and private conservation organizations) to address the threats to candidate species and other species at-risk. We are actively engaged in the conservation of these species and have over 115 voluntary conservation agreements that are being implemented for 190 species covering 4.8 million acres of habitat. For example, we are currently implementing a Candidate Conservation Agreement for the Louisiana pine snake, a candidate species. This agreement between the Fish and Wildlife Service, U.S. Forest Service, U.S. Department of Defense, Texas Parks and Wildlife Department, and Louisiana Department of Wildlife and Fisheries was completed in 2003 and is designed to identify and establish management for the Louisiana pine snake on Federal lands in Texas and Louisiana. The agreement provides a means for all the partnering agencies to work cooperatively on projects that avoid and minimize impacts to the snake. We also have provided funds from the Endangered Species Private Landowner Incentive Program and Private Stewardship Grants to a private landowner for habitat restoration and prescribed burning at Louisiana pine snake sites on their property. Several other Service programs (*e.g.* Fisheries, Partners for Fish and Wildlife, Refuge Wildlife and Habitat Management, and Federal Assistance) contribute to candidate conservation.

Through sustained implementation of strategically designed conservation efforts, we are actively working to conserve many candidate species. In some instances, this culminates in making listing unnecessary. In the past two years, for example, we have obviated the need to list six species through conservation efforts, including four candidate species: The Greater and Lesser Adams Cave beetles, Camp Shelby burrowing crayfish, and Holsinger's cave beetle.

Findings for Petitioned Candidate Species

For our revised 12-month petition findings for species we are removing from candidate status, *see* summaries above under ''*Summary of Candidate Removals.*''

Mammals

Pacific Sheath-tailed Bat, American Samoa DPS (*Emballonura semicaudata semicaudata*)—The following summary is based on information contained in our files. This small bat is a member of the Emballonuridae, 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 and it is the only insectivorous bat recorded from a large part of this area. 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 CNMI), Tonga, Fiji, and Vanuatu. While populations appear to be healthy in some locations, mainly in the Caroline Islands, they have declined drastically 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. This candidate assessment form addresses the distinct population segment of E. s. semicaudata that occurs in American Samoa. *E. s. 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.

Current threats to this subspecies include habitat loss, predation by introduced species, small population size, and disturbance to roosting caves. The greatest threats at this time are likely habitat loss and degradation, the small numbers of bats detected in the past two decades, and tropical storms. Habitat loss and degradation and predation by nonnative species are believed to have been occurring for several decades. The Listing Priority Number for *E. s. semicaudata* remains at 3 because the magnitude of the threats is high, the threats are imminent, and the taxon in question is a population of a subspecies.

Pacific Sheath-tailed Bat (*Emballonura semicaudata rotensis*), Guam and the Commonwealth of the Northern Mariana Islands—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This small bat is a member of the Emballonuridae, 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 and it is the only insectivorous bat recorded from a large part of this area. 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 CNMI), Tonga, Fiji, and Vanuatu. While populations appear to be healthy in some locations, mainly in the Caroline Islands, they have declined drastically 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. This candidate assessment form addresses the Mariana Islands subspecies. *E. s. rotensis* is historically known from the Mariana Islands and formerly occurred on Guam and in the CNMI on Rota, Aguiguan, Tinian (known from prehistoric records only), Saipan, and possibly Anatahan and Maug. Currently, *E. s. 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 the subspecies include predation by nonnative species, habitat loss and degradation, small population size, occurrence on one small island, and disturbance to roosting caves. Habitat loss and degradation (through various means, but mainly by feral ungulates at present) and predation by nonnative species are believed to be occurring now, and likely have been occurring for several decades on

Aguiguan and are, therefore, affecting the entire remaining population of *E. s. rotensis*. The subspecies may 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. In addition, scientists believe that a more complete genetic examination of the subspecies may result in its elevation to a distinct species. The Listing Priority Number for *E. s. rotensis* remains at 3 because the magnitude of the threats is high, the threats are imminent, and the taxon is question is a subspecies.

Cottontail, New England (Sylvilagus transitionalis)—See above in ''*Summary of New Candidates.*'' The above summary is based on information in our file and in the petition dated August 30, 2000.

Fisher, West Coast DPS (*Martes pennanti*)—The following summary is based on information in our files and in the Service's initial warranted-but-precluded finding published in the **Federal Register** on April 8, 2004 (68 FR 18770). The fisher is a carnivore in the family Mustelidae and is the largest member of the genus *Martes*. Historically the West Coast population of the fisher extended south from British Columbia into western Washington and Oregon, and in the North Coast Ranges, Klamath-Siskiyou Mountains and Sierra Nevada in California. The fisher is believed to be extirpated or reduced to scattered individuals from the lower mainland of British Columbia through Washington and in the central and northern Sierra Nevada range in California. Native populations of fisher currently occur in the North Coast Ranges of California, the Klamath-Siskiyou Mountains of northern California and southern Oregon, and in isolated populations occurring in the southern Sierra Nevada in California. Descendents of a fisher reintroduction effort also occur in the southern Cascade range in Oregon. There is a lack of precise empirical data on West Coast DPS fisher numbers. However, there is a lack of detections over much of the fisher's historic range, even with standardized survey and monitoring efforts in California, Oregon and Washington. There is also a high degree of genetic relatedness within some populations, and populations of native fisher in California are separated by four times the species' maximum dispersal distance. The above listed factors all indicate that the likely extant fisher populations are small and isolated from one another.

Major threats that fragment or remove key elements of fisher habitat include various forest vegetation management practices such as timber harvest and fuels reduction treatments. Other potential major threats include: Stand-replacing fire, Sudden Oak Death Phytophthora, urban and rural development, recreation development, and highways. Major threats to fisher that lead to direct mortality and injury to fisher include; collisions with vehicles, predation, and viral borne diseases such as rabies, parvovirus, canine distemper and *Anaplasma phagocytophilum*. Existing regulatory mechanisms on Federal, State and private lands affect key elements of fisher habitat and do not provide sufficient certainty that conservation efforts will be effective or will be implemented. The magnitude of threats is high as they occur across the range of the DPS resulting in a negative impact on fisher distribution and abundance. However, the threats are non-imminent as the greatest long-term risks to the fisher in its west coast range are the subsequent ramifications of the isolation small populations, and the three remaining areas containing fisher populations appear to be stable or not rapidly declining based on recent survey and monitoring efforts. We assigned this DPS a listing priority number of 6 due to nonimminent threats of a high magnitude.

Mazama pocket gopher (*Thomomys mazama* (ssp. *couchi, glacialis, louiei, melanops, pugetensis, tacomensis, tumuli, yelmensis*)—The following summary is based on information contained in our files. No new information was provided in the petition received December 11, 2002. These eight subspecies of pocket gopher are associated with glacial outwash prairies in western Washington. Of these eight subspecies, six are likely still extant (*couchi, glacialis, melanops, pugetensis, tumuli*, and *yelmensis*). Few of these glacial outwash prairies remain in Washington today. Historically, such prairies were only patchily distributed. Now, residential and commercial development, fire regime alteration, and ingrowth of woody vegetation have further reduced their numbers. In addition, development in or adjacent to these prairies has likely increased predation on Mazama pocket gophers by dogs and cats.

The magnitude of threat is high for these subspecies due to their patchy and isolated distribution, location in habitats desirable for residential and commercial development, threat of invasive plants, and limited dispersal capability of the species. Where human development occurs in proximity to Mazama pocket gophers, predation by domestic pets is an additional threat to the species. The immediacy of threat is imminent. Two of the subspecies (*T. m. louiei* and *T. m. tacomensis*) are likely extinct. Gravel pits threaten persistence of one of the remaining subspecies (Roy Prairie), and the populations of two other subspecies (*T. m. couchi* and *T. m. yelmensis*) are located on airports with planned development. Yelm pocket gophers (*T. m. yelmensis*) are also threatened by other proposed development on Fort Lewis. Thus we assign a listing priority number of 3 to these subspecies.

Palm Springs round-tailed ground squirrel (*Spermophilus tereticaudus chlorus*)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The range for the Palm Springs round-tailed ground squirrel is generally described as the Coachella Valley region that roughly spans between San Gorgonio Pass and the Salton Sea. A recent study demonstrated that the primary habitat for the Palm Springs round-tailed ground squirrel in the Coachella Valley is the mesquite sand dune/hummock community. They are also found in other low flat sandy areas or sand dunes containing various types of desert shrub communities, including creosote and *Atriplex* ssp. Squirrels are also occasionally found in fine sand accumulated along banks, roads, and among shrubs; as well as areas with more coarse, hard-packed sand and gravel.

Rapid growth of desert cities such as Palm Springs and Palm Desert has raised concerns about the conservation of a squirrel restricted to the Coachella Valley. Urban development and drops in the groundwater table have eliminated all but approximately 10 percent of *Prosopis glandulosa* var. *torreyana* (mesquite) in the Valley; the plant with which this squirrel is strongly associated with. The mesquite sand dune/hummock community is also threatened by the decreasing water table in the Coachella Valley. Mesquite is phreatophytic, meaning that its roots are adapted to grow deep into the water table. Increasing water consumption associated with growing urbanization is lowering the water table below the level at which mesquite roots can reach. No formal protection is currently available to this species in the majority of its range. The California Environmental Quality Act affords some indirect protection to *S. tereticaudus chlorus* by addressing impacts to other protected species, most notably, the federally

threatened Coachella Valley fringe-toed lizard (*Uma inornata*). In 1993, the Coachella Valley Association of Governments initiated the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) for the Coachella Valley to address rare species including *S. tereticaudus chlorus*. However, this planning effort remains in preparation and has not yet been approved or implemented. Further, the Coachella Valley MSHCP is proposing to protect only 136 ha (336 acres) of mesquite hummocks, which is only 35 percent of the remaining mesquite hummocks left within the planning area of the Coachella Valley MSHCP. Mesquite hummocks near faults in the Upper valley are not directly addressed by the Coachella Valley Water District Water Management Plan, and are threatened by the planned and proposed groundwater pumping for the rapidly growing cities of Desert Hot Springs, Cathedral City, and Indio.

We assigned the Palm Springs ground squirrel subspecies a listing priority of 3 because the threats are ongoing and are of a high magnitude. This round-tailed ground squirrel has lost approximately 90 percent of its preferred habitat, mesquite sand dune/hummocks and suitable habitat in the Coachella Valley has a high rate of development.

Southern Idaho ground squirrel (*Spermophilus brunneus endemicus*)—The following summary is based on information in our files. The southern Idaho ground squirrel is endemic to four counties in southwest Idaho; its total known range is approximately 209,628 hectares (518,000 acres). Threats to southern Idaho ground squirrels include habitat deterioration and fragmentation, direct killing from shooting, trapping or poisoning, predation, competition with Columbian ground squirrels, and inadequacy of existing regulatory mechanisms. Habitat deterioration and fragmentation appear to be the primary threats to the species. Nonnative annuals now dominate much of this species' range, have changed the species composition of vegetation, and have altered the fire regime in a perpetuating cycle throughout much of the range. Habitat deterioration, destruction, and fragmentation are thought to have resulted in the current patchy distribution of southern Idaho ground squirrels. Based on recent genetic work, southern Idaho ground squirrels are subject to more genetic drift and inbreeding than expected. Cost-effective methods of habitat restoration are currently unknown for southern Idaho ground squirrels. Two Candidate Conservation Agreements with Assurances (CCAAs) have been completed for this species, both of which allow agency access for population and habitat surveys and habitat enhancement/restoration work. The magnitude of threat is low to moderate for this species due to the two CCAAs that have been completed, and ongoing survey and habitat enhancement/restoration efforts conducted by other agencies. The immediacy of the threat is imminent for this species due to the prevalence and dominance of nonnative vegetation and the current patchy distribution of the species. Thus, we assign a listing priority number of 9 to this species.

Washington ground squirrel (*Spermophilus washingtoni*)—The following summary is based on information contained in our files and the petition received on March 2, 2000. The Washington ground squirrel is one of the smallest members of the *subgenus Spermophilus* and is found within the shrub-steppe habitat of the Columbia Basin ecosystem of Oregon and Washington. The soil types used by the squirrels are distributed sporadically within the species' range, and have been significantly fragmented by human development in the Columbia Basin. Approximately two-thirds of the Washington ground squirrel's total historic range has been converted to agriculture. When agriculture occurs, little evidence of ground squirrel use has been documented, and reports indicate that agriculture (along with other development) continues to eliminate Washington ground squirrel habitat in portions of its range.

Most remaining habitat is threatened by the occurrence and spread of nonnative species, particularly cheatgrass. Nonnative plants threaten squirrels by out-competing native plants, thereby altering available cover, food quantity and quality, and altering fire intervals. The ultimate effects of cheatgrass invasion on this species are not fully understood. While Washington ground squirrels eat cheatgrass, it is not likely a viable long-term dietary option since cheatgrass populations are unstable during drought and contain large amounts of indigestible silica which may make it a poor nutrition source. Fire recurrence intervals typically switch from 20–100 years in sagebrush-grassland ecosystems to 3–5 years in cheatgrass-dominant sites. Increased fire occurrence reduces native bunchgrass and shrub cover (by competition or preventing the re-establishment of shrub cover) and allows exotic species to further out-compete native species.

The most contiguous, least-disturbed expanse of suitable Washington ground squirrel habitat within the species' range occurs on the Boeing site and Naval Weapons Training Facility near Boardman, Oregon. In Washington, the largest expanse of known suitable habitat occurs on State and Federal land. In Washington, recent declines in some colonies have been precipitous for unknown (possibly weather-related) reasons. For example, in 2001 entire colonies of ground squirrels were no longer occupied on the Columbia National Wildlife Refuge and Seep Lakes Management Area near Othello, Washington, despite protection for species in this area. Recent surveys have located additional sites in Washington and Oregon. However, detections are primarily located in the three disjunct metapopulations, indicating fragmentation and increased vulnerability to natural and man-made factors is still a widespread threat.

In Oregon, some threats are addressed by the State listing of this species, and by the recently signed Threemile Canyon Farms Multi-Species Candidate Conservation Agreement with Assurances (Agreement). Participants in the 25-year agreement include Threemile Canyon Farms, The Nature Conservancy, Portland General Electric (PGE), the Oregon Department of Fish and Wildlife (ODFW), and the Service. Parties will implement habitat management, operational modifications, and conservation measures for four non-listed species, including the Washington ground squirrel. Under this agreement, 22,600 ac (9,145 ha) of the Boeing tract was placed in a permanent ODFW conservation easement (Boardman Conservation Area) and 888 ac (356 ha) of PGE property will be managed as part of the BCA for the duration of the Agreement.

Current threats to the long-term persistence of this species include the following: Historic and current habitat loss from the conversion of habitat to agriculture and other development, habitat fragmentation, limited dispersal corridors, recreational shooting, genetic isolation and drift, spread of nonnative species, and predation. Potential threats include disease, drought, and possible competition with related ground squirrel species in disturbed habitat at the periphery of their range. While there are a variety of conservation actions and research activities, they do not address all of the threats throughout the species' range. Due to the widespread current and potential threats to the species we conclude the magnitude of threats remains high. Because the Agreement addressed the imminent loss of a large

portion of habitat to agriculture, and because there are no other known, large-scale efforts to convert suitable habitat to agriculture, overall the threats are nonimminent. We, therefore, kept the listing priority number at 5.

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 received on May 11, 2004. *P. tabuensis* is a small, dark, cryptic rail found in wetlands and rank scrub or forest 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, island rails have tended to reduce or lose their power of flight over evolutionary time and so 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 could cause an increase of roughly 500 miles in the disjunction 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 which warrants review for listing under the Act.

Threats to this species have not changed over the past year. The population in American Samoa is threatened by small population size, limited distribution, predation by nonnative mammals, 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, and the only known population of the spotless crake under U.S. jurisdiction, along with the extremely restricted observed distribution and low numbers, indicate that the American Samoa distinct population segment of this species continues to merit status as a candidate for listing. Based on our assessment of existing information about the imminence and high magnitude of these threats, we assigned the spotless crake a listing priority number of 3.

Kauai creeper (*Oreomystis bairdi*)—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 Kauai creeper is a small, insectivorous forest bird that is found only on the Hawaiian island of Kauai. It occurs in mesic and wet montane forests at higher elevations on the Alakai Plateau. Surveys in 2000 showed that in the last 30 years the range of the Kauai creeper has decreased from 88 to 36 square kilometers (21,750 to 8,896 acres), that the species has disappeared from much of the periphery of its range, and that the estimated population has declined from 6,832 ± 966 to 1,472 ± 680 birds.

The creeper is primarily threatened by diseases carried by nonnative mosquitoes that occur over most or all of its range. Experimental evidence has shown that the malarial parasite does not develop in birds below 13° Celsius (C) (55° Fahrenheit (F)), and field studies have found that maximum malaria transmission occurs where mean ambient summer temperature is 17 °C (63 °F). There are no forested areas on Kauai where mean ambient temperature is below 13 °C (55 °F), meaning all areas are subject to malaria at least periodically. Mosquitoes have been found recently near the highest elevations on Kauai. The disappearance of the Kauai creeper from lowland habitats indicates the species has not evolved resistance to these diseases, and it is very unlikely that such evolution could occur rapidly enough to keep pace with expansion of mosquito populations. The creeper's habitat is being adversely affected by invasive nonnative plants and by the browsing and rooting of feral ungulates. Nonnative plants displace native plant species required by the creeper, and ungulates destroy the forest understory and spread the seeds of nonnative plants. Efforts are underway to control nonnative plants in some areas, but over most of the species range there is no effective control of nonnative plants or feral ungulates. Based on the imminent threats of a high magnitude, we assigned this species a listing priority number of 2.

Yellow-billed cuckoo, western U.S. DPS (*Coccyzus americanus*)—The following summary is based on information contained in our files and the petition received on February 9, 1998. *See also* our 12-month petition finding published on July 25, 2001 (66 FR 38611). The yellow-billed cuckoo is a medium-sized bird of about 12 inches (30 centimeters) in length with a slender, long-tailed profile and a fairly stout and slightly down-curved bill. Plumage is grayish-brown above and white below, with rufous primary flight feathers with the tail feathers boldly patterned with black and white below. Western cuckoos breed in large blocks of riparian habitats (particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). Dense understory foliage appears to be an important factor in nest site selection, while cottonwood trees are an important foraging habitat in areas where the species has been studied in California. We consider the yellow-billed cuckoos that occur in the western U.S. a distinct population segment (DPS). The area for this DPS is west of the crest of the Rocky Mountains.

The threats currently facing the yellow-billed cuckoo include habitat loss, cattle grazing, and pesticide application. Principal causes of riparian habitat losses are conversion to agricultural and other uses, dams and river flow management, stream channelization and stabilization, and livestock grazing. Available breeding habitats for cuckoos have also been substantially reduced in area and quality by groundwater pumping and the replacement of native riparian habitats by invasive nonnative plants, particularly tamarisk. Overuse by livestock has been a major factor in the degradation and modification of riparian habitats in the western U.S. The effects include changes in plant community structure and species composition and in relative abundance of species and plant density. These changes are often linked to more widespread changes in watershed hydrology. Livestock grazing in riparian habitats typically results in reduction of plant species diversity and density, especially of palatable broadleaf plants

like willows and cottonwood saplings, and is one of the most common causes of riparian degradation. In addition to destruction and degradation of riparian habitats, pesticides may affect cuckoo populations. In areas where riparian habitat borders agricultural lands, *e.g.*, in California's central valley, pesticide use may indirectly affect cuckoos by reducing prey numbers, or by poisoning nestlings if sprayed directly in areas where the birds are nesting. We retain a listing priority number of 3 for the yellow-billed cuckoo due to imminent threats of a high magnitude.

Friendly ground-dove, American Samoa DPS (*Gallicolumba stairi stairi*)—See above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Streaked horned lark (*Eremophila alpestris strigata*)—*See* above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files and the petition received on January 7, 2003.

Red knot (*Calidris canutus rufa*)—*See* above in ''*Summary of New Candidates.*'' The above summary is based on information in our files and in the petitions dated August 6, 2004, July 28, 2005, and August 2, 2005.

Kittlitz's murrelet (*Brachyramphus brevirostris*)—The following summary is based on information contained in our files and the petition received on May 9, 2001. Kittlitz's murrelet is a small diving seabird whose entire North American population, and most of the world's population, inhabits Alaskan coastal waters discontinuously from Point Lay south to northern portions of Southeast Alaska. Most recent population estimates (9,500–26,700 birds) indicate that it has the smallest population of any seabird considered a regular breeder in Alaska. This species appears to have undergone significant population declines in four of its core population centers—Prince William Sound, Malaspina Forelands, Glacier Bay, and Kenai Fjords. As populations become smaller, they become increasingly vulnerable to events that may result in local extirpation. Causes for the declines in populations are not well known, but we believe that glacial retreat and oceanic regime shifts are the most likely causes. Kittlitz's murrelets seem to prefer areas near stable or advancing tidewater glacier faces as these areas have higher primary productivity compared to siltier, less saline fjords with receding glaciers, but the ecological mechanisms linking Kittlitz's murrelets to their preferred habitats remains a topic for further research. Other causes of decline may include: Habitat loss or degradation, increased adult and juvenile mortality, and low recruitment. Existing regulatory mechanisms appear inadequate to stop or reverse population declines or to reduce the threats to this species. Due to the nonimminent threats of high magnitude, we retained a listing priority number of 5 for this species.

Xantus's murrelet (*Synthliboramphus hypoleucus*)—The following summary is based on information contained in our files and the petition received on April 16, 2002. The Xantus's murrelet is a small seabird in the Alcid family that occurs along the west coast of North America in the U.S. and Mexico. The species has a very limited breeding distribution, only nesting on the Channel Islands in southern California and on islands off the west coast of Baja California, Mexico. Nesting populations in the U.S. and Mexico appear to have declined due to a wide variety of threats, with substantial declines evident at some of the largest nesting colonies and extirpations on three of the seven Mexican islands. Some identified threats include the possibility of oil spills, reductions in prey availability, introduced nonnative predators at several nesting colonies, chronic human disturbance, and artificial light pollution. A dramatic decline (up to 70 percent) from 1977 to 1991 was detected at the largest nesting colony in southern California, possibly due to high levels of predation on eggs by the endemic deer mouse (*Peromyscus maniculatus elusus*). Data on population trends from other islands are scarce, particularly on the Mexican nesting islands. Although substantial declines in the Xantus's murrelet population appear to have occurred over the last century, some of the largest threats are being addressed, and, to some degree, ameliorated in the U.S.. Declines and extirpations of Xantus's murrelets at several nesting colonies were thought to have been caused by nonnative predators such as rats (*Rattus* sp.) and feral cats (*Felis catus*), which have been removed from many of the islands where they once occurred. Most notably, in 2002, rats were eradicated from Anacapa Island in southern California, which has resulted in immediate improvements in reproductive success at that island.

The Service has been working with the State of California, National Park Service, and National Oceanographic and Atmospheric Administration (NOAA Fisheries) to address the threats of light pollution and human disturbance. Many nocturnal seabirds are attracted to bright lights on commercial fishing vessels. Xantus's murrelets and other seabirds become exhausted by their continual attraction and fluttering near lights or collide with lighted vessels, the impact resulting in injury or death. Chicks have been known to become separated from their parents due to vessel lights, and this would have resulted in death of the chicks because they are dependent on their parents for survival. High-wattage lights on commercial market squid (*Loligo opalescens*) fishing vessels are used at night to attract squid to the surface of the water. These boats have been reported operating in shallow waters near Xantus's murrelet nesting colonies in the California Channel Islands, with several vessels often fishing simultaneously in the same area. Unusually high predation on Xantus's murrelets by Western Gulls and Barn Owls was reported at Santa Barbara Island in 1999, and was attributed to bright lights from the squid fishing that occurred directly offshore for much of the breeding season. To address this threat, the California Fish and Game Commission requires light shields and a limit of 30,000 watts per boat, made effective on May 31, 2000. The resulting effects are still unknown.

The recent proposal to build a liquid natural gas (LNG) facility 600 meters (1,969 feet) off Islas Los Coronados in Baja California, Mexico, is another threat to the species. This island contains one of the largest nesting populations of Xantus's murrelets in the world. The construction and operation of the proposed LNG facility at Islas Los Coronados could increase human disturbance to Xantus's murrelets. Potential sources of disturbance include: (1) Bright lights at night from the facility and visiting tanker vessels; (2) noise from the facility; (3) noise from helicopters visiting the facility; (4) ingress and egress of tanker vessels; and (5) other vessels transporting personnel and supplies. Due to the imminent threats of high magnitude, we assigned this species a listing priority number of 2.

Lesser prairie-chicken (*Tympanuchus pallidicinctus*)—The following summary is based on information contained in our files and the petition received on October 5, 1995. Additional information can be found in the 12-month finding published on June 7, 1998 (63 FR 31400). Biologists estimate that the occupied range has declined by 92 percent since the 1800s. The most serious threats to the lesser prairie-chicken are loss of habitat from conversion of native rangelands to introduced forages and cultivation,

cumulative habitat degradation caused by severe grazing, woody plant invasion of open prairies, fire suppression, herbicides, and habitat fragmentation caused by structural and transportation developments. Many of these threats may exacerbate the normal effects of periodic drought on lesser prairie-chicken populations. In many cases, the remaining suitable habitat has become fragmented by the spatial arrangement of these individual threats. We view current and continued habitat fragmentation to be a serious ongoing threat that facilitates the extinction process through several mechanisms: Remaining habitat patches may become smaller than necessary to meet the yearlong requirements of individuals and populations, necessary habitat heterogeneity may be lost to large areas of monoculture vegetation and/or homogeneous habitat structure, areas between habitat patches may harbor high levels of predators or brood parasites, and the probability of recolonization decreases as the distance between suitable habitat patches expands.

The Service is currently working to quantify the ongoing level of habitat fragmentation throughout the range of the species. Although Federal lands comprise only five percent of currently occupied habitat, these tracts are located in areas essential to population recovery and dispersal. As a result, the Service views habitat management considerations on Federal lands within current and historic range as very important. Due to their potential to affect the species, current planning efforts for grazing and wind, oil, and gas development on public lands is of particular relevance to the future listing status of the species.

Based on all currently available information, we find that ongoing threats to the lesser prairie-chicken, as outlined in the 12-month finding, remain unchanged and lesser prairie-chickens continue to warrant Federal listing as threatened. We have determined that the overall magnitude of threats to the lesser prairie-chicken throughout its range is moderate, and that the threats are ongoing and thus, imminent. Consequently, a listing priority number of 8 remains appropriate for the species.

Greater sage-grouse, Columbia Basin DPS (*Centrocercus urophasianus*)—We have not updated our finding with regard to the Columbian Basin DPS of the greater sage-grouse in this notice. In the May 4, 2004, notice, we found that a listing proposal for this DPS was still warranted but precluded by higher priorities, and maintained its listing priority number of 6. 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 western sage grouse (*C. u. phaios*). Currently, the American Ornithologists' Union recognizes two subspecies of greater sage-grouse. Compared to the eastern subspecies (*C. u. urophasianus*), the western subspecies has reduced white markings and darker grayish-brown feathering, resulting in a more dusky overall appearance. Pursuant to Service policy (61 FR 4722), on May 7, 2001, we concluded that listing the Columbia Basin DPS of western sage grouse, which was historically found in northern Oregon and central Washington, was warranted, but precluded by higher priority listing actions (66 FR 22984). The Service subsequently received two petitions requesting the listing of the entire ranges of the nominal western and eastern subspecies of greater sage-grouse, dated January 24 and July 3, 2002, respectively. However, based on communications with recognized experts, disagreement as to the validity of these subspecies designations exists. When informed taxonomic opinion is not unanimous, the Service must evaluate the available information with regard to our section 4 listing responsibilities under the Endangered Species Act (USFWS 1992). We subsequently concluded that the subspecies designations for greater sage-grouse are inappropriate given current taxonomic standards (68 FR 6500 and 69 FR 933). In response to recent judicial direction (*Institute for Wildlife Protection* v. *Norton* (9th Cir. 2005, Unpublished opinion)), we are in the process of revisiting our current interpretation of the taxonomic status of the greater sage-grouse subspecies. We will publish an updated finding addressing the Columbia Basin DPS in the **Federal Register**, either in the next CNOR or in a separate notice, following our judicially-directed reassessment of the species' taxonomy.

Band-rumped storm-petrel, Hawaii DPS (*Oceanodroma castro*)—The following summary is based on information contained in our files and the petition 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 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. A population also can be considered discrete if it is delimited by international boundaries across which exist differences in management control of the species. The Hawaiian population of the band-rumped storm-petrel is the only population within U.S. borders or under U.S. jurisdiction. 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 exchanges.

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. Nesting colonies of this species in the Hawaiian Islands currently are restricted to remote cliffs on Kauai and Lehua Islet and high-elevation lava fields on Hawaii. Vocalizations of the species were heard in Haleakala Crater on Maui in 1992, but have not been detected there recently. The significant reduction in numbers and range of the band-rumped storm-petrel from prehistoric population levels is due primarily to predation by humans and nonnative predators introduced by humans, including the domestic cat (*Felis catus*), small Indian mongoose (*Herpestes auropunctatus*), common barn owl (*Tyto alba*), black rat (*R. rattus*), Polynesian rat (*Rattus exulans*), and Norway rat (*R. norvegicus*), which occur throughout the main Hawaiian

Islands, with the exception of the mongoose, which is not established on Kauai but may have an incipient population there. Attraction of fledglings to artificial lights and collisions with artificial structures such as communication towers and utility lines are also a threat. Erosion of nest sites caused by the actions of nonnative ungulates and feral rabbits is a threat in some locations. Efforts are underway in some areas to reduce light pollution and mitigate the threat of collisions, but there are no large-scale efforts to control nonnative predators in the Hawaiian Islands. Based on the imminent threats of a high magnitude, we assign this distinct population segment a listing priority number of 3.

Elfin woods warbler (*Dendroica angelae*)—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 elfin woods warbler is a small, entirely black and white warbler, endemic to Puerto Rico. This species was at first thought to occur only in the high-elevation dwarf or elfin forests, but it has since been found at lower elevations, including shade coffee plantations and secondary forests. *Dendroica angelae* builds a compact cup nest, usually close to the trunk and well hidden among the epiphytes of a small tree, and its breeding season extends from March to June. This species forages in the middle part of trees, gleaning insects from leaves in the outer portion of the tree crown. *Dendroica angelae* has been documented from four locations: Luquillo Mountains, 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 Hurricane Hugo in 1989. Although there is no estimate of total population of *D angelae*, the latest estimate of 138 pairs for the Luquillo Mountains suggests that the total population may be less than 300 pairs.

Habitat destruction from expansion of public facilities within the forests, potential construction of additional telecommunication towers and their maintenance, disruption of breeding activities from pedestrians and high human use areas, switching from shade to sun coffee plantations, timber management practices, potential predators, and catastrophic natural events such as hurricanes and forest fires threaten this species. Although these threats are not imminent, because most of the range of *D. angelae* is within protected lands and there are no known projects or management activities planned that would result in mortality of this species, the magnitude of threat to *D. angelae* is high, due to its restricted distribution and low population numbers. Therefore, we assign a listing priority number of 5 to this species.

Reptiles

Sand dune lizard (*Sceloporus arenicolus*)—The following summary is based on information contained in our files and in the petition received June 6, 2002. The sand dune lizard is endemic to a small area in southeastern New Mexico (Chaves, Eddy, Lea, and Roosevelt Counties) and adjacent west Texas (Andrews, Crane, Ward, and Winkler Counties). Within this area, the known occupied and potentially occupied habitat is only 1,697 square kilometers (655 square miles) in New Mexico and an area of unknown size in west Texas. The sand dune lizard's distribution is localized and fragmented (i.e., known populations are separated by vast areas of unoccupied habitat), and the species is restricted to sand dune blowouts associated with active sand dunes and shinnery oak (*Quercus harvardii*) and scattered sandsage (*Artemisia filifolia*) vegetation. Sand dune lizards are not found at sites lacking shinnery-oak dune habitat.

Extensive surveys within New Mexico, conducted in conjunction with a 5-year study, documented sand dune lizards at only half of the sites surveyed. Since February 2003, a Stakeholder Group has met to create a conservation strategy for the conservation of shinnery-oak habitat that offers a range of specific actions for the recovery of the lesser prairie-chicken and sand dune lizard and takes into account other uses of the land. The group has broad representation from the oil and gas and livestock industries, conservation/environmental interests, local governments, sportsmen/recreation, State and Federal agencies (New Mexico State Land Office, New Mexico Department of Agriculture, Natural Resources Conservation Service, Fish and Wildlife Service, and Bureau of Land Management), and independent technical advisors. The group completed its Conservation Strategy that outlines broad policies and plans for land management and a set of voluntary conservation efforts by stakeholders.

It is clear that shinnery-oak removal (*e.g.*, by treating with the herbicide Tebuthiuron for livestock range improvements) results in dramatic reductions and extirpation of sand dune lizards. Scientists repeatedly confirmed the extirpation of sand dune lizards from areas with herbicide treatment to remove shinnery oak. In 1999, biologists estimated that about 25 percent of the total sand-dune-lizard habitat in New Mexico had been eliminated in the previous 10 years. The population of sand dune lizards has also been affected by oil and gas field development. An estimated 50-percent decline in sand dune lizard populations can be expected in areas with approximately 25 to 30 oil and/or gas wells per section. The distribution of sand dune lizards is localized and fragmented, and this species is a habitat specialist. Therefore, impacts to its habitat will most likely greatly decrease populations. If current herbicide application continues and oil and gas development progresses as expected, the magnitude of threat to sand dune lizards will increase. Continued pressure to develop oil and gas resources in areas with sand dune lizards poses an imminent threat to the species. Therefore, we continue to assign this species a listing priority number of 2.

Eastern massasauga (*Sistrurus catenatus catenatus*)—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 eastern massasauga is one of three recognized subspecies of massasauga. It is a small, thick-bodied rattlesnake that occupies shallow wetlands and adjacent upland habitat in portions of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, New York, Ohio, Pennsylvania, Wisconsin, and Ontario. Although the current range of *S. c. catenatus* resembles the subspecies' historical range, the geographic distribution has been restricted by the loss of the subspecies from much of the area within the boundaries of that range. Approximately 40 percent of the counties that were historically occupied by *S. c. catenatus* no longer support the subspecies. *S. c. catenatus* is currently considered imperiled in every State and province in which it occupies. Each State and Canadian province across the range of *S. c. catenatus* has lost more than 30 percent, and for the majority more than 50 percent, of their historical populations. Furthermore, less than 35 percent of the remaining populations are considered secure. Approximately 59 percent of the remaining *S. c. catenatus* populations occur wholly or in part on public land, and state-wide and/or site-specific Candidate Conservation Agreements with Assurances (CCAAs) are currently being developed for many of these areas in Iowa, Illinois, Michigan, Missouri, Ohio, and Wisconsin. Populations soon to be under CCAs and CCAAs have a high

likelihood of persisting and remaining viable. Other populations are likely to suffer additional losses in abundance and genetic diversity and some will likely be extirpated unless threats are removed in the near future. Therefore, the magnitude of threats from habitat modification, habitat succession, incompatible land management practices, illegal collection for the pet trade, and human persecution is moderate overall, with most imminent threats occurring to remaining populations on private lands. Due in large part to the numerous CCAAs currently being developed and implemented, we do not believe emergency listing is warranted and have kept the listing priority number at 9 for the eastern massasauga subspecies.

Black pine snake (*Pituophis melanoleucus lodingi*)—See above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Louisiana pine snake (*Pituophis ruthveni*)—See above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files and the petition received on July 19, 2000.

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 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, is the primary threat 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 of the southwest. Due to continuing irrigated agriculture and development in the region, surface water in the Rio Sonoyta can be expected to dwindle further. This species may also be vulnerable to aerial spraying of pesticides on nearby agricultural fields. Due to imminent threats of a high magnitude, we are keeping the listing priority number of 3 for this subspecies.

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. Currently, Columbia spotted frogs appear to be widely distributed throughout southwestern Idaho, eastern Oregon, and northeastern and central Nevada, but local populations within this entire general area appear to be small and isolated from each other. Recent work by researchers in Idaho and Nevada has documented the loss of historically known sites, reduced numbers of individuals within local populations, and declines in the reproduction of those individuals. Habitat degradation and fragmentation are probably a combined result of past and current influences of heavy livestock grazing, spring alterations, agricultural development, urbanization, beaver control, and mining activities. Fragmentation of habitat may be one of the most significant barriers to Columbia spotted frog recovery and population persistence. Loss of vegetation and/or lowering of the water table as a result of the above mentioned activities can significantly threaten frogs moving from one area to another. Likewise, fragmentation and loss of habitat can prevent frogs from colonizing suitable sites elsewhere.

Two conservation agreements and strategies were signed by Federal, State, county, and university representatives on September 30, 2003, for the central and northeast Nevada subpopulations. The goals of the conservation agreements 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 historic 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 historic range. Despite the signing of these two conservation agreements and implementation of many actions in one of them, population levels have not increased significantly over levels that were present at the time the agreements were signed. There are several reasons for this, including the fact that the agreements do not cover entire range of the species (Oregon and Idaho are not included); the agreements mainly focus on data collection and research to assess current threats and distribution and abundance, and important factors affecting the populations are outside the scope of the agreement/conservation actions. Factors outside the agreements are threats such as disease, winter kill, and unexpected habitat degradation due to impacts of unauthorized livestock use at a core population site of the species. Also, implementation of one of the agreements has been severely constrained due to funding limitations faced by the implementing agency. Based on imminent threats of high magnitude, we are continuing to assign a listing priority number of 3 to this DPS of the Columbia spotted frog.

Mountain yellow-legged frog, Sierra Nevada DPS (*Rana muscosa*)—The following summary is based on information contained in our files and the petition received on February 8, 2000. Also see our 12-month petition finding published on January 16, 2003 (68 FR 2283). The mountain yellow-legged frog inhabits the high elevation lakes, ponds, and streams in the Sierra Nevada Mountains of California, from near 4,500 feet (1,370 meters) to 12,000 feet (3,650 meters). The distribution of the mountain yellow-legged frog is from Butte and Plumas counties in the north to Tulare and Inyo counties in the south. A separate population in southern California is already listed as endangered (67 FR 44382).

Predation by introduced trout is the best-documented cause of the decline of the Sierra Nevada mountain yellow-legged frog, because it has been repeatedly observed that nonnative fishes and mountain yellow-legged frogs rarely co-exist. Mountain yellow-legged frogs and trout (native and nonnative) do co-occur at some sites, but these co-occurrences probably are mountain yellow-legged frog populations with negative population growth rates in the absence of immigration. To help reverse the decline of the mountain yellow-legged frog, the Sequoia and Kings Canyon National Parks have been removing introduced trout since 2001. Over 18,000 introduced trout have been removed from 11 lakes since the project started in 2001. The lakes are completely-to-mostly fish-free and substantial mountain yellow-legged frog population increases have resulted. The California Department of Fish and Game (CDFG) has also removed or is in the process of removing nonnative trout from a total of between 10 and 20 water bodies in the Inyo, Humboldt-Toiyabe, Sierra, and El Dorado National Forests. In the El Dorado National Forest, golden trout were removed from Leland Lakes, and attempts have been made to remove trout from two sites near Gertrude Lake and a tributary of Cole Creek; no data showing increase in mountain yellow-legged frogs at these sites were available.

In California, chytridiomycosis, more commonly known as chytrid fungus, has been detected in many amphibian

species, including the mountain yellow-legged frog within the Sierra Nevada. Recent research has shown that this pathogenic fungus is widely distributed throughout the Sierra Nevada, and that infected mountain yellow-legged frogs die soon after metamorphosis. Several infected and uninfected populations were monitored in Sequoia and Kings Canyon National Parks over multiple years, documenting dramatic declines and extirpations in infected but not in uninfected populations. In the summer of 2005, 39 of 43 populations assayed in Yosemite National Park were positive for chytrid fungus.

The current distribution of the Sierra Nevada mountain yellow-legged frog is restricted primarily to publicly managed lands at high elevations, including streams, lakes, ponds, and meadow wetlands located on national forests, including wilderness and non-wilderness on the forests, and national parks. In several areas where detailed studies of the effects of chytrid fungus on the mountain yellow-legged frog are ongoing, substantial declines have been observed over the past several years. For example, in 2005 surveys in Yosemite National Park mountain yellow-legged frogs were not detectable at 37 percent of 113 sites where they had been observed in 2000 to 2002; in 2005 in Sequoia and Kings Canyon National Parks, mountain yellow-legged frogs were not detected at 47 percent of sites where they had been recorded 3 to 8 years earlier. A compounding effect of disease-caused extinctions of mountain yellow-legged frogs is that recolonization may never occur, because streams connecting extirpated sites to extant populations now contain introduced fishes, which act as barriers to frog movement within metapopulations. The listing priority for the mountain yellow-legged frog in the Sierra Nevada is highest for a population and is a 3.

Oregon spotted frog (*Rana pretiosa*)—The following summary is based on information contained in our files and the petition received on May 4, 1989. Historically, the Oregon spotted frog ranged from British Columbia to the Pit River drainage in northeastern California. Based on surveys of historical sites, the Oregon spotted frog is now absent from at least 76 percent of its former range. The majority of the remaining Oregon spotted frog populations are small and isolated.

The threats to the species' habitat include development, livestock grazing, introduction of nonnative plant species, changes in hydrology due to construction of dams and alterations to seasonal flooding, and poor water quality. Additional threats to the species are predation by nonnative fish and introduced bullfrogs; competition with bullfrogs for habitat; and diseases, such as oomycete water mold *Saprolegnia* and chytrid fungus infections. The magnitude of threat is high for this species because the small populations with patchy and isolated distributions are subject to a wide range of threats to both individuals and their habitats that could seriously reduce or eliminate any of these isolated populations and further reduce the range of the species. Habitat restoration and management actions have not prevented a decline in the reproductive rates in some populations. The threats are imminent because each population is faced with multiple ongoing and potential threats. Therefore, we retained a listing priority number of 2 for the Oregon spotted frog.

Relict leopard frog (*Rana onca*)—*See* above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files and the petition received on May 9, 2002.

Ozark hellbender (*Cryptobranchus alleganiensis bishopi*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Since the species was elevated to candidate status in 2001 (66 FR 54808), the known threats have increased. In particular, recreational pressures on Ozark hellbender rivers have increased substantially on an annual basis. The Missouri Department of Conservation reports that gigging popularity and pressure have increased, and present a significant threat to hellbenders during the breeding season as they tend to move greater distances and congregate in small groups where they are an easy target for giggers. Canoe, kayak, and motor/jet boat traffic has increased in recent years on the Jacks Fork, Current, Eleven Point, and North Fork Rivers. The popularity of these float streams has grown to the point that the National Park Service is considering alternatives to reducing the number of boats that can be launched daily by concessionaires. In 2003, the Missouri Department of Natural Resources added a 7-mile stretch of the Jacks Fork River to the list of impaired waters for organic wastes (fecal coliform).

To date, nothing has been done to reduce or ameliorate ongoing threats to Ozark hellbenders. The Ozarks region continues to experience rapid urbanization, expansion of industrial agricultural practices such as concentrated animal feeding operations (chickens, turkeys, hogs, cattle), and logging. No laws are in place that preclude livestock from grazing in riparian corridors and resting in or along streams and rivers. Missouri is the second largest beef cattle producing state in the nation, with the majority of animal units produced in the Ozarks. Both Arkansas and Missouri are the leading States in poultry production. The fact that the majority of the Ozarks region in Missouri and Arkansas is comprised of karst topography (caves, springs, sinkholes, and losing streams) further complicates the containment and transport of potential contaminants. In short, the abundance of waste being generated and lack of adequate treatment facilities or practices for both human and livestock waste poses a significant and ever increasing threat to aquatic ecosystems. The decrease in Ozark hellbender range and population size and the shift in age structure are likely caused by a variety of historic and ongoing activities. The primary causes of these trends are habitat destruction and modification. Among these are impoundment, channelization, and siltation and water quality degradation from a variety of sources, including industrialization, agricultural runoff, mine waste, and timber harvest. Overutilization of hellbenders for commerce and scientific purposes is also likely contributing to their decline. The regulations in place that could prevent these impacts, including the Clean Water Act and State laws, have been inadequate in preventing Ozark hellbender declines to this point. Finally, most of the remaining Ozark hellbender populations are small and isolated, making them vulnerable to individual catastrophic events and reducing the likelihood of recolonization after localized extinctions. Due to the existence of ongoing, high magnitude threats, particularly the substantial increases in recreational pressures on Ozark hellbender rivers on an annual basis, we assigned a listing priority number of 3 to the subspecies.

Austin blind salamander (*Eurycea waterlooensis*)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The Austin blind salamander is known to occur in and around three of the four spring sites that comprise the Barton Springs complex in the City of Austin, Travis County, Texas.

Primary threats to this species are degradation of water quality and quantity due to expanding urbanization. The Austin blind salamander depends on a constant supply of clean water in the Edwards Aquifer discharging from

Barton Springs for its survival. Urbanization dramatically alters the normal hydrologic regime and water quality of an area. Increased impervious cover caused by development increases the quantity and velocity of runoff that leads to erosion and greater pollution transport. Pollutants and contaminants that enter the Edwards Acquifer are discharged in salamander habitat at Barton Springs and have serious morphological and physiological effects to the salamander. As the human population increases in central Texas, greater demand on groundwater sources occurs. Increased pumping of the Edwards Aquifer can result in reduced springflows that may also detrimentally impact the salamander. The Texas Commission on Environmental Quality adopted the Edwards Rules in 1995 and 1997, which require a number of water quality protection measures for new development occurring in the recharge and contributing zones of the Edwards Aquifer. However, Chapter 245 of the Texas Local Government Code permits ''grandfathering'' of state regulations. Grandfathering allows developments to be exempted from any new local or state requirements for water quality controls and impervious cover limits if the developments were planned prior to the implementation of such regulations. As a result of the grandfathering law, very few developments have followed these ordinances. New developments are still obligated to comply with regulations that were applicable at the time when project applications for development were first filed. In addition, it is significant that even if they were followed with every new development, these ordinances do not span the entire watershed for Barton Springs. Consequently, development occurring outside these jurisdictions can have negative consequences on water quality and thus impact the species. Despite having the Edwards Rules in place and the existence of other local ordinances, 10 years of trend data continues to show that water quality at Barton Springs is declining. Because of the limited distribution of this species, the magnitude of the threats facing it is high. We also consider the threats to be imminent because urbanization is ongoing and continues to expand over the Barton Springs Segment of the Edwards Aquifer and water quality continues to degrade. Thus, we retained a listing priority number of 2 for this species.

Georgetown salamander (*Eurycea naufragia*)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The Georgetown salamander is know from spring outlets along five tributaries to the San Gabriel River and one cave in the City of Georgetown, Williamson County, Texas. The Georgetown salamander has a very limited distribution and depends on a constant supply of clean water from the Northern Segment of the Edwards Aquifer for its survival.

Primary threats to this species are degradation of water quality and quantity due to expanding urbanization. Increased impervious cover by development increases the quantity and velocity of runoff that leads to erosion and greater pollution transport. Pollutants and contaminants that enter the Edwards Aquifer are discharged from spring outlets in salamander habitat and have serious morphological and physiological effects to the species. As the human population increases in central Texas, greater demand on groundwater sources occurs. Increased pumping of the Edwards Aquifer results in reduced springflows that may also detrimentally impact the salamander.

The information regarding the Edwards Rules described above in relation to the Austin blind salamander also applies to the Georgetown salamander and is incorporated here by reference. Because of the limited distribution of the Georgetown salamander, the magnitude of the threats facing it is high. The threats are also imminent because urbanization is ongoing and continues to expand over the Northern Segment of the Edwards Aquifer. Thus, we retained a listing priority number of 2 for this species.

Salado salamander (*Eurycea chisolmensis*)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The Salado salamander is historically known from two spring sites, Big Boiling Springs and Robertson Springs, near Salado, Bell County, Texas. Salamanders have not been located at Robertson Springs since 1991.

Primary threats to this species are habitat modification and degradation of water quality and quantity due to expanding urbanization. Many of the spring outlets in the City of Salado have been modified by dam construction. Because Big Boiling Springs is located near Interstate 35 and in the center of the city, increasing traffic and urbanization increase threats of contamination from spills, higher levels of impervious cover, and subsequent impacts to groundwater. Several groundwater contamination incidents have occurred within Salado salamander habitat. The Salado salamander depends on a constant supply of clean water from the Northern Segment of the Edwards Aquifer for its survival. Pollutants and contaminants that enter the Edwards Aquifer discharge in salamander habitat and have serious morphological and physiological effects to the salamander. As the human population increases in central Texas, greater demand on groundwater sources occurs. Increased pumping of the Edwards Aquifer can result in reduced springflows that may also detrimentally impact the salamander.

Controls of nonpoint source pollution in the watershed are implemented through the Edwards Rules (water quality protection measures for the recharge and contributing zones of the Edwards Aquifer) adopted by the Texas Commission on Environmental Quality (TCEQ) in 1995 and 1997. Although implementation of the Edwards Rules in other areas of the Northern Segment of the Edwards Aquifer may have the potential to affect conditions at spring sites occupied by the Salado salamander, the jurisdiction of TCEQ does not extend into Bell County. For this reason, compliance with the Edwards Rules is not required in this part of the Edwards Aquifer. There are no other local or regional water protection measures that have been put in place for areas that feed the springs known to be occupied by the Salado salamander. Because of the limited distribution of this species, the magnitude of the threats facing it is high. We also consider the threats to be imminent because urbanization is ongoing and contamination events are occurring near spring sites known to support Salado salamanders. Thus, we retained a listing priority number of 2 for this species.

Yosemite toad (*Bufo canorus*)—The following summary is based on information contained in our files and the petition received on April 3, 2000. See also our 12-month petition finding published on December 10, 2002 (67 FR 75834). Yosemite toads are moderately sized toads with females having black spots edged with white or cream that are set against a grey, tan or brown background. Males have a nearly uniform coloration of yellow-green to olive drab to greenish brown. Yosemite toads are most likely to be found in areas with thick meadow vegetation or patches of low willows near or in water, and use rodent burrows for overwintering and temporary refuge during the summer. Breeding habitat includes the edges of wet meadows, slow flowing streams, shallow ponds

and shallow areas of lakes. The historic range of Yosemite toads in the Sierra Nevada occurs from the Blue Lakes region north of Ebbetts Pass (Alpine County) to south of Kaiser Pass in the Evolution Lake/Darwin Canyon area (Fresno County). The historic elevational range of Yosemite toads is 1,460 to 3,630 meters (4,790 to 11,910 feet).

The threats facing the Yosemite toad include cattle grazing, timber harvesting, recreation, disease, and climate change. Inappropriate grazing has shown to cause loss in vegetative cover and destroying peat layers in meadows, which lowers the groundwater table and summer flows. This may increase the stranding and mortality of tadpoles, or make these areas completely unsuitable for Yosemite toads. Grazing can also degrade or destroy moist upland areas used as non-breeding habitat by Yosemite toads and collapse rodent burrows used by Yosemite toads as cover and hibernation sites. Timber harvesting and associated road development could severely alter the terrestrial environment and result in the reduction and occasional extirpation of amphibian populations in the Sierra Nevada. These habitat gaps may act as dispersal barriers and contribute to the fragmentation of Yosemite toad habitat and populations. Trails (foot, horse, bicycle, or off-highway motor vehicle) compact soil in riparian habitat, which increases erosion, displaces vegetation, and can lower the water table. Trampling or the collapsing of rodent burrows by recreationists, pets, and vehicles could lead to direct mortality of all life stages of the Yosemite toad and disrupt their behavior. Various diseases have been confirmed in Yosemite toads. Mass die-offs of amphibians have been attributed to: Chytrid fungal infections of metamorphs and adults; *Saprolegnia* fungal infections of eggs; iridovirus infection of larvae, metamorphs, or adults; and bacterial infections. Yosemite toads probably are exposed to a variety of pesticides and other chemicals throughout their range. Environmental contaminants could negatively affect the species by causing direct mortality; suppressing the immune system; disrupting breeding behavior, fertilization, growth or development of young; and disrupting the ability to avoid predation. We retained a listing priority number of 11 for the Yosemite toad since the threats are of moderate to low magnitude and the threats are nonimminent at this time.

Black Warrior waterdog (*Necturus alabamensis*)—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 Black Warrior waterdog 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 1980's. There are 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 1990's to look for additional populations. Currently, the species is known from 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 appeared biologically depauperate. 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 all 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 (acres) of its habitat. These impoundments are likely marginal or unsuitable habitat for the salamander. Due to the continuing, imminent, high magnitude of the pervasive water quality degradation in the Black Warrior Basin, we assigned a listing priority number of 2 to this species.

Fishes

Arkansas darter (*Etheostoma cragini*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Arkansas darter is a small fish in the perch family native to portions of the Arkansas River basin. The species' range includes sites in extreme northwestern Arkansas, southwestern Missouri, and northeastern Oklahoma. It also occurs in a number of watersheds and isolated streams in eastern Colorado, south-central and southwestern Kansas, and in the Cimarron watershed in northwest Oklahoma. The species is most often found in small spring-fed streams with sand substrate and aquatic vegetation. It appears stable at most sites where spring flows persist. It has declined in areas where spring flows have decreased or been eliminated. We estimate that currently there are approximately 145 locality occurrences of the Arkansas darter distributed across the 5 States. However, status information from much of the Arkansas darter's range is dated, and new surveys are needed; some survey work is being conducted in 2006. Major threats to the species include stream dewatering resulting from groundwater pumping in the western portion of the species' range, and development pressures in portions of its eastern range. Spills and runoff from confined animal feeding operations also threaten the species locally throughout its range. We have retained a listing priority number of 11 for this species based on nonimminent threats of a moderate magnitude.

Cumberland darter (*Etheostoma susanae*)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Pearl darter (*Percina aurora*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Little is known about the specific habitat requirements or natural history of the Pearl darter. Pearl darters have been collected from rivers and streams with a variety of attributes, but are mainly found over a gravel bottom substrate. This species is historically known only from localized sites within the Pascagoula and Pearl River drainages in Louisiana and Mississippi. 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. Pearl darters are vulnerable to the cumulative impacts of a variety of non-point pollution types, such as sedimentation and chemical, and also to more localized and concentrated pollution events. The steady yet gradual change in river and tributary geomorphology and hydrology over time is believed to impact this species. Efforts are underway to improve habitat by reducing these threats and to increase

and augment the numbers of Pearl darters through husbandry efforts. The magnitude of threat to this species is high due to the species limited and disjunct populations and threat due to high vulnerability to sedimentation. However, this threat is nonimminent since no known projects are planned directly affecting the species and the decline of water quality is slow and gradual. Therefore, we assigned this species a listing priority number of 5.

Rush darter (*Etheostoma phytophilum*)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Yellowcheek darter (*Etheostoma moorei*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The yellowcheek darter is endemic to four headwater tributaries of the Little Red River. Factors affecting the remaining populations include loss of suitable breeding habitat, habitat and water quality degradation, population isolation, and severe population declines exacerbated by stochastic drought conditions. It is vulnerable to alterations in physical habitat characteristics such as the impoundment of Greers Ferry Reservoir, channel maintenance in the Archey Fork, increased sedimentation from eroding stream banks and poor riparian management, and illegal gravel mining. A 2004–2005 threats assessment by Service personnel documented occurrences of eroding stream banks, poor riparian management, and illegal gravel mining, and found 52 sites of these activities on the Middle Fork, 28 sites on the South Fork, 8 sites on Archey Fork, and 1 site in the Turkey/Beech/Devils Fork system that are potential contributors to the decline of the species. The Middle Fork was listed as an impaired waterbody by the Arkansas Department of Environmental Quality in 2004 due to excessive bacteria and low dissolved oxygen. Recent studies have documented significant declines in the numbers (60,000 in 1981; 10,300 in 2000) of this fish in the remaining populations and continuing range restriction within the tributaries (130.4 to 65.0 stream km). According to a 2000 status survey, yellowcheek darter numbers had declined over a 20-year period by 83 percent in both the Middle Fork and South Fork, and 60 percent in the Archey Fork. No yellowcheek darters were found in the Turkey Fork between 1999 and 2005; the species has apparently been extirpated in that reach. Due to imminent threats of a high magnitude that are not currently targeted by conservation actions, we assigned this species a listing priority number of 2.

Fluvial arctic grayling, upper Missouri River DPS (*Thymallus arcticus*)—We have not updated our finding with regard to fluvial arctic grayling DPS in this notice. We received a petition to list this species on October 2, 1992, and published our 12-month finding on July 25, 1994 (59 FR 37738). In the 2004 CNOR (70 FR 24870), we found that a listing proposal for this species was still warranted but precluded by higher priorities, with a listing priority number of 3. We are in the process of considering new information and conducting additional evaluations regarding the fluvial arctic grayling. Upon completion, we intend to publish a listing determination for this DPS species in the **Federal Register**.

Chucky madtom (*Noturus crypticus*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The chucky madtom is a rare catfish known from only 15 specimens collected from two Tennessee streams. A lone individual was collected in 1940 from Dunn Creek (a Little Pigeon River tributary) in Sevier County and 14 specimens have been encountered since 1991 in Little Chucky Creek (a Nolichucky River tributary) in Greene County. Only 3 specimens have been encountered since 1994 from two riffle areas in a short reach of Little Chucky Creek. All Little Chucky Creek specimens have been collected from stream runs with slow to moderate current over pea gravel, cobble, or slab-rock substrates.

Threats to the chucky madtom include both extrinsic and intrinsic factors. Extrinsic factors include potential degradation of water quality and breeding and sheltering habitat due primarily to agricultural landuse practices and secondarily to urban and rural development in the watersheds of Little Chucky and Dunn creeks. The Service believes that intrinsic factors including the potential demographic effects of inbreeding, limited species distribution, presumed low number of individuals, and presumed low fecundity and short life span characteristic of closely related madtom species pose imminent threats of a high magnitude to the chucky madtom in its only known extant and historic locations. Therefore, we assigned the chucky madtom a listing priority number of 2.

Grotto sculpin (*Cottus* sp., sp. nov.)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Grotto sculpin is restricted to two karst areas (limestone regions characterized by sink holes, abrupt ridges, caves, and underground streams), the Central Perryville Karst and Mystery-Rimstone Karst in Perry County, southeast Missouri. Grotto sculpins have been documented in only 5 caves. The current overall range of the grotto sculpin has been estimated to encompass approximately 260 square kilometers (100 square miles).

The small population size and endemism of the grotto sculpin make it vulnerable to extinction due to genetic drift, inbreeding depression, and random or chance changes to the environment. The species' karst habitat is located down-gradient of the city of Perryville, Missouri, which poses a potential threat if contaminants from this urban area enter cave streams occupied by grotto sculpins. Various agricultural chemicals, such as ammonia, nitrite/nitrate, chloride, and potassium have been detected at levels high enough to be detrimental to aquatic life within the Perryville Karst area. More than half of the sinkholes in Perry County contain anthropogenic refuse, ranging from household cleansers and sewage to used pesticide and herbicide containers. As a result, potential water contamination from various sources of point and non-point pollution poses a significant threat to the grotto sculpin. Of the 5 cave systems documented to have grotto sculpins, populations in one cave system were likely eliminated, presumably as the result of point-source pollution. When the cave was searched in the spring of 2000, a mass mortality of grotto sculpin was noted, and subsequent visits to the cave have failed to document a single live grotto sculpin. Thus, the species appears to have suffered a 20-percent decrease in the number of populations from the single event. Predatory fish such as common carp, fat-head minnow, yellow bullhead, green sunfish, bluegill, and channel catfish occur in all of the caves occupied by grotto sculpin. These potential predators may escape surface farm ponds that unexpectedly drain through sinkholes into the underground cave systems and enter grotto sculpin habitat. No regulatory mechanisms are in place that would provide protection to the grotto sculpin. Current threats to the habitat of the grotto sculpin may exacerbate potential problems

associated with its low population numbers and increase the likelihood of extinction. Due to the high magnitude of ongoing threats we assigned this species a listing priority number of 2.

Sharpnose shiner (*Notropis oxyrhynchus*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The sharpnose shiner is a small, slender minnow, endemic to the Brazos River Basin in Texas. Historically, the sharpnose shiner existed throughout the Brazos River and several of its major tributaries within the watershed. It has also been found in the Wichita River (within the Red River Basin), where it may have once naturally occurred but has since been extirpated. Current information indicates that the population within the Upper Brazos River drainage (upstream of Possum Kingdom Reservoir) is apparently stable, while the population within the Middle and Lower Brazos River Basins may only exist in remnant areas of suitable habitat, or may be completely extirpated, representing a reduction of approximately 68 percent of its historical range.

The most significant threat to the existence of the sharpnose shiner is potential reservoir development within its current range. Additional threats include irrigation and water diversion, sedimentation, industrial and municipal discharges, agricultural activities, in-stream sand and gravel mining, and the spread of invasive saltcedar. The current limited distribution of the sharpnose shiner within the Upper Brazos River Basin makes it vulnerable to catastrophic events such as the introduction of competitive species or prolonged drought. The magnitude of threat is high since the major threat of reservoir development within the current range of the species may render its remaining habitat unsuitable. The immediacy of threat is nonimminent due to major reservoir projects not likely occurring in the near future and the potential implementation of other water supply options that could preclude reservoir development. For these reasons, we assigned a listing priority number of 5 to this species.

Smalleye shiner (*Notropis buccula*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The smalleye shiner is a small, pallid minnow endemic to the Brazos River Basin in Texas. The population of smalleye shiners within the Upper Brazos River drainage (upstream of Possum Kingdom Reservoir) is apparently stable. However, the shiner has not been collected since 1976 downstream from the reservoir, and in all likelihood the species is completely extirpated from this area, representing a reduction of approximately 54 percent of its historical range.

The most significant threat to the existence of the smalleye shiner is potential reservoir development within its current range. Additional threats include irrigation and water diversion, sedimentation, industrial and municipal discharges, agricultural activities, in-stream sand and gravel mining, and the spread of invasive saltcedar. The current limited distribution of the smalleye shiner within the Upper Brazos River Basin makes it vulnerable to catastrophic events such as the introduction of competitive species or prolonged drought. The magnitude of threat is high since the major threat of reservoir development within the current range of the species may render its remaining habitat unsuitable. The immediacy of threat is nonimminent due to major reservoir projects not likely occurring in the near future and the potential implementation of other water supply options that could preclude reservoir development. For these reasons, we assigned a listing priority number of 5 to this species.

Zuni bluehead sucker (*Catostomus discobolus yarrowi*)—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 range of the Zuni bluehead sucker has been reduced by over 90 percent. The Zuni bluehead sucker currently occupies 9 river miles in 4 areas of New Mexico, and approximately 6 miles in one stream of Arizona. Zuni bluehead sucker range reduction and fragmentation is caused by discontinuous surface water flow, separation of inhabited reaches by reservoirs, and habitat degradation from fine sediment deposition. The principal uses of surface and ground water within the Zuni River watershed are human consumption, raising livestock, and irrigation. Diverting water for agricultural use is the primary purpose of at least five impoundments, and several other reservoirs act as flood-control structures. Degradation of the upper watershed has led to increased sedimentation, and many of the reservoirs are now only shallow, eutrophic (low oxygen) ponds or wetlands with little or no storage capacity. The impoundments have also changed the downstream channel morphology and substrate composition of streams. Another major impact to populations of Zuni bluehead sucker was the application of fish toxicants through at least two dozen treatments in the Nutria and Pescado rivers between 1960 and 1975. Large numbers of Zuni bluehead suckers were killed during these treatments.

For several years, the New Mexico Department of Game and Fish has been the lead agency to develop a conservation plan for Zuni bluehead sucker. A study funded through section 6 of the Act was initiated in 2000, and continued through 2005. The grant included funding for development and implementation of a Zuni Bluehead Sucker Conservation Plan and the acquisition of additional information on distribution, life history, and species associations. The Zuni Bluehead Sucker Recovery Plan was approved by the New Mexico State Game Commission during a State Game Commission on December 15, 2004. The Recovery Plan recommends preservation and enhancement of extant populations and restoration of historical Zuni bluehead sucker populations. The recovery actions prescribed by the State Recovery Plan that we believe will reduce and remove threats to this subspecies, will require further discussions and authorizations before they can be implemented. Still, because of the ongoing threats of high magnitude, including loss of habitat, degradation of remaining habitat, and others (*i.e.*, drought and fire), we maintained the current listing priority number of 3 for this subspecies.

Clams

Texas hornshell (*Popenaias popei*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Texas hornshell is a freshwater mussel found in the Black River of New Mexico and one confirmed locality in the mainstem Rio Grande of Texas and Mexico. The primary threats are habitat alterations such as stream bank channelization, impoundments, and diversions for agriculture and flood control; contamination of water by the oil and gas industry; alterations in the natural riverine hydrology; and increased sedimentation from prolonged overgrazing and loss of native vegetation. Riverine habitats in both the Black River and the Rio Grande are under constant threats from these adverse changes. The magnitude of threats is high because of the existence of only one confirmed location in New Mexico and Texas each, which makes this species highly vulnerable to extinction. The threats are imminent

because past alterations to riverine habitats have already occurred that resulted in the much reduced distribution of this species and demands for water from the Rio Grande continue to increase and make future habitat degradation likely. Thus, we maintained the listing priority number of 2 for this species.

Fluted kidneyshell (*Ptychobranchus subtentum*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The fluted kidneyshell is a freshwater mussel (Unionidae) endemic to the Cumberland and Tennessee River systems (Cumberlandian Region) in Alabama, Kentucky, Tennessee, and Virginia. It requires shoal habitats in free-flowing rivers to survive and successfully recruit new individuals into its populations. Habitat destruction and alteration (*e.g.*, impoundments, sedimentation, and pollutants) are the chief factors contributing to its decline. This species has been extirpated from numerous regional streams and is no longer found in the State of Alabama. The fluted kidneyshell was historically known from at least 37 streams but is currently restricted to no more than 14 isolated stream segments, of which only 1 (upper Clinch River) appears to be stable and viable. The threats are high in magnitude since all populations of this species are potentially threatened by impoundments, sedimentation, small population size, isolation of populations, gravel mining, municipal pollutants, agricultural run-off, nutrient enrichment, and coal processing pollution. However, the threats are nonimminent at this time, and therefore, we retained a listing priority number of 5 for this mussel.

Neosho mucket (*Lampsilis rafinesqueana*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Neosho mucket is a freshwater mussel native to Arkansas, Kansas, Missouri, and Oklahoma. The species has been extirpated from approximately 62 percent (835 river miles) of its range, most of which has occurred in Kansas and Oklahoma. The Neosho mucket survives in four river drainages, however, only two of these, the Spring and Illinois Rivers, currently support relatively large populations.

Significant portions of the historic range have been inundated by the construction of at least 11 dams. Channel instability downstream of these dams has further reduced suitable habitat and mussel distribution. Range restriction and population declines have occurred due to habitat degradation attributed to impoundments, mining, sedimentation, and agricultural pollutants. Rapid development and urbanization in the Illinois River watershed will likely continue to increase sedimentation and eutrophication to this river but populations are currently stable in this river. The remaining extant populations are vulnerable to random catastrophic events (*e.g.*, flood scour, drought, toxic spills), land use changes within the limited range, and genetic isolation and the deleterious effects of inbreeding. These threats have led to the species being intrinsically vulnerable to extirpation. Although State regulations limit harvest of this species, there is little protection for habitat. The threats are high in magnitude, as they occur throughout the range of this species. While some of the threats are ongoing and thus, imminent, others are nonimminent, but on the balance are nonimminent. Thus, we assigned a listing priority number of 5 to this species.

Alabama pearlshell (*Margaritifera marrianae*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Alabama pearlshell inhabits shallow riffles and pool margins of small creeks and streams of southwest Alabama. Only three populations of Alabama pearlshell have been confirmed to survive during the past 15 years. One of these has declined significantly over the past few years, apparently due to increased sedimentation at this location and possibly other forms of non-point source (NPS) pollution. The other two populations appear to be small, but relatively stable and recruiting. We assigned the Alabama pearlshell a listing priority of 2 due to the vulnerability of small stream habitat to continuing NPS pollution and the decline of one of three known populations.

Slabside pearlymussel (*Lexingtonia dolabelloides*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The slabside pearlymussel is a freshwater mussel (Unionidae) endemic to the Cumberland and Tennessee River systems (Cumberlandian Region) in Alabama, Kentucky, Tennessee, and Virginia. It requires shoal habitats in free-flowing rivers to survive and successfully recruit new individuals into its populations. Habitat destruction and alteration (*e.g.*, impoundments, sedimentation, and pollutants) are the chief factors contributing to its decline. This species has been extirpated from numerous regional streams and is no longer found in the State of Kentucky. The slabside pearlymussel was historically known from at least 32 streams but is currently restricted to no more than 10 isolated stream segments. Current status information for most of the nine populations deemed to be extant is available from recent periodic sampling efforts (sometimes annually) and other field studies. Comprehensive surveys have taken place in the Middle and North Forks Holston River, Paint Rock River, and Duck River in the past several years. Based on recent information, the overall population of the slabside pearlymussel is declining rangewide and the species remains in good numbers and is clearly viable in just four streams. Two of the four largest populations have undergone recent declines (*i.e.*, Middle and upper North Fork Holston Rivers) and most of the other populations are of doubtful viability for the long term. Since the nine remaining populations of the slabside pearlymussel face potential threats from impoundments, sedimentation, small population size, isolation of populations, gravel mining, municipal pollutants, agricultural run-off, nutrient enrichment, and coal processing pollution, the threats are high in magnitude but are nonimminent. Thus, we continue to assign a listing priority number of 5 to this mussel.

Georgia pigtoe (*Pleurobema hanleyanum*)—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 Georgia pigtoe was historically found in shallow runs and riffles in large creeks and rivers of the Coosa River drainage of Alabama, Georgia, and Tennessee. The species is currently known from localized portions of the upper Conasauga River in Murray and Whitfield Counties, Georgia. In 2005, the Coosa River in Cherokee County, Alabama, was removed as ''Current Range,'' due to a lack of documentation that the species continues to exist at that locality. The Georgia pigtoe is very rare, with only a few observations of living animals over the past 15 years. Impoundment and pollution are implicated in the decline and disappearance of the species; pollution remains an ongoing threat. We assigned the Georgia pigtoe a listing priority of 2 due to its restricted range and continued lack of success in locating living animals.

Altamaha spinymussel (*Elliptio spinosa*)—See above in ''*Summary of Listing Priority Changes in Candidates.*''

The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Snails

Ogden mountainsnail (*Oreohelix peripherica wasatchensis*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Ogden mountain snail is known from a single population near the mouth of Ogden Canyon, Weber County, Utah. The total occupied habitat is an area approximating 100 meters (328 ft) wide by 1 kilometer (0.5 miles) long. The restricted range of this snail, the proximity to an expanding residential area, and impacts from relatively heavy recreational use, makes it vulnerable to extirpation from stochastic or human-caused events. Threats to the colony have not substantially changed or increased over the past year. Recent molecular phylogenic studies are expected to clarify the level of uniqueness of this taxon. With the threats continuing at a moderate to low and imminent level, we retained a listing priority number of 9 for this subspecies.

Bonneville pondsnail (*Stagnicola bonnevillensis*)—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 fat-whorled pondsnail, also known as the Bonneville pondsnail, occupies four spring pools north of the Great Salt Lake in Box Elder County, Utah. While the number of individuals is unknown, the total known occupied habitat is less than one hectare. As a result of the implementation of a Conservation Agreement and Strategy, surveys are being conducted to determine if other populations are present. Previous and ongoing threats include chemical contamination of the groundwater. Significant actions are underway to remediate this threat, including implementation of a Corrective Action Plan to characterize and remediate groundwater contamination, implementation of a site management plan, and development of a groundwater model and risk assessment. These efforts have not been underway for a sufficient period to reduce the threat from contamination, so we retained a listing priority number of 8 for this species, reflecting imminent threats of a moderate magnitude.

Interrupted rocksnail (*Leptoxis foremani* (= *downei*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Interrupted rocksnails historically occurred in shoals, riffles, and reefs of small to large rivers in the Coosa River Basin of Alabama and Georgia. Today, only a single surviving natural population is known from a short reach of the Coosawattee River, Georgia. During a 1999 census, 10 to 45 interrupted rocksnail snails per square meter were found in this reach. In 2004, a 6 man-hour search was required to find 20 individuals. We believe water quality was the cause of this decline. A captive colony of approximately 200 snails was established at the Tennessee Aquarium Research Institute (TNARI) in 2000 for study and propagation. During the winter of 2003, the Alabama Department of Conservation and Natural Resources (ADCNR) released about 3000 juvenile interrupted rocksnails from the TNARI colony into the Coosa River above Wetumpka, Elmore County, Alabama. In 2004 and 2005 approximately 1200 and 3000 juvenile snails, respectively, from the TNARI culture were released at the lower Coosa River site by ADCNR. A small number of the 2003 hatchery-cultured interrupted rocksnails were observed in the vicinity of the release site in 2005. The magnitude of threat is high for this species since it is only known from one naturally occurring site. Despite the ongoing conservation efforts, threats remain imminent, as water quality degradation of the stream is currently occurring and evident, in that the natural population has undergone a precipitous decline. Thus, we assigned a listing priority of 2 to the interrupted rocksnail.

Sisi snail (*Ostodes strigatus*)—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 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 in American Samoa have resulted, in part, from loss of habitat to forestry and agriculture and loss of forest structure to hurricanes and alien weeds that establish 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 forest areas that were severely damaged by three hurricanes (1987, 1990, and 1991). Under natural historic 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 canopy forest. However, the presence of alien weeds such as mile-a-minute vine (*Mikania micrantha*) and weedy tree species such as *Funtumia elastica* may reduce the likelihood that native forest will re-establish in areas damaged by the hurricanes. This loss of habitat to storms is greatly exacerbated by an expanding agriculture. Agricultural plots have spread from low elevation up to middle and some high elevations on all the islands, greatly reducing the forest area and thus reducing the resilience of native forests and its 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 canopy forest. In an effort to eradicate the giant African snail, *Euglandia rosea* and another alien predatory snail, *Gonaxis kibweziensis,* were introduced in 1980 and 1977, respectively. *Euglandia rosea* have spread throughout the main island of Tutuila and by 1984 was considered to be well-established on Tutuila. *Gonaxis kibweziensis* is also present on Tutuila though it seems to be in decline. Numerous studies show that *E. rosea* feeds on endemic island snails including the sisi, 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 is predation by nonnative predatory snails. There are no conservation efforts being implemented to alleviate these threats and all these threats are ongoing and are therefore imminent. Since the threats occur throughout the entire range of the species, they are of a high magnitude. Therefore we assigned this species an LPN of 2.

Diamond Y Spring snail (*Pseudotryonia adamantina*) and Gonzales springsnail (*Tryonia circumstriata*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Diamond Y Spring snail and Gonzales springsnail are small aquatic snails endemic to Diamond Y Spring in Pecos County, Texas. The spring and its outflow channel are owned and managed by The Nature Conservancy. These snails are primarily threatened with habitat loss due to springflow declines from drought and from

pumping of groundwater. Additional threats include water contamination from accidental releases of petroleum products, as their habitat is in an active oil and gas field. Also, a nonnative aquatic snail (*Melanoides* sp.) was recently introduced into the native snails' habitat and may compete with endemic snails for space and resources. The magnitude of threats is high because limited distribution of these narrow endemics makes any impact from increasing threats (*e.g.*, loss of springflow, contaminants, nonnative species) likely to result in the extinction of the species. These species occur in one location in an arid region currently plagued by drought and ongoing aquifer withdrawals, making the eventual loss of spring flow an imminent threat of total habitat loss. Thus, we maintain the listing priority number of 2 for both 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 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 only from a single population on Rota. This species is currently threatened by habitat loss and modification and by predation from nonnative predatory snails. On Rota, large numbers of pigs, goats and deer, along with extensive logging, further contribute to the expansion of savanna grasslands and directly alter the understory plant community and overall forest microclimate. Savanna grassland habitat is unsuitable for tree snails. Predation by the alien rosy carnivore snail (*Euglandina rosea*) is a serious threat to the survival of the fragile tree snail. Field observations have established that the rosy carnivore snail will readily feed on native Pacific island tree snails, including the Partulidae, such as those of the Mariana Islands. The rosy carnivore snail has caused the extirpation of many populations and species of native snails throughout the Pacific islands. All of the threats occur rangewide and no efforts to control or eradicate the nonnative predatory snail species or to reduce habitat loss are being undertaken. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Guam tree snail (*Partula radiolata*)—The following summary is based on information contained in our files. No new information was provided in the petition 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 only 11 populations on Guam. This species is currently threatened by habitat loss and modification and by predation from nonnative predatory snails. On Guam, open agricultural fields and other areas prone to erosion were seeded with tangantangan (*Leucaena leucocephala*) by the U.S. Military. Tangantangan grows as a single species stand with no substantial understory. The microclimatic condition is dry, with little accumulation of leaf litter humus and is particularly unsuitable as Guam tree snail habitat. In addition, native forest cannot reestablish and grow where this alien weed has become established. Large numbers of pigs, goats, and deer, along with extensive logging, further contribute to the expansion of savanna grasslands and directly alter the understory plant community and overall forest microclimate. Savanna grassland habitat is unsuitable for tree snails. Predation by the alien rosy carnivore snail (*Euglandina rosea*) is a serious threat to the survival of the Guam tree snail. Field observations have established that the rosy carnivore snail will readily feed on native Pacific island tree snails, including the Partulidae, such as those of the Mariana Islands. The rosy carnivore snail has caused the extirpation of many populations and species of native snails throughout the Pacific islands. All of the threats occur range wide and no efforts to control or eradicate the nonnative predatory snail species or to reduce habitat loss are being undertaken. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Humped tree snail (*Partula gibba*)—The following summary is based on information contained in our files. No new information was provided in the petition 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 (islands of Rota, Aguijan, Tinian, Saipan, Anatahan, Sarigan, Alamagan, and Pagan). Most recent surveys revealed a total of 28 populations on the islands of Guam, Rota, Aguijan, Tinian, Anatahan, Sarigan, Alamagan, and Pagan. 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 nonnative predatorial snails. In recent times, remaining populations of the snail have been threatened by ongoing development. For example, a road was cut within the coastal area containing the remaining three Guam populations of the snail, and it is believed that the decline in these populations may be due to the indirect effects of this road. 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), Tinian (cattle), Saipan (deer, pigs, and cattle), Anatahan (pigs and goats), Alamagan (goats, pigs, and cattle), and Pagan (cattle, goats, and pigs). Goats were eradicated from Sarigan in 1998 and the humped tree snail has increased in abundance on that island, likely in response to the removal of all the goats. 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 alien rosy carnivore snail (*Euglandina rosea*) is also a serious threat to the survival of the Humped tree snail. Field observations have established that the rosy carnivore snail will readily feed on native Pacific island tree snails, including the Partulidae such as those of the Mariana Islands. The rosy carnivore snail has caused the extirpation of many populations and species of native snails throughout the

Pacific islands. All of the threats occur range-wide and no efforts to control or eradicate the nonnative predatory snail species or to reduce habitat loss are being undertaken. The magnitude of threats is high because limited distribution of this species makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Lanai tree snail (*Partulina semicarinata*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. A tree-dwelling species, *P. semicarinata* is a member of the Achatinellidae family of snails. Endemic to the island of Lanai, the species is currently known from 3 populations totaling 29 individuals. This species is highly threatened throughout its limited range by habitat loss and modification and by predation from rats. No efforts are being undertaken to remove rats in areas that *P. semicarinata* occur. The threat from this predator is expected to continue or increase unless the rats are actively controlled or eradicated. Habitat loss also continues due to the trampling and browsing of native vegetation required by *P. semicarinata* by nonnative ungulates. Although the snails are in an area to be fenced, until the fence is constructed and the ungulates have been removed, the habitat will continue to be degraded. The small number of individuals and the small number of populations make this species very susceptible to the negative effects of stochastic events such as hurricanes and storms. There is a population in captivity that is protected from the effects of unexpected droughts, though the effects of severe storms may still affect this population as evidenced by the loss of snails when a severe flood interrupted the power supply to the University and temperatures increased within the environmental chambers containing the snails. In addition, these snails are likely subjected to the same concerns of reproductive vigor and loss of genetic variability. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Lanai tree snail (*Partulina variabilis*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. A tree-dwelling species, *P. variabilis* is a member of the Achatinellidae family of snails. Endemic to the island of Lanai, the species is currently known from 12 populations totaling 90 individuals. This species is highly threatened throughout its limited range by habitat loss and modification and by predation from rats. No efforts are being undertaken to remove rats in areas that *P. variabilis* occur. The threat from this predator is expected to continue or increase unless the rats are actively controlled or eradicated. Habitat loss also continues due to the trampling and browsing of native vegetation required by *P. variabilis* by nonnative ungulates. Although the snails are in an area to be fenced, until the fence is constructed and the ungulates have been removed, the habitat will continue to be degraded. The small number of individuals and the small number of populations make this species very susceptible to the negative effects of stochastic events such as hurricanes and storms. There is a population in captivity that is protected from the effects of unexpected droughts, though the effects of severe storms may still affect this population as evidenced by the loss of snails when a severe flood interrupted the power supply to the University and temperatures increased within the environmental chambers containing the snails. In addition, these snails are likely subjected to the same concerns of reproductive vigor and loss of genetic variability as the wild population. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

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 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. This species is currently threatened by habitat loss and modification and by predation from nonnative predatorial snails. In the 1930s, the island of Aguiguan was mostly cleared of native forest to support sugar cane and pineapple production. The abandoned fields and airstrip are now overgrown with alien weeds. The remaining native forest understory has greatly suffered from large and uncontrolled populations of alien goats and the invasion of weeds. 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 Langford's tree snail. Predation by the alien rosy carnivore snail (*Euglandina rosea*) is also a serious threat to the survival of Langford's tree snail. Field observations have established that the rosy carnivore snail will readily feed on native Pacific island tree snails, including the Partulidae such as those of the Mariana Islands. The rosy carnivore snail has caused the extirpation of many populations and species of native snails throughout the Pacific islands. All of the threats occur rangewide and no efforts to control or eradicate the nonnative predatory snail species or to reduce habitat loss are being undertaken. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Phantom Cave snail (*Cochliopa texana*) and Phantom springsnail (*Tryonia cheatumi*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Phantom Cave snail and Phantom springsnail are small aquatic snails that occur in three spring outflows in the Toyah Basin in Reeves and Jeff Davis Counties, Texas. The primary threat to both species is the loss of surface flows due to declining groundwater levels from drought and pumping for agricultural production. Although much of the land immediately surrounding their habitat is owned and managed by The Nature Conservancy, Bureau of Reclamation, and Texas Parks and Wildlife Department, the water needed to maintain their habitat has declined due to a reduction in spring flows, possibly as a result of private groundwater pumping in areas beyond that controlled by these landowners. As an example, Phantom Lake Spring, one of the sites of occurrence, has already ceased flowing and aquatic habitat is supported only by a pumping system. The magnitude of the threats is high

because spring flow loss would result in complete habitat destruction and permanent elimination of all populations of the species. The immediacy of the threats is imminent, as evidenced by the drastic decline in spring flow at Phantom Lake Spring that is happening now and will likely extirpate this population in the near future. Declining spring flows in San Solomon Spring are also becoming evident and will affect that spring site as well within the foreseeable future. Thus, we maintained the listing priority number of 2 for both 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 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 now known only from two populations on the island of Tutuila.

This species is currently threatened by habitat loss and modification and by predation from nonnative predatory snails. 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 forest areas that were severely damaged by three hurricanes (1987, 1990, and 1991). 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 canopy forest. However, the presence of alien weeds such as mile-a-minute vine (*Mikania micrantha*) and weedy tree species such as *Funtumia elastica*, may reduce the likelihood that native forest will re-establish in areas damaged by the hurricanes. This loss of habitat to storms is greatly exacerbated by an expanding agricultural footprint. Agricultural plots have spread from low elevation up to middle and some high elevations on all the islands, greatly reducing the forest area and thus reducing the resilience of native forests and its 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 canopy forest. In an effort to eradicate the giant African snail, *Euglandina rosea* and another alien predatory snail, *Gonaxis kibweziensis*, were introduced in 1980 and 1977, respectively. *Euglandia rosea* have spread throughout the main island of Tutuila and by 1984, was considered to be well established on Tutuila. *Gonaxis kibweziensis* is also present on Tutuila though it seems to be in decline. Numerous studies show that *E. rosea* feeds on endemic island snails, including the Tutuila tree snail, and is a major agent in their declines and extirpations. At present, the major threat to the long-term survival of the native snail fauna in American Samoa is predation by nonnative predatory snails. There are currently no conservation efforts being implemented to alleviate the threats to this species. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from increasing threats (*e.g.*, nonnative species) likely to result in the extinction of the species. The threats are also ongoing and thus are imminent. Therefore, we assigned this species a listing priority number of 2.

Chupadera springsnail (*Pyrgulopsis chupaderae*)—The following summary is based on information contained in our files and the petition received on November 20, 1985. *See also* our 12-month petition finding published on October 4, 1988 (53 FR 38969). This aquatic species is endemic to Willow Spring on the Willow Spring Ranch (formerly Cienega Ranch) at the south end of the Chupadera Mountains in Socorro County, New Mexico. The Chupadera springsnail has been documented from two hillside groundwater discharges that flow through grazed areas among rhyolitic gravels containing sand, mud, and hydrophytic plants. Regional and local groundwater depletion, springrun dewatering, and riparian habitat degradation represent the principal threats. The survival and recovery of the Chupadera springsnail is contingent upon protection of the riparian corridor immediately adjacent to Willow Spring and the availability of perennial, oxygenated flowing water within the species' thermal range. Due to several factors, including the extremely localized distribution of the snail, its occurrence only on private property, the lack of regulatory protection of its habitat, and the inability of land managers to participate in its management, the magnitude of the threats to this species is high. There is an imminent threat to this species because the threats are ongoing (*e.g.*, grazing of cattle, water withdrawal, and fire). Therefore, due to the continuing high magnitude and imminence of threats to this species, we retained a listing priority number of 2 for this species.

Elongate mud meadows springsnail (*Pyrgulopsis notidicola*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Pyrgulopsis notidicola* is endemic to Soldier Meadow, which is located at the northern extreme of the western arm of the Black Rock Desert, in the transition zone between the Basin and Range Physiographic Province and the Columbia Plateau Province, Humboldt County, Nevada. The type locality, and the only known location of the species, occurs in a stretch of thermal (between 45° Celsius (C) (113° Fahrenheit (F)) and 32 °C (90 °F)) aquatic habitat that is approximately 300 m (984 ft) long and 2 m (6.7 ft) wide. *Pyrgulopsis notidicola* occurs only in shallow, flowing water on gravel substrate. The species does not occur in deep water (*i.e.*, impoundments) where water velocity is low, gravel substrate is absent, and sediment levels are high. The present or threatened destruction, modification, or curtailment of its habitat or range by recreational bathers in the thermal waters is the greatest threat to the species. The small size of their habitat and their limited range makes them highly susceptible to any factors that negatively affect their habitat. Regulatory mechanisms are beginning to be put in place, but few actions have been implemented to date. Based on imminent threats of high magnitude, we retained a listing priority number of 2 for this species.

Gila springsnail (*Pyrgulopsis gilae*)—The following summary is based on information contained in our files and the petition received on November 20, 1985. Also see our 12-month petition finding published on October 4, 1988 (53 FR 38969). The Gila springsnail is an aquatic species known from 13 populations in New Mexico. The long-term persistence of the Gila springsnail is contingent upon protection of the riparian corridor immediately adjacent to springhead and springrun habitats (*i.e.*, habitat at the springhead and along the watercourse running from the springhead), thereby ensuring the maintenance of perennial, oxygenated flowing water within the species' required thermal range. Sites on both private and Federal lands are subject to levels of recreational use and livestock grazing that negatively affect this species, thus placing the long-term survival of the Gila springsnail at risk. Natural events such as drought, forest fire, sedimentation, and flooding; wetland habitat degradation by recreational bathing in thermal springs; and poor watershed management practices represent the primary threats to the Gila springsnail. Fire suppression

activities and fire retardant chemicals have potentially deleterious effects on this species. Because several of the springs occur on U.S. Forest Service land, management options for the protection of the snail should be possible. However, randomly occurring events, especially fire and drought, could have a major impact on the species. Moderate use by recreationalists and livestock is ongoing. If these uses remain at current or lower levels, they will not pose an imminent threat to the species. Of greater concern is the current drought that could affect spring discharge and which increases the potential for fire. Significant fires have occurred in the Gila National Forest, and subsequent floods and ash flows have severely affected aquatic life in streams. If the drought continues or worsens, the imminence of threats from decreased discharge or fire will increase. Based on these nonimminent threats that are currently of a low magnitude, we retained a listing priority number of 11 for this species.

Gonzales springsnail (*Tryonia circumstriata*)—*See* paragraph above under Diamond Y Spring snail (*Pseudotryonia adamantina*).

Huachuca springsnail (*Pyrgulopsis thompsoni*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Huachuca springsnail inhabits 13 springs and cienegas at elevations of 4,500 to 7,200 feet in southeastern Arizona (11 sites) and adjacent portions of Sonora, Mexico (2 sites). The springsnail is typically found in the shallower areas of springs or cienegas, often in rocky seeps at the spring source. Potential threats include habitat modification, wildfire, cattle grazing, and groundwater pumping. Recent communication with personnel from Fort Huachuca indicates they are in the process of evaluating the status of this species on Department of Defense lands and developing conservation strategies; this may result in a reduction or elimination of threats in the future. Currently, however, due to nonimminent threats of a high magnitude, we retained a listing priority number of 5 for this species.

New Mexico springsnail (*Pyrgulopsis thermalis*)—The following summary is based on information contained in our files and the petition received on November 20, 1985. Also see our 12-month petition finding published on October 4, 1988 (53 FR 38969). The New Mexico springsnail is an aquatic species known from only two separate populations associated with a series of spring-brook systems along the Gila River in the Gila National Forest in Grant County, New Mexico. The long-term persistence of the New Mexico springsnail is contingent upon protection of the riparian corridor immediately adjacent to springhead and springrun habitats (*i.e.*, habitat at the springhead and along the watercourse running from the springhead), thereby ensuring the maintenance of perennial, oxygenated flowing water within the species' required thermal range. While the New Mexico springsnail populations may be stable, the sites inhabited by the species are subject to levels of recreational use and livestock grazing that can negatively affect this species. Wetland habitat degradation by recreational use and overgrazing in or near the thermal springs and/or inadequate watershed management practices represent the primary threats to the New Mexico springsnail. Moderate use by recreationalists and livestock is ongoing. If these uses remain at the current or lower levels, they will not pose an imminent threat to the species. Of greater concern is the current drought, which could affect spring discharge and increases the potential for fire. Significant fires have occurred in the Gila National Forest and subsequent floods and ash flows have severely affected aquatic life in streams. If the drought continues or worsens, the imminence of threats from decreased discharge and fire will increase. Based on these nonimminent threats of a low magnitude, we retained a listing priority number of 11 for this springsnail.

Page springsnail (*Pyrgulopsis morrisoni*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Page springsnail is known to exist only within a complex of springs located within an approximately 1.5-kilometer (0.93-mile) stretch along the west side of Oak Creek around the community of Page Springs, Yavapai County, Arizona. Many of the springs where the springsnail occurs have been subjected to some level of modification for domestic, agricultural, ranching, fish hatchery, and recreational activities. Arizona Game and Fish Department 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. Based on recent survey data, it appears that the Page springsnail is abundant within its habitats and is more widely distributed than previously known. Monitoring by Arizona Game and Fish Department and Service biologists no longer entails snail removal, which appears to have had a temporary positive impact on population numbers. The threat of groundwater withdrawal is not imminent because recent studies indicate that the groundwater system of the Verde Valley has not yet been affected by development, and base flow in the Verde River Valley has remained virtually unchanged since 1915. However, the magnitude of threats is high because limited distribution of this narrow endemic makes any impact from the threat (*e.g.*, groundwater withdrawal) likely to result in the extinction of the species. Therefore, we retained a listing priority number of 5 for this species.

Three Forks springsnail (*Pyrgulopsis trivialis*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The Three Forks springsnail is an endemic species with distribution limited to the Three Forks Springs and Boneyard Springs spring complexes in the North Fork East Fork Black River Watershed of east-central Arizona. The springsnail is known from free-flowing spring heads, concrete boxed spring heads, spring runs, and spring seepage at these sites. The primary threats include habitat modification from recreational activities, damage from elk wallowing, and predation from nonnative crayfish. The Arizona Game and Fish Department currently maintains an active monitoring program for the Three Forks springsnail in cooperation with the U.S. Fish and Wildlife Service and U.S. Forest Service. This program includes population monitoring, habitat sampling, and removal of nonnative predatory crayfish. However, in the absence of a management strategy to effectively address the threat from both elk and crayfish in the long-term, the threats are ongoing and therefore, imminent. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from the threats likely to result in the extinction of the species. Therefore, we retained a listing priority number of 2 for the Three Forks springsnail.

Newcomb's tree snail (*Newcombia cumingi*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. A tree-dwelling species, Newcomb's tree snail is a member of the snail family, Achatinellidae. The species is endemic to the island of Maui, where it is currently known from a single remaining population. The greatest threats to the Newcomb's tree

snail are the loss of the only known remaining population due to stochastic events and predation from rats and Euglandina rosea. There are no efforts being made to reduce the threat from the carnivorous snail and only minimal rat control in the area occupied by this snail. Our attempts to raise this species in a captive propagation facility have been unsuccessful. We have assigned a listing priority number of 2 for this species because threats are occurring in the only known remaining population making it of high magnitude and because the threats are ongoing which make them imminent.

Insects

Warm Springs Zaitzevian riffle beetle (*Zaitzevia thermae*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. The warm springs riffle beetle is an aquatic flightless beetle endemic to a single warm spring in southwestern Montana whose surface area is approximately 35 square meters. Because of its naturally limited range, this riffle beetle is at risk of randomly occurring natural- and human-caused events. The warm spring is under the jurisdiction of the Service, which built a structure that provides a considerable level of physical protection for the warm spring. Because of the physical and jurisdictional protection, we determined that the magnitude of threats is low and the threats are nonimminent. Based on this, we assigned this species a listing priority number of 11.

Wekiu bug (*Nysius wekiuicola*)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

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 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 ten populations on Guam. This species is currently threatened by alien predation and parasitism and impacts to its host plants by browsing ungulates. The Mariana eight spot butterfly has extremely high mortality of eggs and larvae due to predation by alien ants and wasps. Nonnative deer degrade the habitat by browsing, trampling, and uprooting the butterfly's host plants. The threats of habitat loss by nonnative deer, and parasitism and predation by nonnative insects occur range-wide. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from these threats likely to result in the extinction of the species. Direct threats to the Mariana eight spot butterfly from alien predators and parasites and indirect threats from impacts to its host plants by browsing ungulates are all imminent because they have been occurring for many years and are ongoing. Therefore, we assigned a listing priority number of 3 for this subspecies.

Mariana wandering butterfly (*Vagrans egestina*)—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 Mariana wandering butterfly is a nymphalid butterfly species which feeds upon a single host plant species, *Maytenus thompsonii*. Originally known from and endemic to the islands of Guam and Rota, the species is now known only from one population on Rota. This species is currently threatened by alien predation and parasitism and impacts to its host plants by browsing ungulates. The Mariana wandering butterfly has extremely high mortality of eggs and larvae due to predation by alien ants and wasps. Nonnative deer degrade the habitat by browsing, trampling, and uprooting the butterfly's host plants. The threats of habitat loss by nonnative deer, and parasitism and predation by nonnative insects occur range-wide. The magnitude of threats is high because limited distribution of this narrow endemic makes any impact from these threats likely to result in the extinction of the species. Direct threats to the Mariana wandering butterfly from alien predators and parasites and indirect threats from impacts to its host plants by browsing ungulates are all imminent because they have been occurring for many years and are ongoing. Therefore, we assigned a listing priority number of 2 for this species.

Miami blue butterfly (*Cyclargus thomasi bethunebakeri*)—The following summary is based on information contained in our files and in the petition received on June 15, 2000. The Miami blue appears to be endemic to south Florida. Historically, it occurred throughout the Florida Keys, north to Hillsborough and Volusia Counties. None were documented between 1996 and 1999. In 1999, an extant population was discovered at Bahia Honda State Park on Bahia Honda Key. It is now restricted to that park, other than several larvae that were documented on West Summerland Key, on unprotected land approximately 2.2 miles west of the Bahia Honda site, in November 2003. This butterfly occupies about 1.28 acres on Bahia Honda. The Miami blue is predominantly a coastal species, occurring in disturbed and early successional habitats such as the edges of tropical hardwood hammock, coastal berm forest, and along trails and other open sunny areas, and historically in pine rocklands. These habitats provide larval host plants and adult nectar sources that are required to occur in close juxtaposition, due to the very restricted range of movement exhibited by the butterfly. The magnitude of threat is high for this species, due to threats associated with limited population size and range, mosquito control activities, and hurricanes. The threats are nonimminent since the current range is within a state park wherein threats from mosquito control actions are substantially controlled, and because threats associated with small population size and stochastic events (like hurricanes) are long-term, not immediate threats. Therefore, the Miami blue is assigned a listing priority number of 6.

Sequatchie caddisfly (*Glyphopsyche sequatchie*)—The following summary is based on information in our files. No new information was provided in the petition 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 (the type locality) and Martin Spring run in the Battle Creek system. The Owen Spring Branch population occurs within Sequatchie Cave Park, which is a Class II Natural-Scientific State Natural Area, thus providing statutory protection from collection for the population in Owen Spring Branch. Estimated population sizes are 500 to 5000 individuals for Owen Spring Branch and 2 to 10 times higher at Martin Spring, due to the greater amount of apparently suitable habitat. Threats to the species include siltation; agricultural, municipal, and industrial chemical runoff (both direct and from subsurface flows); vandalism; and pollution from trash thrown into the springs. This species is vulnerable to extinction due to its restricted distribution and small population sizes. These threats are gradual and/or not necessarily imminent but are of a high magnitude; therefore, we retained a listing priority number of 5 for this species.

Beaver Cave beetle (*Pseudanophthalmus major*)—The

following summary is based upon information in our files. No new information was provided in the petition received on May 11, 2004. Beaver 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. The Beaver Cave beetle is only known from one privately owned Kentucky cave. The limestone cave 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 species was observed in 2005 during a survey of the cave. 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 likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years; we therefore have assigned a listing priority number of 5 to this species.

Clifton cave beetle (*Pseudanophthalmus caecus*)—The following summary is based upon information in our files. No new information was provided in the petition 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 Kentucky caves. Soon after the species was first collected in 1963 the entrance to the cave was sealed due to road construction. Other caves in the vicinity of this cave were surveyed for the species during a 1995 to 1996. Only one additional site was found to support the Clifton Cave beetle. It can not be determined at this time if the species still occurs at the original location or if the species has been extirpated from the site by the closure of the cave entrance. The limestone caves in which this species are 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 the 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 likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years; we therefore have assigned a listing priority number of 5 to this species.

Icebox cave beetle (*Pseudanophthalmus frigidus*)—The following summary is based upon information in our files. No new information was provided in the petition received on May 11, 2004. Icebox 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. Icebox cave beetle is only known from one privately owned Kentucky 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 has not been observed since it was originally collected from the only site known to support the species, but species experts believe that it may still exist there in low numbers. 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. 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 likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years; we therefore have assigned a listing priority number of 5 to this species.

Inquirer cave beetle (*Pseudanophthalmus inquisitor*)—The following summary is based upon information in our files. No new information was provided in the petition 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 cave dependent and is not found outside the cave environment. The inquirer cave beetle 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 1997. 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 know site for the species is in a rapidly expanding urban area and indirect impacts, such as chemical or other pollution, could significantly affect both the cave and the species the cave supports. 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. The likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years 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 in our files. No new information was provided in the petition received on May 11, 2004. The Louisville cave beetle is a small, eyeless, reddish-brown predatory insect that feeds upon cave invertebrates. It is cave dependent and is not found outside the cave environment. Louisville cave beetle is only known from two privately

owned Kentucky caves. The limestone caves in which this species are 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 the 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 likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years; we therefore have assigned a listing priority number of 5 to this species.

Surprising cave beetle (*Pseudanophthalmus inexpectatus* Barr)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Cave beetles in the genus Pseudanophthalmus are fairly small, eyeless, reddish-brown insects. The limestone caves in which these cave beetles are 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 surprising cave beetle was described from specimens collected in the historic section of Mammoth Cave and White Cave, Mammoth Cave National Park (MCNP), Edmonston County, Kentucky. Subsequent to these original discoveries, the species was also found in MCNP's Great Onyx Cave. Recently, an additional population was discovered in a cave some distance from the previously known sites. Its limited distribution makes this species vulnerable to isolated events that would only have a minimal effect on the more wide-ranging members of the genus. Events such as toxic chemical spills, discharges of large amounts of polluted water, closure of entrances, alteration of entrances, or the creation of new entrances can have serious adverse impacts on this species and could result in its extinction. The magnitude and imminence of the threat to the surprising cave beetle is reduced because of its location on Federal land and the implementation of a Candidate Conservation Agreement between MCNP and the Service to protect the species. Therefore we have assigned a listing priority of 11 to this species.

Tatum Cave beetle (*Pseudanophthalmus parvus*)—The following summary is based upon information in our files. No new information was provided in the petition received on May 11, 2004. Tatum Cave beetle is a small, eyeless, reddish-brown predatory insect that feeds upon cave invertebrates. It is cave dependent and is not found outside the cave environment. Tatum Cave beetle is only known from one privately owned Kentucky 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 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 the 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 likelihood of one of the events eventually occurring combined with the narrow range of the species makes the magnitude of threats high. The immediacy of threat is nonimminent because there are no known projects planned that would affect the species in the next 1 to 2 years; we therefore have assigned a listing priority number of 5 to this species.

Taylor's (Whulge, Edith's) checkerspot butterfly (*Euphydryas editha taylori*)—The following summary is based on information from our files and in the petition received on December 11, 2002. Historically, the Taylor's checkerspot butterfly was known from 70 locations: 23 in British Columbia, 34 in Washington, and 13 in Oregon. Following surveys during the 2005 flight period, only 15 populations were confirmed, with a total of about 2,500 to 3,000 individuals observed. Twelve populations are known from Washington, two in the Willamette Valley of Oregon and the new location found in British Columbia, Canada. The species was thought to have been extirpated in Canada until this new population was discovered at a new location on Denman Island, British Columbia.

Threats include degradation and destruction of native grasslands by conversion to agriculture, residential development, commercial purposes, encroachment by nonnative plants, and natural succession from grasslands to native shrubs and trees, and fire. The application of *Bacillus thuringiensis* var. *kurstaki* for Asian gypsy moth control likely contributed to extirpations of the subspecies at three locations in Pierce County, Washington. Magnitude of threats is high because of the extremely small size of remaining populations and reduction in distribution from the historical range and because the threats may occur at all or a major portion of the known butterfly locations. The size and location of the populations shift from year to year. Threats are imminent because they are currently occurring. The ecosystem on which this subspecies depends requires annual management to maintain its grassland habitat. We assigned the Taylor's checkerspot butterfly a listing priority number of 3.

Blackline Hawaiian damselfly (*Megalagrion nigrohamatum nigrolineatum*)—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 blackline Hawaiian damselfly is a stream-dwelling damselfly species endemic to the island of Oahu, Hawaii. Once known from throughout Oahu, the species is now restricted to 11 populations within the windward Koolau Mountains. This species is threatened by predation from alien aquatic species such as fish and predacious insects and habitat loss through dewatering of streams and invasive nonnative plants. Nonnative fish and insects prey on the naiads of the damselfly and loss of water reduces the amount of suitable naiad habitat available. Invasive plants also contribute to loss of habitat by either over shading streams or by forming dense, monotypic stands that completely eliminate any open water (*e.g.* California grass (*Brachiaria mutica*)). These threats are occurring in varying degrees range-wide for the blackline Hawaiian damselfly. Although there are no efforts being done to control or eradicate nonnative fish or insects or to stop the loss of habitat, the 11 streams are widely dispersed on both sides of the mountain range and are highly unlikely to experience complete loss of populations at the same time. Therefore the magnitude of the threats is moderate. Threats to the blackline Hawaiian damselfly from loss of habitat and introduced nonnative fish and

insects are ongoing and therefore are imminent. Therefore, we assigned this subspecies a listing priority number of 9.

Crimson Hawaiian damselfly (*Megalagrion leptodemas*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Megalagrion leptodemas* is a stream-dwelling damselfly species endemic to the island of Oahu, Hawaii. Once known from throughout Oahu, the species is now restricted to four populations. This species is threatened by predation from alien aquatic species such as fish and predacious insects and habitat loss through dewatering of streams and invasive plant species. Nonnative fish and insects prey on the naiads of the damselfly and loss of water reduces the amount of suitable naiad habitat available. Invasive plants also contribute to loss of habitat by either over shading streams or by forming dense, monotypic stands that completely eliminate any open water (*e.g.* California grass (*Brachiaria mutica*)). There are no conservation measures being taken to alleviate these threats for this species. Nonnative fish and plants are found in all the streams the crimson Hawaiian damselfly occurs in making these threats ongoing and imminent. These threats are of high magnitude because of their severity and because they are occurring throughout its limited range. We have assigned this species a listing priority number of 2 because the threats are of a high magnitude and are imminent.

Flying earwig Hawaiian damselfly (*Megalagrion nesiotes*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Megalagrion nesiotes* is a terrestrial or semi-terrestrial damselfly species endemic to the islands of Hawaii and Maui, Hawaii. Despite surveys to locate extant populations, the species is now known to be restricted to a single population in windward east Maui. This species is threatened by predation from ants and other nonnative arthropods that likely feed on both naiads and emerging adults, and habitat loss due to disturbance by feral ungulates. While foraging, pigs root and trample the forest floor, encouraging the establishment of nonnative plants in the newly disturbed soil. In moist depressions, pigs completely remove all vegetation by wallowing, leaving nothing but mud and water. The complete removal of vegetation as well as the establishment of nonnative plants destroy the leaf litter habitat that is likely used by the Flying earwig Hawaiian damselfly naiads. These threats are ongoing in the only known population of this species and no conservation efforts are being done to alleviate these serious threats for this species. We assigned this species a listing priority number of 2 because the threats are of a high magnitude and are imminent.

Oceanic Hawaiian damselfly (*Megalagrion oceanicum*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Megalagrion oceanicum* is a stream-dwelling damselfly species endemic to the island of Oahu, Hawaii. Once known from throughout Oahu, the species is now restricted to seven populations within the windward Koolau Mountains. This species is threatened by predation from alien 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 naiads of the damselfly and loss of water reduces the amount of suitable naiad habitat available. Invasive plants also contribute to loss of habitat by either over shading streams or by forming dense, monotypic stands that completely eliminate any open water (*e.g.* California grass (*Brachiaria mutica*)). There are no conservation measures being taken to alleviate these threats for this species. Nonnative fish and plants are found in all the streams the oceanic Hawaiian damselfly occurs in making these threats ongoing and imminent. These threats are of high magnitude because of their severity and because they are occurring throughout its limited range. Therefore, we have assigned this species a listing priority number of 2.

Orangeblack Hawaiian damselfly (*Megalagrion xanthomelas*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Megalagrion xanthomelas* is a stream-dwelling damselfly species endemic to the Hawaiian Islands of Kauai, Oahu, Molokai, Maui, Lanai, and Hawaii. The species is now restricted to 16 populations on the islands of Oahu, Molokai, Lanai, and Hawaii. This species is threatened by predation from alien 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 naiads of the damselfly and loss of water reduces the amount of suitable naiad habitat available. Invasive plants also contribute to loss of habitat by either overshading streams or by forming dense, monotypic stands that completely eliminate any open water (*e.g.* California grass (*Brachiaria mutica*)). Nonnative fish and plants are found in all the streams the orangeblack damselfly occur in, except the Oahu location, where there are no nonnative fish, making these threats ongoing and imminent. Although no conservation efforts are being implemented for this species in particular on Molokai, Lanai, and the island of Hawaii, the Oahu location is located at Tripler Army Medical Center. The Army has consistently considered the damselfly's needs in all work done near or in the stream and maintains a supplemental water flow into the stream to maintain habitat after disrupting the original flow. We assigned this species a listing priority number of 8 because though the threats are imminent, they are of moderate magnitude given the more widely dispersed population and the conservation efforts at Tripler.

Pacific Hawaiian damselfly (*Megalagrion pacificum*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Megalagrion pacificum* is a slow-moving stream, pool, and pond-dwelling damselfly species endemic to the Hawaiian Islands of Kauai, Oahu, Molokai, Maui, Lanai, and Hawaii. The species is now restricted to seven populations on the islands of Maui and Molokai. This species is threatened by predation from alien 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 naiads of the damselfly and loss of water reduces the amount of suitable naiad habitat available. Invasive plants also contribute to loss of habitat by either overshading streams or by forming dense, monotypic stands that completely eliminate any open water (*e.g.* California grass (*Brachiaria mutica*)). There are no conservation measures being taken to alleviate these threats for this species. Nonnative fish and plants are found in all the streams the Pacific Hawaiian damselfly occurs in making these threats ongoing and imminent. These threats are of high magnitude because of their severity and because they are occurring throughout its limited range. Therefore, we have assigned this species a listing priority number of 2.

Picture wing fly (*Drosophila attigua*)— The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This picture wing fly, a member of the fly family Drosophilidae, feeds and breeds upon a single host plant, *Cheirodendron* sp. The fly is endemic to the Hawaiian Island of Kauai, where it is currently known from two populations. This species is currently threatened by loss and modification of its host plant's habitat by browsing ungulates and through the uncontrolled growth of nonnative plants. While foraging, pigs root and trample the forest floor, encouraging the establishment of nonnative plants in the newly disturbed soil. Pigs also disseminate nonnative plant seeds through their feces and on their bodies, accelerating the spread of nonnative plants through native forest. These nonnative plants often displace native plants including the host plant this species depends on. Feral goats also consume native vegetation including this species' host plant, trample roots and seedlings, accelerate erosion, and promote the invasion of nonnative plants. Additionally, nonnative insect species prey on and parasitize both the larvae and adult phases of the picture wing fly. All these threats are ongoing which make them imminent and are severe throughout the species range which makes the threats of high magnitude. Therefore, we assigned this species a listing priority number of 2.

Picture wing fly (*Drosophila digressa*)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This picture wing fly, a member of the fly family Drosophilidae, feeds and breeds upon a single host plant, *Charpentiera* sp. The fly is endemic to the island of Hawaii, where it is currently known from three populations. This species is currently threatened by loss and modification of its host plant's habitat by browsing ungulates and through the uncontrolled growth of nonnative plants. While foraging, pigs root and trample the forest floor, encouraging the establishment of nonnative plants in the newly disturbed soil. Pigs also disseminate nonnative plant seeds through their feces and on their bodies, accelerating the spread of nonnative plants through native forest. These nonnative plants often displace native plants including the host plant this species depends on. Feral goats also consume native vegetation including this species host plant, trample roots and seedlings, accelerate erosion, and promote the invasion of nonnative plants. Additionally, nonnative insect species prey on and parasitize both the larvae and adult phases of the picture wing fly. All these threats are ongoing which make them imminent and are sever throughout the range of this species which makes the threats of high magnitude. Therefore, we assigned this species a listing priority number of 2.

Stephan's riffle beetle (*Heterelmis stephani*)—The following summary is based on information from 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 found in limited spring environments within the Santa Rita Mountains, Pima County, Arizona. The beetle is known from Bog Spring and Sylvester Spring in Madera Canyon, within the Coronado National Forest. These springs are typical isolated, mid-elevation, permanently saturated, spring-fed aquatic climax communities commonly referred to as ci,negas. Threats are largely from habitat modification; we consider them to be of high magnitude due to the limited range of the species. However, because the Forest Service has no current plans to modify remaining habitat, the threats are not imminent. Due to the continued high magnitude of nonimminent threats, we retained a listing priority number of 5 for Stephan's riffle beetle.

Dakota skipper (*Hesperia dacotae*)—The following summary is based on information contained in our files, including information from the petition received on May 12, 2003. The Dakota skipper is a small-to mid-sized butterfly that inhabits high-quality tallgrass and mixed grass prairie in Minnesota, North Dakota, South Dakota, and the provinces of Manitoba and Saskatchewan in Canada. The species is presumed to be extirpated from Iowa and Illinois and from many sites within occupied States.

The species is threatened by conversion of its native prairie habitat for agricultural purposes, overgrazing, invasive species, gravel mining, inbreeding, population isolation, and, in some cases, prescribed fire. In addition, prairie succeeds to shrubland or forest without periodic fire, grazing, or mowing; thus, the species is also threatened at sites where such disturbances are not applied. Although the species is listed as threatened by the State of Minnesota, this designation lacks the habitat protections needed for long-term conservation. The species is also listed as endangered by the province of Manitoba. The Service, other agencies, and private organizations (*e.g.*, The Nature Conservancy) protect and manage some Dakota skipper sites. Although proper management is always necessary to ensure its persistence, it is generally secure at these sites. The species is also secure at some sites where private landowners manage native prairie in ways that conserve Dakota skipper. The threats are such that the species warrants listing; the threats are moderate in magnitude and, although some sites are imminently threatened, overall the threats are nonimminent. Therefore, we assigned a listing priority number of 11 to the species.

Mardon skipper (*Polites mardon*)—The following summary is based on information contained in our files and the petition received on December 24, 2002. The Mardon skipper is a rare northwestern butterfly with a remarkably disjunct range. Currently this species is known from four widely separated locations: South Puget Sound region, southern Washington Cascades, Siskiyou Mountains of southern Oregon, and coastal California. The Mardon skipper spends its entire life cycle in one location, and its dispersal ability is probably limited. Threats include habitat loss and degradation due to development, overgrazing, use of herbicides and pesticides, encroachment of nonnative and native vegetation, succession from grassland to forest, and fire suppression; and direct loss of individuals due to fire, recreational activities, insect collecting, and random, naturally occurring events. Limited dispersal ability restricts the likelihood of recolonization once a population is lost. The magnitude of threats is high because of the small population sizes and disjunct distribution of the species that limits its ability to disperse; just 10 of the known locations for Mardon Skipper have more than 50 individuals. Loss of any of the populations could threaten the continued existence of the species within each of its known separate locales. However, the number of documented locations for the species has increased from less than 10 in 1998 to as many as 65 rangewide in 2005 and it would be unlikely to have threats that would affect all known locales simultaneously. Overall, we consider the threats to be nonimminent because the threats are not currently occurring at all known population sites. We have assigned a listing priority number of 5 to the Mardon skipper.

Coral Pink Sand Dunes tiger beetle (*Cicindela limbata albissima*)—The following summary is based on information contained in our files, including information from the petition received on April 21, 1994. The Coral Pink Sand Dunes tiger beetle occurs

only at the Coral Pink Sand Dunes, approximately seven miles west of Kanab, Kane County, in south-central Utah. It is restricted to a small part of the dune field, situated at an elevation of about 1,820 m (6,000 ft). The beetle's habitat is being adversely affected by ongoing recreational off-road vehicle use that is destroying and degrading the beetle's habitat, especially the interdunal swales used by the larvae. The continued survival of the beetle depends on the preservation of its habitat. The two agencies that manage the dunes field, the Utah Department of Parks and Recreation and the Bureau of Land Management, have restricted recreational off-road vehicle use in some areas, which reduces impacts. The beetle's population is also vulnerable to over collecting by professional and hobby tiger-beetle collectors. Quantification of this threat is difficult without continuous population monitoring. Climatic factors, most recently drought conditions, have reduced the population, but it has shown some recent improvement. Based on imminent threats of a low to moderate magnitude, we retained a listing priority of 9.

Highlands tiger beetle (*Cicindela highlandensis*)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The Highlands tiger beetle is narrowly distributed and restricted to areas of bare sand within upland oak scrub and longleaf pine vegetation on the ancient sand dunes of the Lake Wales Ridge in Polk and Highlands Counties, Florida. This tiger beetle has been found at 40 sites from near Haines City south to Josephine Creek. In the most recent survey, biologists found a total of 1,574 adults 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: Three sites were found to have large populations of over 100 adults [Catfish Creek Preserve (493), Snell Creek South (193), and Flaming Arrow Scout Camp (175)]; three sites had populations of 50–99 adults; eight sites had 20–49 adults, 13 sites had 10–19 adults, and 13 sites had < 10 adults. Results from a limited removal study at four sites suggest that the actual population size at the various survey sites is likely to be as much as two times as high as indicated by the visual index counts. Lack of fire to create open sand, pesticide use, small population sizes at some sites, and over-collecting pose serious threats to this species. Because this species is narrowly distributed with specific habitat requirements and small populations, the magnitude of threats is high. Although the majority of its historic range has been lost, degraded, and fragmented, numerous sites are now protected, and land managers are implementing prescribed fire, which should restore habitat and help reduce threats. Overall, the threats are nonimminent. Therefore, the Highlands tiger beetle is assigned a listing priority number of 5.

Arachnids

Warton's cave meshweaver (*Cicurina wartoni*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004, or has been received since the last Candidate Notice of Review published on May 11, 2005. Warton's Cave meshweaver is an eyeless, cave-dwelling, unpigmented, 0.25 inch long invertebrate 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 fire ants and surface and subsurface effects from runoff from an adjacent subdivision. The magnitude of threats is high because the single location for this species makes it highly vulnerable to extinction. The threats are imminent because fire ants are known to occur in the vicinity of the cave, and impacts to the cave from runoff and human activities are an imminent threat. Thus, we assign a listing priority number of 2 to this species.

Crustaceans

Anchialine pool shrimp (*Metabetaeus lohena*)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Anchialine pool shrimp (*Palaemonella burnsi*)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Anchialine pool shrimp (*Procaris hawaiana*)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Anchialine pool shrimp (*Vetericaris chaceorum*)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Troglobitic groundwater shrimp (*Typhlatya monae*)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Typhlatya monae* is a subterranean small shrimp known from Puerto Rico, Barbuda, and Dominican Republic. It is classified as a troglobite, or obligatory cave organism, of which its most extraordinary feature is the reduction or loss of vision and pigmentation. They feed on organic waste material and debris, such as bat guano. Little is known concerning the status of *T. monae* in either Barbuda or Dominican Republic. Although in Puerto Rico this species was previously found at Mona Island, currently *T. monae* is known from only three caves within the Gurca Commonwealth Forest in the municipalities of Gurca, Yauco, and Guayanilla. However, the species may still be found in the reef deposit aquifers in Mona Island that have not yet been surveyed. In 1995, the population in Puerto Rico was estimated to be close to 2,000 individuals; over 95% of these were observed in only one cave. Changes in groundwater quality, collection of rare animals, predation, limited distribution of the species, limited availability of appropriate habitat (*i.e.*, underground aquifers within cave formations), potential reduction of food sources (*e.g.*, mortality or reduction in bat populations), and low population numbers, threaten populations of *T. monae*. These threats are not imminent because the known range of *T. monae* is within protected lands and there are no known projects or management activities planned within the Gurca Commonwealth Forest or Mona Island that would result in mortality of this species. The magnitude of threat to *T. monae* is high due to its restricted distribution, low population numbers, and aggregation of most individuals at only one location. Therefore, we assign a listing priority number of 5 to this species.

Flowering Plants

Abronia alpina (Ramshaw Meadows sand-verbena)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' No new information was provided in the petition received on May 11, 2004.

Arabis georgiana (Georgia rockcress)—*See* above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on

information contained in our files. No new information was provided in the petition received on May 11, 2004.

Argythamnia blodgettii (Blodgett's silverbush)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. Blodgett's silverbush has been found in open, sunny areas in pine rockland, edges of rockland hammock, edges of coastal berm, and sometimes 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 it occurs in Miami-Dade County and the Florida Keys requires periodic fires to maintain habitat with a minimum amount of hardwoods. Approximately 10,000 plants may exist at 18 sites, with most of the plants on the large pinelands of Long Pine Key in Everglades National Park and Big Pine Key (in part on National Key Deer Refuge), as well as other smaller pinelands on conservation lands. If this plant's distribution were limited to the mainland, we would consider the magnitude of threat to be high due to exotic pest plant problems in the Miami-Dade urban and agricultural area, and the likely arrival of a serious new pest, Old World climbing fern. Because the Keys are drier and perhaps less fertile, managing vegetation is slightly easier. Fire return intervals are longer and Old World Climbing fern may prove to be less of a threat. As a result, we consider the magnitude of threats to be moderate to low. We are maintaining the immediacy of threat as nonimminent to reflect the intensive management and biological control efforts already aimed at Old World climbing fern, as well as the quality of management on conservation lands. Thus, we assigned a listing priority number of 11 to this species.

Artemisia campestris var. *wormskioldii* (Northern wormwood)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Historically known from eight sites, northern wormwood is currently known from only two populations in Klickitat and Grant Counties, Washington. This plant is restricted to exposed basalt, cobbly-sandy terraces, and sand habitat along the shore and on islands in the Columbia River. The two sites are separated by 200 miles (322 kilometers) of the Columbia River and three large hydroelectric dams. The Klickitat County population is declining; it is unclear whether the Grant County population is stable or declining, but it is vulnerable to environmental variability. Surveys of apparently suitable habitat along the Hanford Reach have not detected any additional plants.

Threats to northern wormwood include direct loss of suitable habitat through regulation of water levels in the Columbia River and placement of riprap along the river bank; trampling of plants as a result of recreational use; competition with nonnative invasive species; a small population size that makes both sites susceptible 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 the other threats at the Grant County site. The magnitude of threat is high for this variety because the only two remaining populations are widely separated and distributed such that 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 are random, naturally occurring events that may occur unpredictably in any year. Therefore, we retained a listing priority number of 3 for this plant variety.

Astelia waialealae (Paàiniu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Paiàniu is a perennial herb found in *Metrosideros polymorpha* (ohia) dominated mixed montane bog on Kauai, Hawaii. *Astelia waialealae* is known from three populations in three bogs within the Alakai swamp region of Kauai. The total numbers have declined from 35 clumps, representing 10 to 15 genetically distinct individuals, in 2004 to 21 clumps in 2005, representing 7 genetically distinct individuals. No regeneration has been observed from 1995 to the present. The major threats to this species currently are the lack of regeneration and the low numbers of individuals. The species is also threatened by pigs that eat and trample this plant and its seedlings, degrade and/or destroy habitat, and spread the nonnative plant species *Juncus planifolius* and *Andropogon virginicus* that compete with *A. waialealae*. Pigs have been fenced out of the three bogs where *A. waialealae* currently occurs and nonnative plant control is underway; however, this species is not recovering and continues to decline, even though the known threats of feral pigs and nonnative plants have been controlled over the past nine years. The threats continue to be of a high magnitude because of small population size and range make it extremely vulnerable, and efforts to address the threats have not halted the decline. In addition, the threats are imminent because they are ongoing as evidenced by the continuing decline of the species. Therefore, we retained a listing priority number of 2 for this species.

Astragalus tortipes (Sleeping Ute milkvetch)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Bidens amplectens (Kookooalu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is an erect perennial or facultatively annual herb found in mixed lowland dry shrubland/grassland on Oahu, Hawaii. Known from one population of 500 to 1,000 individuals in the Waianae Mountains, the threats to this species are nonnative plants that increase the fuel load and fire threat, and compete for habitat. The magnitude of threats continues to be high because no conservation measures have been taken to address them and because of the potential for the elimination of the only known population by a single stochastic or naturally occurring event. Threats continue to be imminent because they are ongoing. We retained a listing priority number of 2 for this species.

Bidens campylotheca ssp. *pentamera* (Kookooalu) '' The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This subspecies is an erect, perennial herb found in *Cheirodendron-Metrosideros polymorpha* (olapa-ohia) montane wet forest on Maui, Hawaii. This subspecies is known from 11 populations with a total of approximately 500 individuals. *Bidens campylotheca* ssp. *pentamera* is threatened by feral pigs that degrade and destroy habitat, and by nonnative plants that compete for habitat. Feral pigs have been fenced out of three of the 11 populations of *B. campylotheca* ssp. *pentamera* and nonnative plants have been greatly reduced in the three fenced areas. This subspecies is represented in an *ex-situ* collection and reintroduction or augmentation efforts have been attempted this year. However, these on-going conservation efforts benefit only three of the 11 known populations and therefore threats continue to be of a high magnitude to this subspecies. In addition, threats to *B. campylotheca*

ssp. *pentamera* are imminent because they are ongoing in eight of the 11 populations. Therefore, we retained a listing priority number of 3 for this subspecies.

Bidens campylotheca ssp. *waihoiensis* (Kookooalu)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Bidens conjuncta (Kookooalu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Bidens conjuncta* is an erect, perennial herb found in *Metrosideros-Dicranopteris* (ohia-uluhe) lowland to montane wet forest and shrubland on Maui, Hawaii. Seven populations are known, and the number of individuals totals approximately 2,200 scattered throughout upper elevation drainages of west Maui. Although the overall range of the species has not changed, the number of individuals has declined over the last decade or so. This species is threatened by pigs that degrade and destroy habitat, and eat vegetative parts and fruit of *B. conjuncta*, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of about half of the populations of *B. conjuncta*, and nonnative plants have been greatly reduced in the fenced areas. The threats from feral pigs and nonnative plants are, therefore, of a moderate magnitude to this species because they impact only about half of its populations. In addition, these threats are imminent because they are ongoing in half of the populations. Therefore, we retained a listing priority number of 8 for this species.

Bidens micrantha ssp. *ctenophylla* (Kookooalu) '' The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This subspecies is an erect, perennial herb found in open mixed shrubland to dry *Metrosideros* (ohia) forest on the island of Hawaii, Hawaii. This subspecies is endemic to the island of Hawaii, where it is restricted to an area of less than 10 square miles (26 square kilometers). *Bidens micrantha* ssp. *ctenophylla* is known from four populations totaling approximately 3,000 individuals, the majority of which occur in only two populations. This subspecies is threatened by fire and nonnative plants, such as *Pennisetum setaceum* (fountain grass) and *Leucaena leucocephala* (koa haole), and two populations are threatened by residential and commercial development. The threats to *B. micrantha* ssp. *ctenophylla* from fire and nonnative plants are of a high magnitude and imminent because they are occurring range-wide and no efforts for their control have been undertaken. In addition, two populations are also threatened by development. Therefore, we retained a listing priority number of 3 for this subspecies.

Brickellia mosieri (Florida brickell-bush)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is restricted to pine rocklands of Miami-Dade County, Florida. This habitat requires periodic prescribed fires to maintain the low understory and prevent encroachment by native tropical hardwoods and some exotic pest plants, such as Brazilian pepper. Only one large population (up to 10,000 individuals) is known to exist, plus 16 other populations that do not each exceed 100 individuals. There is little likelihood of finding additional populations because less than one percent of the original pineland habitat still exists and this habitat has been mapped and surveyed for rare plants over the past two years. Throughout its range, this species is threatened by exotic pest plants and conversion of pinelands to other uses. New exotic pest plants are expected to invade pine rocklands, even as effective control methods are found for existing pests. However, 15 of the 17 sites are on conservation lands where control of invasive species is being implemented and controlled burns are being conducted. In the limited area of protected conservation lands it is difficult to conduct prescribed fires in urban areas. Nonnative plant species also pose a threat and are difficult to control. Thus, the overall magnitude of threat is moderate. The threats are ongoing and thus imminent. We assigned this species a listing priority number of 8.

Calamagrostis expansa (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a robust, short-rhizomatous perennial found in wet forest, open bogs, and bog margins on the islands of Maui and Hawaii, Hawaii. Historically rare, *C. expansa* was restricted to wet forest and bogs on Maui. It is unknown what the historical status was on Hawaii. Currently, this species is known from 100 populations totaling approximately 400 individuals on Maui, and was recently discovered in five populations totaling approximately 300 individuals on the island of Hawaii. *Calamagrostis expansa* is threatened by pigs that degrade and destroy habitat and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of most of the west Maui populations where *C. expansa* 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 and in all of the populations on the island of Hawaii. Therefore, the threats from feral pigs and nonnative plants are of a high magnitude and imminent for *C. expansa*, and we retained a listing priority number of 2 for this species.

Calamagrostis hillebrandii (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Calamagrostis hillebrandii* is a slender, short-rhizomatous perennial found in *Metrosideros-Machaerina* montane wet bog or *Metrosideros-Rhynchospora-Oreobolus* mixed bog on Maui, Hawaii. This species is known from two populations of about 2,000 individuals, restricted to the bogs of west Maui, although it was formerly found on the island of Molokai as well. This species is currently threatened by pigs that degrade and destroy habitat and nonnative plants that outcompete and displace it. An ungulate exclosure fence has been constructed and another one is under construction to protect both populations of this species, and nonnative plants are being reduced in the fenced area. We retained a listing priority number of 2 for this species because the threats are ongoing in one of the two known populations and so are imminent and of a high magnitude.

Calliandra locoensis (no common name)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Calliandra locoensis* is a spiny, leguminous shrub currently known from only two localities within the Susúa Commonwealth Forest in the municipalities of Yauco and Sabana Grande, in southwestern Puerto Rico. Twenty-five native species of *Calliandra* have been reported for the Antilles; three are native to Puerto Rico, including *C. locoensis.* This species is endemic to Puerto Rico, and was discovered in 1991 during a study of the flora of the Susúa Commonwealth Forest. It was described by Garca and Kolterman in 1992.

Calliandra locoensis is found at two locations along one creek in semi-evergreen to deciduous forests on shallow, serpentine soils with low nutrients, high drainage, and low fertility. Much of the vegetation in the forest was cut for wood, cultivation, livestock grazing, and charcoal production, prior to its designation as a public forest. *Calliandra locoensis* exhibits low degree of self-compatibility in pollination tests. Seeds have short viability period, do not appear to have a biotic dispersal agent (dispersed by dehiscence), and require mesic conditions for germination, which may be factors in the species' limited distribution. The small number of individuals, restricted distribution (two localities), forest management practices (accidental trampling, brush clearing, trail maintenance), forest fires (natural or manmade), and catastrophic natural events (hurricanes, floods, mudslides), threaten this species. We assign a listing priority number of 5 to this species because the magnitude of threat to *C. locoensis* is high, due to its restricted distribution, apparent low dispersal capability, and population number (only two small populations relatively close to one another). The threats are nonimminent given that the populations are found within protected lands and there are no known projects or management activities planned that would destroy the known populations of *C. locoensis*.

Calochortus persistens (Siskiyou mariposa lily)—The following summary is based on information contained in our files and the petition received on September 10, 2001. The Siskiyou mariposa lily is a narrow endemic that is restricted to two disjunct ridge tops in the Klamath-Siskiyou Range on the California-Oregon border. In California, this species is currently found at nine separate sites on approximately 10 hectares (ha) (24.7 acres (ac)) of Klamath National Forest and privately owned lands that stretch for 6 kilometers (km) (3.7 miles (mi)) along the Gunsight-Humbug Ridge. In 1998, five Siskiyou mariposa lily plants were discovered on Bald Mountain, west of Ashland, Jackson County, Oregon.

Major threats include competition and shading by native and nonnative species fostered by suppression of wild fire; increased fuel loading and subsequent risk of wild fire; fragmentation by roads, fire breaks, 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 and exotic weed and grass species introduction as a result of heavy recreational use and construction of fire breaks. Dyer's woad (*Isatis tinctoria*), an invasive, nonnative plant that may prevent germination of Siskiyou mariposa lily seedlings, is now found throughout the California population, affecting 90 percent of the known lily habitat. 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 two disjunct populations, poor competitive ability, short seed dispersal distance, slow growth rates, low seed production, apparently poor survival rates in some years, and competition from exotic plants threaten the continued existence of this species. Because of the restricted range and low numbers, the magnitude of threats is high. While some of the threats are ongoing, others are not and overall, the threats are nonimminent. We assigned a listing priority number of 5 to this species.

Calyptranthes estremerae (no common name)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Calyptranthes estremerae* is a small tree from the subtropical moist forest of northwestern Puerto Rico, in the municipalities of Camuy, Utuado, and Arecibo. *Calyptranthes estremerae* was only known from several individuals found near the recreation area adjacent to the Camuy Caves, but specimens were later found within the Río Abajo Commonwealth Forest. Within the Río Abajo Forest area, *C. estremerae* was known to be located within the protected area of the Río Abajo Commonwealth Forest and at a site that was impacted by the construction of state road PR–10. In 1999, four small specimens of *C. estremerae* were affected by the road construction, and an additional specimen was transplanted to the Puerto Rico Department of Natural and Environmental Resources nursery in the Río Abajo Forest. Additional specimens of *C. estremerae*, later found during plant surveys that were part of the mitigation for the construction of PR–10, were successfully transplanted within the forest boundaries, to prevent their destruction during construction of the road. A minimum of 100 specimens of *C. estremerae* are estimated for the Río Abajo Commonwealth Forest. The magnitude of threat to *C. estremerae* is high, due to the small number of individuals in the two populations, the species' limited distribution, the species vulnerability to catastrophic natural events, and the potential destruction of specimens from expansion of recreational facilities. However, these threats are not imminent because the largest known population of *C. estremerae* is found within protected lands, there are no known projects planned that would destroy the sites, and the species can be transplanted successfully. Therefore, we assign a listing priority number of 5 to this species.

Canavalia napaliensis (Awikiwiki)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a perennial climber found in open dry sites and coastal strand, diverse lowland dryland/mesic forest to mixed mesophytic forest on Kauai, Hawaii. *Canavalia napaliensis* is known from three populations totaling several hundred individuals in a small section of the Na Pali coast. This species is threatened by goats that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. There are no conservation measures underway to alleviate these ongoing, or imminent, threats to *C. napaliensis*. These threats are of a high magnitude because they are occurring throughout its limited range. Therefore, we retained a listing priority number of 2 for this species because the threats continue to be of a high magnitude and are imminent in all three populations.

Canavalia pubescens (Awikiwiki)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Awikiwiki is a perennial climber found in lowland dryland forest on Maui, Lanai, Kauai, and is possibly on the island of Niihau, Hawaii. This species is known from at least 10 populations totaling less than 200 individuals. This species is threatened by development (Maui), goats that degrade and destroy habitat (Kauai and Maui), and by nonnative plants that outcompete and displace native plants (all islands). Feral goats have been fenced out of three of the ten populations where *C. pubescens* currently occurs and nonnative plants have been reduced in two of the populations that are fenced. This species is represented in an *ex situ* collection. Because the threats are ongoing in more than half of the known populations they are of a high magnitude and imminent. Therefore, we retained a listing priority number of 2 for this species.

Castilleja christii (Christ's paintbrush)—*See* above in ''*Summary of*

Listing Priority Changes in Candidates.'' The above summary is based on information contained in our files and the petition received on January 2, 2001.

Chamaecrista lineata var. *keyensis* (Big Pine partridge pea)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. This pea is endemic to the lower Florida Keys. Historically, it was known from Big Pine, No Name, Ramrod, and Cudjoe Keys (Monroe County, Florida). In recent decades, its known distribution was restricted to Big Pine Key, until a population was found on Lower Sugarloaf Key in 2005. Roughly 90 percent of its current range is within the Service's National Key Deer Refuge. The Big Pine partridge pea is well distributed on Big Pine Key, with a population estimate of roughly 10,000 individuals. It is restricted to pine rockland communities and hardwood hammock edges. Pine rocklands encompass approximately 582 hectares (1,438 acres) of Big Pine Key. Pine rockland communities are maintained by relatively frequent fires. The most vigorous populations of this species are located in areas that have burned within a decade. In the absence of fire, woody encroachment ensues, and the pea is shaded out. Lack of fire poses the greatest threat to the pea. The Refuge has an active prescribed fire program, though with many constraints. We do not have new information on populations, and relevant recent research is pending publication. We are maintaining the previous assessment that a very narrow distribution, combined with sea level rise as well as fire management and exotic pest plant threats, makes for an overall high magnitude of threat. We maintain that the immediacy of threats is nonimminent, because a significant portion of the range is in conservation lands wherein threats are substantially controlled. Sea level rise remains uncontrolled, but is nonimminent regarding most of the habitat area or population on an annual basis. Accordingly, we assigned the Big Pine partridge pea a listing priority number of 6.

Chamaesyce deltoidea pinetorum (Pineland sandmat)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Chamaesyce deltoidea ssp. *serpyllum* (Wedge spurge)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. Wedge spurge is a small prostrate herb, forming patches among limestone rocks. It has always been restricted to Big Pine Key in Monroe County, Florida. Roughly 90 percent of the range falls within the National Key Deer Refuge. It is not widely and evenly distributed, occurring within 22 percent of 145 sample plots in pine rockland. The total population is on the order of 1,001 to 10,000 plants. It is restricted to pinelands on limestone rock (pine rockland), at sites with extensive exposed rock at the surface, low total understory cover and low hardwood density. Pine rocklands encompass approximately 582 hectares (1,438 acres) on Big Pine Key. These communities are maintained by relatively frequent fires, without fire tropical shrubs and trees encroach and the spurge is eventually shaded out. Fire restrictions pose the greatest short-term threat, although sea level rise is ultimately a threat of equal or greater magnitude. The National Key Deer Refuge has an active prescribed fire program, though with many constraints. We do not have new information on populations, although an abundance and distribution survey is under way. We maintain the previous assessment that a very narrow distribution composed of small sub-populations results in a high magnitude of threat. Specific threats include fire suppression, invasive exotic plants, sea level rise, and stochastic threats related to small population size, including hurricanes. The immediacy of threats is nonimminent because a significant portion of the range is on conservation lands wherein threats are substantially controlled. Sea level rise remains uncontrolled, but is nonimminent regarding most of the habitat area or population on an annual basis. Therefore, we retained a listing priority number of 6 for wedge spurge.

Chamaesyce eleanoriae (Akoko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a small shrub found in steep slopes and cliffs, in *Metrosideros-Diospyros* lowland mesic forest, and *Eragrostis variabilis* coastal dry cliffs on Kauai, Hawaii. This species has declined from 10 populations totaling 500 individuals in 1996 to three populations totaling less than 50 individuals, found only in and around Kalalau Valley rim, along the Na Pali Coast on the island of Kauai. *Chamaesyce eleanoriae* is threatened by goats that eat it, degrade and destroy habitat, by nonnative plants that outcompete and displace it, and by stochastic extinction due to naturally occurring events. *Chamaesyce eleanoriae* is also potentially threatened by rats that eat it. All of the threats occur range-wide and no efforts to control goats, rats, and nonnative plants have been undertaken. The threats are of a high magnitude because of their severity and because they occur range-wide. The threats are ongoing and therefore imminent. We retained a listing priority number of 2 for this species.

Chamaesyce remyi var. *kauaiensis* (Akoko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This variety is a shrub found in wind-swept shrubland and adjacent forest patches dominated by *Metrosideros* (ohia) and *Syzygium* on Kauai, Hawaii. *Chamaesyce remyi* var. *kauaiensis* is known from 5 populations totaling 800 to 1,000 individuals. This variety is found only in the Blue Hole, Lumahai Valley, Wainiha, and Iliiliula areas on the island of Kauai. Threats to *C. remyi* var. *kauaiensis* include goats and pigs that degrade and destroy habitat, the two-spotted leafhopper that damages leaves and may spread plant viruses, and nonnative plants that outcompete and displace it. There are no conservation measures being taken to alleviate these threats to *C. remyi* var. *kauaiensis.* The threats are of a high magnitude because of their severity and because goats and pigs, the two-spotted leafhopper, and nonnative plants are found throughout the shrubland and forest areas *C. remyi* var. *kauaiensis* occurs in. The threats are ongoing and therefore imminent. We retained a listing priority number of 3 for this variety.

Chamaesyce remyi var. *remyi* (Akoko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This variety is a perennial shrub found in wet *Metrosideros polymorpha-Dicranopteris linearis* montane mesic forest on Kauai, Hawaii. *Chamaesyce remyi* var. *remyi* is known from at least 10 populations totaling 500 to 1,000 individuals. Hybrids of *C. remyi* and *C. sparsiflora* have been found near the margins of Wahiawa Bog, Kauai. This variety is threatened by goats and pigs that degrade and destroy habitat and potentially eat this plant, by the two-spotted leafhopper that causes leaf damage and may spread viruses, and by nonnative plants that outcompete and displace it. Feral pigs and goats have

been fenced out of two of the ten populations of *C. remyi* var. *remyi,* and nonnative plants have been reduced in the two fenced areas. Although two of the ten populations of this variety have been fenced and are undergoing weed control, there are no efforts to control the ongoing threats to the other eight populations. The threats are of a high magnitude because of their severity and are imminent because they are ongoing in eight of the ten known populations. We retained a listing priority number of 3 for this variety.

Charpentiera densiflora (Papala)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a tree found in *Diospyros sandwicensis* dominated lowland mesic forest extending into diverse mesic forest on Kauai, Hawaii. *Charpentiera densiflora* is known from 10 populations totaling approximately 200 individuals, restricted to an area of less than 10 square miles (26 square kilometers) in the Na Pali coast area on the island of Kauai. This species is threatened by goats that degrade and destroy habitat, flooding, and nonnative plants. Feral goats have been fenced out of one of the 10 populations where *C. densiflora* currently occurs, and nonnative plants are being controlled in the fenced area. This species is represented in an *ex situ* collection. The threat from flooding is of high magnitude and imminent because no flood control measures have been undertaken for any of the populations. The threats from goats and nonnative plants occur in nine of the ten known populations and are, therefore, imminent. The threats are also of a high magnitude because of their severity in the nine populations. Therefore, we retained a listing priority number of 2 for this species.

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. *Chorizanthe parryi* var. *fernandina* grows up to 30 centimeters in height and 5 to 40 centimeters across.

The plant currently is known from two disjunct localities: The first is in the southeastern portion of Ventura County on a site 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 San Fernando Valley spineflower include threatened destruction, modification, or curtailment of its habitat or range, and other natural or manmade factors. The threats to *C. parryi* var. *fernandina* from habitat destruction or modification are less than they were two years ago. One of the two populations (Ahmanson Ranch) is in permanent, public ownership and is being managed by an agency that is working to conserve the plant. The other population (Newhall Ranch) is under threat of development; however, a Candidate Conservation Agreement with Assurances (CCAA) 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.

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, erosion, or other events. We retained a listing priority number of 6 for *C. parryi* var. *fernandina* due to high magnitude of nonimminent threats.

Chromolaena frustrata (Cape Sable thoroughwort)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Chromolaena frustrata* is found most commonly in open sun to partial shade at the edges of rockland tropical hammock and in coastal rock barrens along the northern edges of Florida Bay in Everglades National Park, Monroe County, Florida. It is known from coastal berms along the northern edges of Florida Bay in Everglades National Park. It has not been observed in artificially disturbed areas, but is abundant in a tropical hammock that lost some of its tree canopy in a hurricane. Coastal rock barrens are composed of exposed Key Largo Limestone with a diverse assemblage of salt tolerant herbs. Due to extensive development, remaining areas of natural vegetation are limited. Land acquisition by the State has benefited this species, as has private land management. However, only one large population of this species is known and its history suggests that it will decline as the forest canopy recovers. With so few populations in existence (seven), it is not likely that the species will persist. These factors, combined with the threat from invasive exotic pest plants, constitute a high magnitude of threat. We anticipate that land managers will address exotic pest plant threats as funding is available. The conservation situation on the privately-owned site with the largest known population is encouraging. Local extirpations of this species, due to exotics or other reasons, can possibly be reversed by reintroductions. However, we consider the threats to this narrowly endemic plant with no really large populations to be imminent because exotic pest plants are currently present. As a result, we assigned a listing priority number of 2 to this species.

Consolea corallicola (Florida semaphore cactus)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. The Florida semaphore cactus is endemic to the Florida Keys and was discovered on Big Pine Key in 1919 but has since been extirpated there as a result of road building and poaching. This cactus grows close to salt water on bare rock with a minimum of humus-soil cover in or along the edges of hammocks near sea level. The species is known to naturally occur only in two areas, Little Torch Key and Biscayne National Park. Outplanting has resulted in the reestablishment of a population in Dagny Johnson Key Largo Hammock Botanical State Park in North Key Largo as well as in some of the lower keys. Outplanting success has been low and more research is needed to determine the requirements of this cacti. Only 5 of the original 14 mature plants (as well as new recruits from fallen pads) remain in the population at The Nature Conservancy's Torchwood Hammock Preserve on Little Torch Key. Two sexual morphs (males and weak hermaphrodites) comprise the extant population on Little Torch Key. The female sex morph is absent from the population and sexual reproduction at this site is not possible without human intervention. Regeneration in this population is restricted to clonal propagation. At least 629 plants were discovered on a key in Biscayne National Park in November of 2001. A recent study found no genetic diversity within the two wild populations. The results were consistent with previous reproductive biology studies that

suggested that the cactus does not propagate sexually and that asexual reproduction is the main life-history strategy of this species. The causes for the population decline of this species include destruction or modification of habitat, predation from *Cactoblastis cactorum* moths, poaching, and hurricanes and other natural disasters. According to scientists, intervention will be required if the species is to survive the next 10 years. Because of low population numbers, reproductive problems, and numerous ongoing threats, we assigned this species a listing priority number of 2.

Cordia rupicola (no common name)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Cordia rupicola* is a small shrub that is found in the municipalities of Peñuelas and Guánica in southern Puerto Rico, Vieques Island, and Anegada in the British Virgin Islands. The status of the Anegada population is not known. *Cordia rupicola* is known only from dry forest communities on limestone substrates at low elevation. The currently known largest concentration of *C. rupicola* in Puerto Rico is found on privately-owned lands in Peñuelas where extensive land clearing for residential lots continues to take place. We assigned a listing priority number of 2 to *C. rupicola* because the magnitude of threat to this species is high due to its restricted distribution, low population number (not more than 25 known specimens), urban expansion, maintenance of electrical facilities, and catastrophic natural events that threaten the Puerto Rico population, and the threats to *C. rupicola* are imminent, since only a small fraction of the species' known population falls within protected lands, and the largest concentration is found in privately-owned land subjected to urban expansion.

Cyanea asplenifolia (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea asplenifolia* is a shrub found in *Acacia-Metrosideros* forest on Maui, Hawaii. Currently, this species is known from 4 populations totaling less than 200 individuals. *Cyanea asplenifolia* is threatened by pigs and goats that degrade and destroy habitat and by nonnative plants, such as Australian tree fern, that outcompete and displace it. Potential threats to this species include rats and slugs that may directly prey upon and defoliate individuals. Pig and goat exclusion fences protect two of the four known populations of this species and nonnative plants have been reduced in the fenced areas. This species is represented in an *ex-situ* collection. The threats continue to be of a high magnitude and imminent because no conservation efforts are being taken to address them and they are ongoing in two of the four known populations. Therefore, we retained a listing priority number of 2 for this species because the threats are of a high magnitude and are imminent since they are ongoing.

Cyanea calycina (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is an unbranched shrub found in *Metrosideros-Dicranopteris* montane wet forest and wet gulches and streambanks on Oahu, Hawaii. *Cyanea calycina* is known from about 20 populations with a combined total of 200 or more individuals. This species is threatened by pigs and goats that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Potential threats to this species include rats and slugs that may directly prey upon and defoliate individuals. There are no conservation measures underway to alleviate these ongoing, or imminent, threats to *C. calycina*. These threats are of a high magnitude because they are occurring throughout its limited range. Therefore, we retained a listing priority number of 2 for this species because the threats continue to be of a high magnitude and are imminent in all populations.

Cyanea eleeleensis (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea eleeleensis* is a shrub found in wet forest on Kauai, Hawaii. This species was discovered in 1977, and only ever known from one population totaling less than ten individuals in Wainiha Valley on Kauai. In 2005, we received information that there are no extant wild individuals and there is no material in genetic storage. This species was likely highly threatened by pigs that degrade and destroy habitat, by rats and slugs that may have consumed it, and by nonnative plants that likely outcompeted and displaced it. We are considering removing this species from candidate status since it appears to be extinct. However, we are seeking any new information that indicates this species is still extant and will re-evaluate the status of this species in the coming year.

Cyanea kuhihewa (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea kuhihewa* is a shrub found in *Metrosideros polymorpha-Dicranopteris linearis* (ohia-uluhe) lowland wet forest on Kauai, Hawaii. This species was only ever known from one population totaling six individuals in Limahuli Valley on Kauai. In 2003, the last known individual in the wild died, but prior to that time, seeds were collected for genetic storage and the species is still found in cultivation. Currently, *C. kuhihewa* is represented only in an *ex-situ* collection. This species is threatened by pigs that degrade and destroy habitat, by rats and slugs that that may directly prey upon and defoliate it, and by nonnative plants that outcompete and displace it. The only known location for this species has been protected by fences and nonnative plants have been reduced in the fenced area. Currently, no individuals have been reintroduced into this site. In addition, no control measures have been implemented in this site to address the threats from rats and slugs. Because of these factors, we retained a listing priority number of 2 for this species.

Cyanea kunthiana (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea kunthiana* is a shrub found in closed *Metrosideros polymorpha* montane wet forest on Maui, Hawaii. The historic range of *C. kunthiana* was wet forest on the island of Maui. Currently, *C. kunthiana* is declining throughout its range and is known from approximately 20 populations with a combined total of several hundred individuals. This species is threatened by pigs that directly prey upon the plants and degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Potential threats to this species include rats and slugs that may directly prey upon and defoliate individuals. Feral pigs have been fenced out of three of the 20 populations of *C. kunthiana* and removal of feral pigs from fenced areas is on-going. Control of nonnative plants in the three fenced areas is underway. Although three of the 20 populations of *C. kunthiana* have been fenced and are undergoing weed control, there are no efforts to control the ongoing and imminent threats to the other 17 populations. Therefore, the threats continue to be of a high magnitude to *C. kunthiana*. Because the threats continue to be of a high magnitude and are imminent for 17 of the 20

populations, we retained a listing priority number of 2 for this species.

Cyanea lanceolata (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea lanceolata* is a shrub found in *Acacia koa-Metrosideros polymorpha* (koa-ohia) lowland mesic forest on Oahu, Hawaii. This species is known from 20 populations totaling less than 300 individuals. *Cyanea lanceolata* is threatened by pigs, that eat plants and degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Potential threats to this species include rats and slugs that may directly prey upon and defoliate individuals. There are no conservation measures underway to alleviate these ongoing, or imminent, threats to *C. lanceolata*. These threats are of a high magnitude because they are occurring throughout its limited range and are imminent in all populations. Therefore, we retained a listing priority number of 2 for this species.

Cyanea obtusa (Haha)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea obtusa* is a shrub found in *Metrosideros polymorpha* (ohia) mixed mesic forest on Maui, Hawaii. This species is known from six populations with a combined total of approximately 30 individuals. *Cyanea obtusa* is threatened by feral goats, pigs, and cattle that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Potential threats include rats and slugs that may directly prey upon and defoliate individuals of *C. obtusa*. Feral ungulates have been fenced out of one of the six populations of this species, and another fence is under construction to protect a second population. Nonnative plant control is underway in the fenced population and will be initiated in the second fenced population once the fence is completed. Although one of the six populations of *C. obtusa* has been fenced and is undergoing weed control, and fencing of a second population is underway, there are no efforts to control the ongoing and imminent threats to the other four populations. Therefore, the threats continue to be of a high magnitude for *C. obtusa*. Because the threats continue to be of a high magnitude and are imminent for four of the six known populations, we retained a listing priority number of 2 for this species.

Cyanea tritomantha (Aku)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyanea tritomantha* is a palm-like tree found in closed *Metrosideros-Cibotium* montane wet forest on the island of Hawaii, Hawaii. This species is known from four to five populations with a total of 100 to 500 individuals in Olaa and Kau on the island of Hawaii. *Cyanea tritomantha* is threatened by pigs that degrade and destroy habitat, and nonnative plants that outcompete and displace it. Potential threats to this species include rats and slugs that may directly prey upon and defoliate individuals, and human trampling of individuals located near trails. Feral pigs have been fenced out of two populations of *C. tritomantha* and nonnative plants have been reduced in the fenced areas. Although two populations of *C. tritomantha* have been fenced and weeds are being controlled in these fenced areas, there are no efforts to control the ongoing and imminent threats to the other populations. Therefore, the threats continue to be of a high magnitude to *C. tritomantha*. Because the threats continue to be of a high magnitude and are imminent for the unmanaged populations, we retained a listing priority number of 2 for this species.

Cyrtandra filipes (Haiwale)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Haiwale is a shrub found in lowland wet and mesic forest on Maui and Molokai, Hawaii. Historically rare, *C. filipes* was found in southeastern Molokai and west Maui. Currently, this species is known from three populations, one on Molokai and two on Maui, totaling approximately 2,200 individuals. There is some question as to the true identity of the Maui populations, which do not fit the description of the species precisely. If, upon further taxonomic study, the Maui populations are determined not to be this species, then it is even rarer, with only the Molokai population of a few individuals remaining. *Cyrtandra filipes* is threatened by pigs and deer that degrade and destroy habitat, by nonnative plants that outcompete and displace it and potentially by rats that directly prey on it. Feral pigs have been fenced out of one of the three populations of *C. filipes* but deer are able to jump over most pig exclusion fences so they are still considered a threat. Nonnative plants are being reduced in the population that is fenced but all populations are potentially threatened by rats. The threat from deer is of a high magnitude and imminent because no deer control measures have been undertaken for any of the populations. The threats from pigs and nonnative plants occur in two of the three known populations and are, therefore, of a high magnitude because of their severity. In addition, these threats are imminent because they are ongoing. Therefore, we retained a listing priority number of 2 for this species.

Cyrtandra kaulantha (Haiwale)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyrtandra kaulantha* is a shrub found in moist wooded gulches in dense shade on Oahu, Hawaii. This species is known from seven populations with a total of 23 individuals along the Waiahole Ditch Trail. Cyrtandra kaulantha is threatened by pigs that degrade and destroy habitat, by nonnative plants that outcompete and displace it, genetic bottlenecks, random demographic fluctuations, and stochastic environmental events such as tree falls and hurricanes. Direct predation by slugs is a potential threat. None of the populations are protected by fences. Nonnative plants have been reduced in only one of the seven known populations. There are no other conservation measures being taken to alleviate these ongoing and imminent threats to *C. kaulantha*. These threats are of a high magnitude because of their severity and they are occurring throughout its limited range. Therefore, we retained a listing priority number of 2 for this species because the threats continue to be of a high magnitude and are imminent in all populations.

Cyrtandra oenobarba (Haiwale)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyrtandra oenobarba* is a low, decumbent, fleshy, subshrub found in *Metrosideros polymorpha-Dicranopteris linearis* (ohia-uluhe) lowland wet forest on Kauai, Hawaii. The historic range of this species was throughout the island of Kauai. Recent surveys show that the species is now limited to 10 or more populations totaling 200 to 500 individuals in only three small areas on the island of Kauai. *Cyrtandra oenobarba* is threatened by pigs that degrade and destroy habitat, and by and nonnative plants that outcompete and displace it. There are no conservation measures being taken to alleviate these threats to *C. oenobarba*. Pigs and nonnative plants are found throughout the lowland wet forest habitat of this species, and, therefore, are ongoing and

imminent. In addition, the threats are of a high magnitude because of their severity and because they occur throughout the limited range of this species. Because the threats are of a high magnitude and are imminent in all known populations, we retained a listing priority number of 2 for this species.

Cyrtandra oxybapha (Haiwale)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyrtandra oxybapha* is a shrub found in *Metrosideros polymorpha-Cheirodendron trigynum* (ohia-olapa) montane wet forest to mesic *Acacia-Metrosideros* (koa-ohia) forest on Maui, Hawaii. Currently, this species is known only from one population totaling 250 to 300 individuals in the Kahikinui area of east Maui and one additional population of 25 individuals on west Maui. This species is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of the smaller of the two populations of *C. oxybapha,* and nonnative plants have been reduced in the fenced population. However, the threats are not controlled and are ongoing in the remaining, larger unfenced population. Therefore, the threats from pigs and nonnative plants are of a high magnitude and imminent for *C. oxybapha* and we retained a listing priority number of 2 for this species.

Cyrtandra sessilis (Haiwale)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Cyrtandra sessilis* is a shrub found in wet gulch bottoms and slopes of mesic valleys and wet forests on Oahu, Hawaii. This species is known from two populations totaling approximately 50 individuals in the Waikane area of the Koolau Mountains. *Cyrtrandra sessilis* is threatened by pigs that degrade and or destroy habitat, and by nonnative plants that outcompete and displace it. No on-the-ground conservation efforts have been initiated but this species is represented in an *ex-situ* collection. Pigs and nonnative plants are found throughout the mesic and wet forest habitat in which *C. sessilis* occurs making these threats ongoing and imminent. These threats are of high magnitude because of their severity and because they are occurring throughout its limited range. We retained a listing priority number of 2 for this species.

Dalea carthagenensis floridana (Florida prairie-clover)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This plant has recently been found in Big Cypress National Preserve in Monroe and Collier Counties, Florida. It is also known from five small populations in Miami-Dade County, two on small tracts of conservation lands. The populations in Miami-Dade County are vulnerable to invasion by exotic pest plants and to lack of prescribed fire. The populations in Big Cypress National Preserve do not appear to be large, and thus may be vulnerable to random events, as well as exotic pest plant invasions, with Old World climbing fern being the chief threat. The threats from invasive species are being controlled to some extent. Prescribed burns are being conducted on Miami-Dade conservation lands and biological control agents are being developed for Old World climbing fern, so the overall magnitude of threats is moderate. Threats to the three of the five Florida prairie-clover populations in Miami-Dade County are imminent. Threats from lack of fire and invasive species are ongoing, and conducting prescribed fires in urban areas is difficult, as is controlling exotic pest plants. The urban conservation lands where this plant occurs require regular maintenance. Threats from exotic pest plants to the two populations in Big Cypress National Preserve may be nonimminent because Old World climbing fern has not yet arrived. Overall, we consider threats to be imminent, so assigned a listing priority number of 9 to this subspecies.

Dichanthelium hirstii (Hirsts' panic grass)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Dichanthelium hirstii,* a perennial grass, produces erect leafy flowering stems from May to October. *Dichanthelium hirstii* occurs in coastal plain intermittent ponds, usually in wet savanna or pine barren habitats and is found at only two sites in New Jersey, one site in Delaware, and two sites in North Carolina. While all five extant *D. hirstii* populations are located on public land or privately owned conservation lands, natural threats to the species from encroaching vegetation and fluctuations in climatic conditions remain of concern and may be exacerbated by anthropomorphic factors occurring adjacent to the species' wetland habitat. Given the low numbers of plants found at each site, even minor changes in the species' habitat could result in local extirpation. Loss of any known sites could result in a serious contraction of the species range. However, the most immediate and severe of the threats to this species (*i.e.*, ditching of the Labounsky Pond site, and encroachment of aggressive vegetative competitors) have been curtailed or are being actively managed by The Nature Conservancy at the one New Jersey site, the Delaware Division of Fish and Wildlife, and Delaware Natural Heritage Program at the Assawoman Pond site, and the Marine Corps at the Camp Lejeune site in North Carolina. Based on continued threats of a high magnitude but low imminence, we retained a listing priority number of 5 for this species.

Digitaria pauciflora (Florida pineland crabgrass)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. This grass occurs at the edges of marl prairies within pine rocklands of the Long Pine Key area of Everglades National Park, an area of about 8,000 hectares (31 square miles). Because this plant has a narrow distribution and habitat requirements and only occurs within the Long Pine Key area, threats from exotic pest plants or other habitat management problems are significant. The National Park Service has controlled exotic pest plants and maintains an appropriate fire regime, but threats remain, particularly from Old World climbing fern, which is rapidly spreading into southern Florida and cannot easily be controlled. Therefore the magnitude of threats is high. Because the Old World climbing fern and perhaps other new exotic pest plants are not in the immediate vicinity of *D. pauciflora* but are expected to arrive within the next decade, the threats are nonimminent and the listing priority number is 5.

Dubautia imbricata ssp. *imbricata* (Naenae)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This subspecies is a shrub found in wet forest and bogs on Kauai, Hawaii. *Dubautia imbricata* ssp. *imbricata* is known from three populations totaling 1,000 or more individuals in the Wahiawa Mountains. This subspecies is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Nonnative plants have been reduced in a portion of the species' range. No other conservation measures for *D. imbricata* ssp. *imbricata* have been undertaken. Pigs are found throughout the wet forest and bog habitat of this subspecies. Therefore, the threat from pigs is ongoing and imminent. In addition, the threat from feral pigs is of a high

magnitude because the severity of this threat and because pigs occur throughout the limited range of this subspecies. Nonnative plants also remain a high magnitude threat to *D. imbricata* ssp. *imbricata* because of the severity of the threat and because they occur throughout its limited range. Competition by nonnative plants is an ongoing and imminent threat to most of the individuals of *D. imbricata* ssp. *imbricata*, although weed control has been undertaken in a portion of its range. We retained a listing priority number of 3 for this subspecies.

Dubautia plantaginea ssp. *magnifolia* (Naenae)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Dubautia plantaginea* ssp. *magnifolia* is a shrub found in bogs and wet forest on Kauai, Hawaii. This subspecies is known from two populations totaling 100 individuals near the summit of Waialeale on the island of Kauai. *Dubautia plantaginea* ssp. *magnifolia* is threatened by pigs that degrade and destroy habitat, nonnative plants that outcompete and displace it, and by stochastic extinction due to naturally occurring events. Feral pigs have been fenced out of one of the two populations of *D. plantaginea* ssp. *magnifolia*, and nonnative plants have been reduced in the fenced population. Because of the severity of the threats and because they are ongoing in one of the two known populations they are of a high magnitude and imminent. We retained a listing priority number of 3 for this subspecies.

Dubautia waialealae (Naenae)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Dubautia waialealae* is a shrub found in bogs and diverse mesic to wet forest on Kauai, Hawaii. This species is known from one population totaling less than 800 individuals near the summit of Waialeale and one individual at the opposite end of the Alakai Plateau. *Dubautia waialealae* is threatened by pigs that prey on it and degrade and destroy habitat, by nonnative plants that outcompete and displace it, and by stochastic extinction due to naturally occurring events. Pigs have been fenced out of the bog where the one individual of *D. waialealae* currently occurs. In addition, fences protect half of the larger population, and nonnative plants are being controlled around these individuals. However, the threats are not controlled and are ongoing in half of the larger population. The threats from pigs and nonnative plants are of a high magnitude and imminent for *D. waialealae,* thus, we retained a listing priority number of 2 for this species.

Echinomastus erectocentrus var. *acunensis* (Acuna cactus)—The following summary is based on information contained in our files and the petition received on October 30, 2002. The Acuna cactus is known from six sites on well-drained gravel ridges and knolls on granite soils in Sonoran Desert scrub association at 1300–2000 feet elevation. Habitat destruction has been a threat in the past and is a potential future threat to this species. New roads and illegal activities have not yet directly affected the cactus populations at Organ Pipe Cactus National Monument, but areas in close proximity to these known populations have been altered. Cactus populations located in the Florence area have not been monitored and these populations may be in danger of habitat loss due to recent urban growth in the area. Urban development near Ajo, Arizona, as well as that near Sonoyta, Mexico, is a significant threat to the Acuna cactus. Populations of the Acuna cactus within the Organ Pipe Cactus National Monument have shown a 50 percent mortality rate in recent years. The reason(s) for the mortality are not known, but continuing drought conditions are thought to play a role. The Arizona Plant Law and the Convention on International Trade in Endangered Species of Wild Fauna and Flora provide some protection for the Acuna cactus. However, illegal collection is a primary threat to this cactus variety and has been documented on the Organ Pipe Cactus National Monument in the past. While the threats continue to be of a high magnitude, they are currently nonimminent. Thus, we retained a listing priority number of 6 for this cactus variety.

Erigeron lemmonii (Lemmon fleabane)—See above in ''*Summary of Listing Priority Changes in Candidates.*'' The above summary is based on information contained in our files and the petition received in July 1975.

Erigeron basalticus (Basalt daisy)—*Erigeron basalticus* is a perennial, herbaceous plant with a taproot and one to several sprawling stems 10 to 15 centimeters (cm) (4 to 6 inches (in)) long. *Erigeron basalticus* grows in crevices in basalt cliffs on canyon walls, at elevations from 380 to 460 meters (1,250 to 1,500 feet), along the Yakima River Canyon and Selah Creek, a tributary of the Yakima River. It is found in microsites that are largely devoid of other vegetation and undergoing primary succession. As of the most recent survey in 2000, an estimated over 12,000 *E. basalticus* plants exist, with the population distributed among the same eight, potentially interbreeding subpopulations that occupy about 67 hectares (ha) (165 acres (ac)) within the known distribution of approximately 52 km^2 (20 mi^2). The overall population size, both in number of individuals and total area occupied, remained relatively stable between 1988 and 1998. However, the numbers of individuals in the four smallest subpopulations decreased substantially between those survey periods. The cause of the decline is unknown, yet the threats facing this species include habitat modification, overutilization from recreational use in the areas, and randomly occurring environmental affects. Surveys undertaken in 2000 by Washington Department of Natural Resources staff report the numbers for all eight sub-populations returning to similar levels as those reported in 1988. Monitoring by the University of Washington in 2006 will provide data on the species current status which will be available for our next CNOR. Based on nonimminent threats of moderate magnitude, we assigned a listing priority number of 11 to this species.

Eriogonum codium (Umtanum Desert buckwheat)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. This is a long-lived woody perennial plant in the Polygonaceae (buckwheat) family that forms low mats. Individual plants may exceed 100 years of age. The only known population of the species occurs exclusively on exposed basalt from the Lolo Flow of the Wanapum Basalt Formation in Benton County, Washington. The population has a discontinuous distribution along a narrow, 1.0 mi (1.6 km) long mountain ridge top. It is unknown if the historical distribution of Umtanum desert buckwheat was different from the species' current distribution. There are a number of ongoing threats to Umtanum desert buckwheat. The species is not well adapted to fire, and negative impacts to the species from past fires have been significant. In addition, Umtanum desert buckwheat plants are easily damaged by trampling or crushing by off-road vehicles. Digging activities and soil disturbance as a result of prospecting and collecting of petrified rock may also threaten Umtanum desert buckwheat as a result of. Finally, the species appears to have a very low reproductive rate. The factors responsible for the lower-than-expected number of seedlings in the population are unknown buy may include low seed

production, low seed or pollen viability, low seedling vigor and survival, impacts to plant pollinators or dispersal mechanisms, and insect predation of seeds. The only known population of Umtanum desert buckwheat is small and limited to a single site. Based on the available information, the magnitude of threat to Umtanum desert buckwheat is high and the identified threats are imminent. Thus, we retained a listing priority of 2 for Umtanum desert buckwheat.

Eriogonum kelloggii (Red Mountain buckwheat)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Red Mountain buckwheat is a perennial herb endemic to serpentine habitat of lower montane forests found between 1,900 and 4,100 feet. Its distribution is limited to the Red Mountain and Little Red Mountain areas of Mendocino County, California, where it occupies 50 acres and 900 square feet, respectively. Occupied habitat at Red Mountain is scattered over 4 square miles. The total population size is estimated at between 20,000 and 30,000 plants, which occur in 44 polygons. Intensive monitoring of permanent plots on three study sites in Red Mountain suggests considerable annual variation in plant density and reproduction, but no discernable population trend was evident in two of three study sites. One study site showed a 65 percent decline in plant density over 11 years.

The primary threat to this species is the potential for surface mining for chromium and nickel. Virtually the entire distribution of Red Mountain buckwheat is either owned by mining interests, or is covered by existing mining claims, none of which are currently active. Surface mining would destroy habitat suitability for this species. The species is also believed threatened by tree and shrub encroachment into its habitat, in absence of fire. Given the magnitude (high) and immediacy (nonimminent) of the threat to the small, scattered populations, and its taxonomy (species), we assigned a listing priority number of 5 to this species.

Festuca hawaiiensis (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a cespitose (growing in dense, low tufts) annual found in dry forest on the islands of Hawaii and Maui, Hawaii. *Festuca hawaiiensis* is known from more than 20 populations totaling approximately 1,000 individuals in and around the Pohakuloa Training Area on the island of Hawaii. Historically, this species was also found on Hualalai and Puu Huluhulu on Hawaii and possibly Ulupalakua on Maui, but it no longer occurs at these sites. *Festuca hawaiiensis* is threatened by pigs, goats, and sheep that degrade and destroy habitat, by nonnative plants that outcompete and displace it, and by fire. Feral pigs, goats, and sheep have been fenced out of a portion of the populations of *F. hawaiiensis*, and nonnative plants have been reduced in the fenced areas. However, these threats are not controlled and are ongoing in the remaining, unfenced populations. In addition, the threat from fire is of a high magnitude and imminent because of the severity of this threat, it occurs throughout the range of the species, and no fire control measures have been undertaken for any of the populations of *F. hawaiiensis*. Since the threats are of a high magnitude and are imminent for *F. hawaiiensis*, we retained a listing priority number of 2 for this species.

Festuca ligulata (Guadalupe fescue)—The following summary is based on information from our files and in the petition received in 1975. Guadalupe fescue is a member of the Poaceae (Grass family). This species is currently only known from higher elevations in the Chisos Mountains area in the Big Bend Area of Texas and adjacent Coahuila, Mexico. The population in Big Bend National Park is bisected by a trail and subject to occasional trampling by horses and hikers. The magnitude of threats for Guadalupe fescue is moderate to low because of population monitoring, fire management, and trail operation by the National Park Service. Threats to the overall population are nonimminent because of monitoring and other conservation actions that address threats to the species. Thus, we assign a listing priority number of 11 to this species.

Gardenia remyi (Nanu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Nanu is a tree found in mesic to wet forest on islands of Kauai, Molokai, Maui, and Hawaii, Hawaii. *Gardenia remyi* is known from several populations totaling a few hundred individuals throughout its range. This species is threatened by pigs and goats that eat this plant and degrade and destroy habitat, and by nonnative plants that outcompete and displace it. This species is represented in an *ex situ* collection. 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 not controlled and are ongoing in the remaining, unfenced populations, and are, therefore, of a high magnitude and imminent. In addition, the threat from goats is of a high magnitude, and ongoing and imminent, because no goat control measures have been undertaken for any of the populations of *G. remyi*. Therefore, we retained a listing priority number of 2 for this species.

Geranium hanaense (Nohoanu)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Geranium hillebrandii (Nohoanu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Geranium hillebrandii* is a decumbent subshrub found in bogs on Maui, Hawaii. Previously known from two populations totaling approximately 500 individuals, it is currently known, as a result of more thorough surveys, from over 2,000 individuals. *Geranium hillebrandii* is moderately threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of some of the populations of *G. hillebrandii*, and nonnative plants have been reduced in those areas. The threats from feral pigs and nonnative plants are, therefore, of a moderate magnitude to this species because they affect only about half of its populations. In addition, these threats are imminent because they are ongoing in half of the populations. Therefore, we retained a listing priority number of 8 for this species.

Geranium kauaiense (Nohoanu)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' No new information was provided in the petition received on May 11, 2004.

Gonocalyx concolor (no common name)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. *Gonocalyx concolor* is a small evergreen epiphytic shrub found within the dwarf or elfin forest type near Cerro La Santa in the Carite Commonwealth Forest on the border of the municipalities of Cayey and San Lorenzo of southeastern Puerto Rico. The population previously reported from the Caribbean national Forest in Luquillo is apparently no longer extant. Approximately 172 plants have been located at the Carite site. *Gonocalyx concolor* appears to be

predominantly outcrossed, and pollinated by hummingbirds. Successful propagation at the University of Turabo, Turabo, Puerto Rico has been achieved. We assign a listing priority number of 5 to *G. concolor*, because the magnitude of threat is high, due to its limited distribution and population numbers, prior habitat destruction from construction of roads and telecommunication towers, certain forest management practices, availability of specific pollinators, and potential for catastrophic natural events; the threats to G. concolor are nonimminent, because the known population is found within protected lands, initial efforts at propagation have been successful, and there are no known projects or management activities planned that would destroy the known population.

Hazardia orcuttii (Orcutt's hazardia)—The following summary is based on information contained in our files and the petition received on March 8, 2001. *Hazarida orcuttii* is an evergreen shrubby species in the Asteraceae (sunflower family). The resinous shrubs are 50–100 centimeters (20–40 inches (in)) high and the relatively few branches are erect. This species flowers between August and October. The only known extant native occurrence of this species in the U.S. is in coastal San Diego County, California at the Manchester Conservation Area, previously known as the Manchester Mitigation Bank, now managed by The Center for Natural Lands Management (CNLM). The area is about 50 hectares (ha) (123 acres (ac)) and includes Diegan coastal sage scrub, southern maritime chaparral, and willow scrub. Within the conservation area, the natural population of *H. orcuttii* occupies only 2 ha (5 ac). The Manchester Conservation Area also supports populations of federally listed California gnatcatcher (*Polioptila californica californica*), *Arctostaphylos glandulosa* ssp. *crassifolia* (Del Mar manzanita), and *Acanthomintha ilicifolia* (San Diego thornmint). The general substrate for the *H. orcuttii* is sandstone.

The majority of the native occurrence has experienced more or less continuous impacts from people in the adjacent housing area who use the open space as a recreation area. Impacts can include pedestrian trampling and creation of bicycle trails near *H. orcuttii* plants. There are several other existing and potential threats to this species in the U.S. Introduced invasive exotic plants may pose a threat to the reproductive potential of this species. Translocations can pose a threat by removal of plants from viable habitat. Removed plants would no longer be a portion of the extant *in-situ* population, thereby affecting the plants genetic and demographic potential. The loss of about 147 of the 200 plants translocated to the Manchester site from an adjacent native unprotected site represents a loss of about 29 percent of the known native plants in the area. This likely represents a depletion of the genetic diversity of the species. This species is likely threatened by low numbers, possibly low seed set, and seed viability. We are aware of no reports of seedlings at the native occurrence. This could be of considerable consequence and represent lack of pollinator services and/or limitations on genetic diversity of an already small population. We retained a listing priority number of 5 for *H. orcuttii* due to overall nonimminent threats of high magnitude.

Hedyotis fluviatilis (Kamapuaa)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Kamapuaa is a scandent shrub found in mesic to wet forest on Oahu and Kauai, Hawaii. This species is known from six populations totaling 500 to 1,000 individuals throughout its range. *Hedyotis fluviatilis* is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 because the severity of the threats is high and are ongoing so are imminent.

Helianthus verticillatus (Whorled sunflower)—The following information is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. The whorled sunflower is found in moist, prairie-like openings in woodlands and along adjacent creeks. Despite extensive surveys throughout its range, only six sites are known for this species. There are two sites documented for Cherokee County, Alabama; three in Floyd County, Georgia; and a single site in Madison County, Tennessee. This species appears to have restricted ecological requirements and is dependent upon the maintenance of prairie-like openings for its survival. Active management of habitat is needed to keep competition and shading under control. Much of its habitat has been degraded or destroyed for agricultural, silvicultural, and residential purposes. The majority of the Georgia populations are protected as they are located within a conservation easement area donated to The Nature Conservancy by Temple-Inland Corporation. We assigned a listing priority number of 11 to this species as the magnitude of threats is moderate since the largest site is under permanent protection and the threats are nonimminent since the whorled sunflower appears to withstand some disturbance and there are no known immediate threats to the sites.

Hibiscus dasycalyx (Neches River rose-mallow)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Neches River rose-mallow is a perennial woody herb growing 3–7 feet tall with one or more stems per clump and white flowers 3–6 inches wide, consisting of five 2–4 inch long white petals with deep red or purple at the base. The Neches River rose-mallow appears to be restricted to wetlands, or those portions of wetlands that are exposed to open sun and normally hold standing water early in the growing season, with water levels dropping during late summer and fall. This species appears to have community dominance within that narrow band between high and low water levels in wetlands exposed to open sun. However, historical habitat has been affected by drainage or filling of floodplain depressions and oxbows, stream channelization, road construction, timber harvesting, agricultural activities (primarily mowing and grazing), and herbicide use. Threats that continue to potentially affect the species include wetland alteration, herbicide use, grazing, and mowing during the species' growing and flowering period.

A 1995 status survey of 10 counties resulted in confirmation or discovery of the species in only three sites, but in three separate counties and three different watersheds, suggesting a relatively wide historical range. These three populations, Ponta site in Cherokee County; Lovelady in Houston County; and Highway 94 in Trinity County, are within highway rights-of-way and are somewhat protected by a management agreement between Texas Parks and Wildlife Department and Texas Department of Transportation. Because these sites are still vulnerable to herbicides and adjacent agricultural activities, they support relatively low population numbers: Ponta (Highway 204) has ranged from 5 to 0 plants this year; Lovelady (Highway 230), 3–14 plants; and Highway 94, 15–49 plants. Continued surveys for *H. dasycalyx* have resulted in new populations. About 300 plants were found on land owned by the Temple-Inland Corporation in east Trinity County. A Candidate Conservation Agreement now

covers this site, but smaller numbers have been seen in recent years, possibly due to changes in the wetland's hydrology. Another site discovered on land previously owned by Champion International Corporation (near White Rock Creek in west Trinity County) once supported 300–400 plants. However, the status of this population is currently unknown due to a recent change in ownership.

In west Houston County, a population of 300 to 400 plants discovered on private land has been purchased by the Natural Area Preservation Association, a land trust organization, in order to protect this land in perpetuity. In east Houston County, a population was discovered in Compartment 55 in Davy Crockett National Forest at the south end of Forest Road 503. This population is large (at least 400), but has not yet been fully surveyed. Davy Crockett National Forest represents the only public land within the range of *H. dasycalyx*. In 2000, nearly 800 plants were introduced into Compartments 16 and 20 of the forest as part of a reintroduction effort. One population has retained high numbers (about 200), but the second has been affected by a change in hydrology. In 2004, another 200 plants were placed in a third location, in Compartment 11 of Davy Crockett National Forest. This site will be monitored for success in 2006. Two more sites in Davy Crockett National Forest have been identified as potential sites for reintroduction efforts and will be investigated.

Some populations of this species are at risk of genetic swamping by other *Hibiscus* species. Hybridization has occurred at both the Ponta and Highway 94 sites. Stephen F. Austin State University has completed a genetic analysis of *H. dasycalyx*, confirming it as a separate species. Stephen F. Austin State University is continuing a habitat study of *H. dasycalyx* and is developing a high number of plants for reintroduction purposes. The threats to the species continue to be of a high magnitude because of their severity, but overall are nonimminent. Thus, we retained a listing priority number of 5 for the Neches River rose-mallow.

Indigofera mucronata keyensis (Florida indigo)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This is a rare plant, inherently vulnerable to extinction because of its limited numbers. Of the eight populations that exist, the largest known population is on private land and comprises up to 1,000 individuals. Seven much smaller populations are on conservation lands in the Florida Keys, Monroe County. The species' habitat of coastal rock barrens, coastal berms, and edges of tropical hammocks is being invaded by exotic pest plants. On public conservation lands, invasive exotic species are being controlled in some areas and populations of this species, although small, have appeared stable in recent years. Populations on both private and public lands are subject to hurricanes, with their subsequent storm surges. Overall, the threats to this plant are moderate in magnitude. Because exotic pest plants, particularly Brazilian pepper and latherleaf are a chronic problem, with Brazilian pepper occupying coastal areas that are not regularly managed and latherleaf possibly still increasing, and because existing populations of this plant are small, especially on conservation lands, this species is highly vulnerable to lapses in habitat management. Therefore, threats are imminent and the listing priority number is 9.

Ivesia webberi (Webber ivesia)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Ivesia webberi* is a low, spreading, perennial herb that occurs very infrequently in Lassen, Plumas, and Sierra counties in California, and in Douglas and Washoe counties, Nevada. The species is restricted to sites with sparse vegetation and shallow, rocky soils composed of volcanic ash or derived from andesitic rock. Occupied sites generally occur on mid-elevation flats, benches, or terraces on mountain slopes above large valleys along the transition zone between the eastern edge of the northern Sierra Nevada and the northwestern edge of the Great Basin Desert. Currently, the global population is estimated at approximately 4.8 million individuals at 15 known sites. The Nevada sites support nearly 98 percent of the total number of individuals (4.7 million) on about 30 acres of occupied habitat. The California sites are larger in area, totaling about 156 acres, but support fewer individuals (approximately 115,000).

The primary threats to Webber ivesia include urban development, authorized and unauthorized roads, off-road vehicle activities and other dispersed recreation, livestock grazing and trampling, fire and fire suppression activities including fuels reduction and prescribed fires, and displacement by noxious weeds. Despite the high numbers of individuals, observations in 2002 and 2004 confirmed that direct and indirect impacts to the species and its habitat, specifically from urban development and off-highway vehicle activity remain high and are likely to increase. However, the U.S. Forest Service has committed to develop a conservation strategy and monitoring program to protect this species on National Forest lands, and the State of Nevada has listed the species as critically endangered, which provides a mechanism to track future impacts on private lands. In addition, both the Forest Service and State of Nevada have agreed to coordinate closely on all activities that may affect this species. For these reasons, we have determined that the threats to Webber ivesia are nonimminent and maintained a LPN of 5.

Joinvillea ascendens ssp. *ascendens* (Ohe)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Ohe is an erect herb found in wet *Metrosideros polymorpha* forest on the islands of Kauai, Oahu, Molokai, Maui, and Hawaii, Hawaii. *Joinvillea ascendens* ssp. *ascendens* is known from 50 to 100 populations totaling 100 to 200 individuals throughout its range. Plants are typically found as only one or two individuals, with miles between populations. This subspecies is threatened by pigs that degrade and destroy habitat, by an unknown fungus, and by nonnative plants that outcompete and displace native plants. Feral pigs have been fenced out of some of the populations of *J. ascendens* ssp. *ascendens*, and nonnative plants have been reduced in a few populations that are fenced. However, these threats are not controlled and are ongoing in the remaining, unfenced populations. In addition, an unknown fungus attacks the seedlings of this subspecies, limiting regeneration. Most known plants do not appear healthy. There is no effectively known control method for this fungus and no efforts to alleviate its effects are being implemented for any of the populations of *J. ascendens* ssp. *ascendens*. The threats to this species are of high magnitude and are on-going, and thus are imminent. Therefore, we retained a listing priority number of 3 for this subspecies.

Keysseria erici (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a short, rhizomatous perennial herb found in montane bogs on Kauai, Hawaii. *Keysseria erici* is known from several populations in bogs within the Alakai swamp region of Kauai, totaling approximately 1,000

individuals. This species is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of three of the bogs where *K. erici* currently occurs and nonnative plants have been greatly reduced in all three fenced bogs. However, these on-going conservation efforts benefit only a few of the populations of *K. erici*. The majority of the populations of *K. erici* are in unfenced areas and have no protection from the impacts of pigs and nonnative plants. Even the three fenced populations are not secure, due to funding limitations to support fence maintenance and weeding that is needed to prevent incursions of pigs and nonnative plants. Thus the threats to this species occur throughout its range and are particularly significant in the unfenced areas where a majority of the populations are located, and are expected to continue or increase without control or eradication. Because the threats are of high magnitude and ongoing, and therefore imminent, we retained a listing priority number of 2 for this species.

Keysseria helenae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a rhizomatous perennial herb found in montane bogs on Kauai, Hawaii. *Keysseria helenae* is known from three or four populations in bogs within the Alakai swamp region of Kauai, totaling approximately 300 individuals. This species is threatened by pigs that degrade and destroy habitat, and by nonnative plants that outcompete and displace it. Feral pigs have been fenced out of three of the four bogs where *K. helenae* currently occurs, and nonnative plants have been greatly reduced in all three fenced bogs. However, without continued monitoring and maintenance of the fences, pigs from surrounding areas can easily access fenced areas. Funding limitations restrict the extent of such monitoring and maintenance, and as a result the fenced populations continue to face threats. In addition, the threats from feral pigs and nonnative plants are ongoing in the unfenced bog. In light of the low number of individuals of this species, the threats are of high magnitude. The threats also are ongoing, and therefore imminent. For these reasons, we have retained a listing number of 2 for this species.

Korthalsella degeneri (Hulumoa)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Hulumoa is a parasitic subshrub found on two species of native trees, *Sapindus oahuensis* and *Nestegis sandwicensis*, only in diverse mesic forests on Oahu, Hawaii. Recent surveys indicate that the species is known only from one population of 1,000 individuals in Makua Valley. *Korthalsella degeneri* is threatened by goats that eat this plant and degrade and destroy habitat, fire, and nonnative plants that outcompete and displace native plants. Goats have been partially fenced out of the area in Makua Valley where *K. degeneri* currently occurs but some goats are still present. Fires resulting from military activities have been minimized but not completely eliminated. Threats continue to be of a high magnitude and imminent because they are ongoing and because of the potential for the elimination of the only known population by a single fire event. Therefore, we retained a listing priority number of 2 for this species.

Labordia helleri (Kamakahala)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Labordia helleri* is a shrub found in diverse mesic forest and mesic valleys on Kauai, Hawaii. This species is known from eight or more populations totaling 500 individuals from Makaha to Honopu. *Labordia helleri* is threatened by goats and deer that eat it and degrade and destroy habitat, and by nonnative plants that outcompete and displace it. No efforts have been taken to control the threats to *L. helleri* from goats, deer, and nonnative plants. The threats are of a high magnitude and imminent, and therefore, we retained a listing priority number of 2 for this species.

Labordia pumila (Kamakahala)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Labordia pumila* is a sparingly branched shrub found in hummocks in bogs and in bog margins on Kauai, Hawaii. This species is known from three populations totaling 500 to 700 individuals in the Alakai and Waialeale areas. *Labordia pumila* is threatened by pigs that eat it and degrade and destroy habitat, nonnative plants that outcompete and displace it, and by stochastic extinction due to naturally occurring events such as hurricanes. Feral pigs have been fenced out of two of the three bogs where *L. pumila* occurs. Nonnative plants have been greatly reduced in the two fenced bogs, and are not found in the immediate vicinity of any *L. pumila* individuals in the fenced areas. Reproduction has not been observed over nine years of monitoring, even within the fenced areas. Also, with only three known populations, reduced reproductive vigor and threats from hurricanes and other stochastic events, the threats to this species are of a high magnitude, and are ongoing and therefore imminent. Consequently, we retained a listing priority number of 2 for this species.

Leavenworthia crassa (Gladecress)—The following information is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species of gladecress is a component of glade flora, occurring in association with limestone outcroppings. *Leavenworthia crassa* is endemic to a 13-mile radius area in north central Alabama in Lawrence and Morgan Counties, Alabama where only six populations of this species are documented. Glade habitats today have been reduced to remnants fragmented by agriculture and development. Populations of this species are now located in glade-like areas exhibiting various degrees of disturbance including pastureland, roadside rights-of-way, and cultivated or plowed fields. The most vigorous populations of this species are located in areas which receive full, or near full sunlight with limited herbaceous competition. The magnitude of threat is high for this species, with the limited number of populations, and the immediacy of threat is nonimminent since there are no known projects planned that would destroy any sites and the species is able to withstand some disturbance. Thus, we assigned a listing priority number of 5 to this species.

Leavenworthia texana (Texas golden gladecress)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Texas golden gladecress is a small annual member of the mustard family, with deep, yellow petals only 7–10 millimeters long; flowering is February through March. The gladecress occurs only on the Weches outcrops of east Texas in San Augustine and Sabine counties. The Weches geologic formation consists of a layer of calcareous sediment that sits above a layer of glauconite clay. These layers were deposited up to 50 million years ago and erosion of the fossil-rich complex has produced a rugged topography of steep, flat-topped hills and escarpments along Highway 21 through north San Augustine and Sabine Counties. It has also created the unique ecology of Weches glades: Islands of thin, loamy, seepy, alkaline

soils that support open-sun, herbaceous, and highly diverse and specialized plant communities.

More than 100 species representing at least 39 plant families, including the federally endangered white bladderpod (*Lesquerella pallida*), have been documented on Weches glades. One of those species is the Texas golden gladecress which was historically recorded at eight sites, all in a narrow line along north San Augustine and Sabine counties, following the Weches formation. All sites are on private land. Habitat of the species at two of these locations has since been eliminated due to glauconite mining. Two more sites are currently closed to visitors, and the status of the gladecress at these sites is unknown. However, a large glauconite mine was created adjacent to these sites 6 years ago, and may have altered the area's hydrology. One historic site in Sabine County was rediscovered in 1998 and found to support over 300 plants. Only two known populations remain in San Augustine County. The Tiger Creek (Chapel Hill) site is less than 0.1 hectares (less than 0.25 acres) in size and supports population numbers of 40–100. The Kardell site is less than 9 square meters (100 square feet) in size and supports 96–490 plants. An introduced population in Nacogdoches County has numbered about 300 within an area of about 18 square meters (200 square feet).

Historic gladecress habitat has been affected by highway construction, residential development, conversion to pasture and cropland, widespread use of herbicide, overgrazing, and glauconite mining. However, the primary threat to existing gladecress populations is the invasion of nonnative and weedy shrubs and vines (primarily Macartney rose (*Rosa bracteata*) and Japanese honeysuckle (*Lonicera japonica*). All known sites are undergoing severe degradation by the incursion of nonnative shrubs and vines, which restrict both growth and reproduction of the gladecress. Special funding allowed brush clearing to be carried out in 1995 at several white bladderpod sites (where gladecress is also located). The project resulted in large increases in white bladderpod numbers, and also resulted in the reappearance of gladecress after a 10-year absence at one historic site, and a possible discovery at a second site. However, nonnative shrubs have again invaded these areas. More effective control measures, such as burning and selective herbicide use, need to be tested and monitored.

The small number of known sites also makes the gladecress vulnerable to extreme natural disturbance events. A severe drought in 1999 and 2000 had a pronounced adverse effect on gladecress reproduction. Prelisting efforts for the gladecress include: The collection of seeds and placement in three State horticultural labs for possible reintroduction efforts, a Cooperative Agreement (now final and in effect) with The Nature Conservancy of Texas, and development of a ''Conservation Area Plan for the San Augustine Glades,'' which identifies the size and configuration of conservation units that will restore and maintain longterm viability of Weches communities. The next step is to secure adequate funding to initiate protection measures. Landowners of the Tiger Creek and Kardell sites are aware of the gladecress and are maintaining current land-use conditions. Efforts to find additional sites, and management of known sites, should be the focus for this species. Due to the continuing overall high magnitude and immediacy of the threats, we retained a listing priority number of 2 for the Texas golden gladecress.

Lesquerella globosa (Desvaux) Watson (Short's bladderpod)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Lesquerella globosa* is a perennial member of the mustard family that occurs in Indiana (1 location), Kentucky (6 locations), and Tennessee (18 locations). It grows on steep, rocky, wooded slopes, talus areas, along cliff tops and bases, and on cliff ledges. It is usually associated with south to west facing calcareous outcrops adjacent to rivers or streams. Road construction and road maintenance have played a significant role in the decline of *L. globosa*. Specific activities that have impacted the species in the past and continue to threaten it include bank stabilization, herbicide use, mowing during the growing season, grading of road shoulders, and road widening or repaving. Sediment deposition during road maintenance or from other activities also potentially threatens the species. Interruption of natural processes that maintained habitat suitability and competition from invasive nonnative vegetation necessitates active habitat management at many locations. Because the threats would be fatal for populations of this species, the magnitude of threats is high. However, based upon the number of populations and the anticipation that most of these threats will not be realized in the several years, the threats are nonimminent and, therefore, we assigned a listing priority number of 5 to this species.

Linum arenicola (Sand flax)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. This herb inhabits seven pine rockland sites on limestone in Miami-Dade County and two in the lower Florida Keys (at National Key Deer Refuge and a Nature Conservancy preserve on Big Pine Key). During the twentieth century, most of this plant's geographic range was converted to farmland or was urbanized. As a result, remaining populations have suffered from fragmentation and small population size; only small populations of this plant remain. Those on relatively small tracts of conservation land in urban Miami-Dade County are vulnerable to invasion by exotic pest plants and lack of prescribed fire and such threats could severely affect those populations. A further problem in Miami-Dade is that one population is located in an artificial environment, which makes its management difficult. Therefore, the magnitude of threats is high. The two sites in the Keys seem less vulnerable to rapid invasions by exotic pest plants and may require less frequent prescribed fire because vegetation grows more slowly there. Therefore, the threats to the 4 very small populations are of slightly lesser magnitude, but they are present. Threats to four of the seven sand flax populations in Miami-Dade County are imminent because they are ongoing. For the remaining populations, the threats are less imminent. Overall, the threats are imminent, and we assigned a listing priority number of 2 to this species.

Linum carteri var. *carteri* (Carter's small-flowered flax)—The following summary is based on information in our files. No new information was provided in the petition received on May 11, 2004. This plant occupies open, sunny sites in pinelands of Miami-Dade County, Florida. Populations with probably fewer than 100 total individuals are located on three County-owned preserves. A population with more than 100 plants is on a non-conservation site owned by the U.S. government. The existing populations are small and vulnerable to exotic pest plant invasions, hot wildfires, and in some cases, to development. This species exists in such small numbers at so few sites, that it may be difficult to develop viable populations on the available conservation lands. Although no population viability analysis has been conducted for this plant, indications are that existing populations are at best marginal, and none are truly

viable. As a result, the magnitude of threats is high. Because no viable populations of this plant exist, the imminence of threats is imminent, so we assigned a listing priority number of 3 to this plant variety.

Lysimachia daphnoides (Lehua makanoe)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is known from nine populations totaling 180 to 300 individuals in the Alakai area. *Lysimachia daphnoides* is threatened by feral pigs that degrade and destroy habitat, by hikers that may trample individuals, and by nonnative plants that outcompete and displace it. In addition, regeneration is not occurring due to an unknown invertebrate that eats most, if not all, of the seeds in the fruit and for which no control is currently known. Feral pigs have been fenced out of three of the nine populations of *L. daphnoides* and nonnative plants have been reduced in the three populations that are fenced. However, these on-going conservation efforts benefit only three of the nine known populations. In addition, no viable seeds have been observed in recent years due to damage to fruits from a boring insect. This insect has not yet been identified, In monitoring of populations of *L. daphnoides* in the three fenced bogs over the last four years, no recruitment has been observed. The threats continue to be of a high magnitude to the species as a whole and they are on-going, and therefore imminent. Therefore, we retained a listing priority number of 2 for this species.

Melicope christophersenii (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope christophersenii* is a long-lived perennial shrub or tree found in wet forest in the Waianae Mountains on Oahu, Hawaii. Currently, this species is known from several populations totaling less than 300 individuals. *Melicope christophersenii* is threatened by feral pigs and goats that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. The black twig borer may pose a threat to *M. christophersenii* because it is known to infest other species of *Melicope* on Oahu and it occurs throughout the Waianae Mountains. The threats to *M. christophersenii* from feral pigs, goats, nonnative plants, and the black twig borer are imminent and of a high magnitude because of their severity, they occur range-wide, they are ongoing, and no efforts for their control have been undertaken. Therefore, we retained a listing priority number of 2 for this species.

Melicope degeneri (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope degeneri* is a small, long-lived perennial shrub found in mesic to wet forest on Kauai, Hawaii. Currently this species is known from three populations with a total of 15 individuals. *Melicope degeneri* is threatened by feral goats that directly prey upon it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, reduced reproductive vigor, and stochastic extinction due to naturally occurring events. The black twig borer may pose a threat to *M. degeneri* because it is known to infest other species of *Melicope* and it occurs on the island of Kauai. No known conservation measures have been taken to date to address these threats. These threats are of a high magnitude because of their severity and are occurring throughout the limited range of this species.The threats are imminent because they are ongoing in all three populations. Therefore, we retained a listing priority number of 2 for *M. degeneri.*

Melicope hiiakae (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope hiiakae* is a small tree found in mesic to wet forest and shrubland on Oahu, Hawaii. Currently, *M. hiiakae* is known from four or five populations of about 20 individuals in the Koolau Mountains. This species is threatened by feral pigs that directly prey upon it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, and stochastic extinction due to naturally occurring events. The black twig borer may pose a threat to *M. hiiakae* because it is known to infest other species of *Melicope* on Oahu and it occurs throughout the Koolau Mountains. The threats are high in magnitude and imminent because of their severity, they all occurring range-wide, and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 for this species.

Melicope makahae (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope makahae* is a shrub or shrubby tree found in mesic forest in the Waianae Mountains on Oahu, Hawaii. Currently *M. makahae* is known from three populations on three discrete ridges, totaling approximately 200 individuals. This species is threatened by goats that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. The black twig borer may pose a threat to *M. makahae* because it is known to infest other species of *Melicope* on Oahu and it occurs throughout the Waianae Mountains. The threats to *M. makahae* from goats, nonnative plants, and the black twig borer are of a high magnitude because of their severity, they are occurring range-wide, and no efforts for their control have been undertaken. The threats are imminent since they are ongoing. Therefore, we retained a listing priority number of 2 for this species.

Melicope paniculata (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope paniculata* is a small tree found in wet forest dominated by *Metrosideros polymorpha* (ohia) on Kauai, Hawaii. *Melicope paniculata* is currently known from four populations totaling 110 individuals. This species is threatened by feral pigs that directly prey upon it, degrade and/or destroy habitat, and nonnative plants that compete for light and nutrients. The black twig borer may pose a threat to *M. paniculata* because it is known to infest other species of *Melicope* and it occurs on Kauai. All of the threats are occurring range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 due to imminent threats of a high magnitude.

Melicope puberula (Alani)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Melicope puberula* is a shrub or small tree found in mesic and wet forest on Kauai, Hawaii. This species is known from 1,000 individuals in the Kalalau area to Wainiha Pali on the island of Kauai. *Melicope puberula* is threatened by feral pigs and goats that degrade and/or destroy habitat, nonnative plants that compete for light and nutrients, and stochastic extinction due to naturally occurring events such as hurricanes. The black twig borer may pose a threat to *M. puberula* because it is known to infest other species of *Melicope* and it occurs on Kauai. These threats are of a high magnitude because of their severity and they are occurring throughout its limited range. The threats are imminent because they are ongoing. Therefore, we

retained a listing priority number of 2 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 received on May 11, 2004. *Myrsine fosbergii* is a branched shrub or small tree found in cloud swept ridges and wet forest on Kauai and Oahu, Hawaii. This species is known from at least five populations totaling 150 to 175 individuals from Kauai and the southeastern end of Castle Trail on Oahu. *Myrsine fosbergii* is threatened by feral pigs that directly prey upon it and degrade and destroy habitat, and nonnative plants that compete for light and nutrients. There are no conservation measures being taken to alleviate these threats for this species. Feral pigs are found throughout the known range of *M. fosbergii* making this threat ongoing and imminent. The threats from feral pigs and nonnative plants are of high magnitude because of their severity and they are occurring throughout its limited range. The threats are on-going and therefore are imminent. We retained a listing priority number of 2 for this species.

Myrsine mezii (Kolea)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Myrsine mezii* is a small many-branched tree found in mesic forest on Kauai, Hawaii. This species is known from two populations of only five individuals in Koaie Canyon. *Myrsine mezii* is threatened by feral pigs that degrade and destroy habitat, reduced reproductive vigor, and stochastic extinction due to naturally occurring events. No known conservation measures have been taken to date for these threats. The threats are of a high magnitude and imminent because of their severity, they are occurring throughout the limited range of *M. mezii*, and are ongoing. Thus, we retained a listing priority number of 2 for this species.

Myrsine vaccinioides (Kolea)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Myrsine vaccinioides* is a small branched shrub found in shrubby bogs on Maui, Hawaii. This species is found scattered throughout the bogs of west Maui, totaling approximately 500 individuals. *Myrsine vaccinioides* is threatened by feral pigs that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. Pig exclusion fences protect some individuals of this species, and nonnative plants have been reduced around some individuals that are fenced. However, these on-going conservation efforts benefit only a small number of the known individuals. Further, nonnative plants will probably never be completely eradicated because new propagules are constantly being dispersed into the fenced areas from surrounding, unmanaged lands. The species as a whole is impacted by threats of high magnitude that are ongoing, and thus imminent. Therefore, we retained a listing priority number of 2 for this species.

Narthecium americanum (Bog asphodel)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Bog asphodel is a perennial herb that is found in savannah areas, usually with water moving through the substrate, as well as in sandy bogs along streams and rivers. The historic range of bog asphodel included New York, New Jersey, Delaware, North Carolina, and South Carolina, but is now only found within the Pine Barrens region of New Jersey.

As an obligate wetland species, *N. americanum* is threatened by changes in hydrology, loss of habitat due to filling or draining of wetlands, flooding as a result of reservoir construction, and conversion of natural wetlands to commercial cranberry bogs. This species occurs in the Pine Barrens region, and the Pinelands Commission issues the State-assumed Clean Water Act Section 404 permits. The Pinelands Commission grants wetland exemptions to cranberry production and other agricultural uses. In some instances, illegal wetland filling is occurring. For example, a cranberry producer recently expanded its operation without a State permit. In addition, activities not needing State or federal permits are occurring in uplands that are indirectly affecting the wetlands. Natural succession of vegetation in wetlands that support bog asphodel from emergent (herbaceous) to forested wetlands may also be contributing to the species' decline. Suppression of natural wildfires that would retard succession or create open wetland savannahs may be a factor in the decline of the species.

Other factors adversely affecting *N. americanum* include trampling, erosion, and siltation caused by recreationists on foot or using off-road vehicles. Approximately 70 percent of known extant populations occur on State-owned lands. We are working with the New Jersey Department of Environmental Protection to abate known threats at these sites from recreational use and erosion, thus the severity of these threats has been reduced on State-owned land. Approximately 30 percent of the known extant sites are on privately owned lands, many of which are threatened by habitat degradation from on-site or adjacent residential or commercial development. Overall, based on these imminent, moderate threats, we retained a listing priority number of 8 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 received on May 11, 2004. Aiea is a small tree found in dry to mesic forest and diverse mesic forests on Kauai, Oahu, Maui, Molokai, and Lanai, Hawaii. *Nothocestrum latifolium* is known from approximately a dozen populations totaling less than 300 individuals. This species is threatened by feral pigs, goats and cattle that may eat it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, and the loss of pollinators that negatively affect the reproductive viability of the species. Ungulates have been fenced out of some areas where *N. latifolium* currently occurs, and nonnative plants have been reduced in some populations that are fenced. However, these on-going 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 regeneration is observed in this species. Therefore, the threats are of a high magnitude and imminent and we retained a listing priority number 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 received on May 11, 2004. Holei is a tree found often on lava in dry to mesic forest on the islands of Hawaii and Maui, Hawaii. This species is currently known from three populations totaling 500 individuals on east Maui and the island of Hawaii. *Ochrosia haleakalae* is threatened by feral pigs and goats that may directly prey upon it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, and fire. Feral pigs and goats have been fenced out of the Maui population of *O. haleakalae*, and fences protect the reintroduction site in Hawaii Volcanoes National Park on the island of Hawaii. Nonnative plants have been reduced in the fenced area on Maui. No known conservation measures have been taken to date for the other

populations on the island of Hawaii. The threat from fire is of a high magnitude and imminent because no control measures have been undertaken to address this threat to all of the populations. The threats from feral pigs and goats are of a high magnitude and 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 the island of Hawaii. Therefore, we retained a listing priority number of 2 for this species.

Pediocactus peeblesianus var. *fickeiseniae* (Fickeisen plains cactus)—See above in ''*Summary of Listing Priority Changes in Candidates*.'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Penstemon debilis (Parachute beardtongue)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Parachute beardtongue is an extremely rare plant endemic to oil shale outcrops on the Roan Plateau escarpment in Garfield County, Colorado. The estimated number of plants is 1130 to 1730. Approximately 53 to 69 percent of the plants are on private land owned by an oil and gas company. Most of the remaining 31 to 47 percent occur in one population on Bureau of Land Management land that will soon be open to leasing under a new Resource Management Plan. Pressure to develop energy reserves in this area is intense. Threats include habitat destruction caused by heavy equipment as it traverses access roads through plant populations. These threats are high magnitude because of the high number of populations affected by these threats and the severity of the impact. Therefore, we retained a listing priority number of 2 for this species based on the high magnitude of the threats and the increase in the intensity of energy exploration and development in the last three years along the Roan Plateau escarpment.

Penstemon scariosus var. *albifluvis* (White River beardtongue)—The following summary is based on information contained in our files and the petition received on October 27, 1983. The White River beardtongue is restricted to calcareous soils derived from oil shale barrens of the Green River Formation in the Uinta Basin of northeastern Utah and adjacent Colorado. There are 14 occurrences known in Utah and one in Colorado. Most of the occupied habitat of the White River beardtongue is within developed and expanding oil and gas fields. The location of the species' habitat exposes it to destruction from road, pipeline, and well-site construction in connection with oil and gas development. Recreational off-road vehicle use, heavy grazing by livestock and wildlife and livestock trampling are additional threats. Current information indicates that threats are nonimminent since that are not ongoing at this time but of a high magnitude because of their potential to affect the majority of the populations. Therefore, we retained a listing priority number of 6 for this plant variety.

Peperomia subpetiolata (Ala ala wai nui)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Ala ala wai nui is a short-lived perennial herb found in mesic forest on Maui, Hawaii. This species is known from a few scattered, declining, populations on windward east Maui, totaling 100 individuals. Further study of the population indicates that the 100 individuals may actually represent clones of only 6 genetically distinct individuals. *Peperomia subpetiolata* is threatened by feral pigs that may eat this plant and degrade and destroy habitat, and by nonnative plants that compete for light and nutrients. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 because the threats are of a high magnitude and are ongoing so are imminent.

Phacelia submutica (DeBeque phacelia)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. DeBeque phacelia is an annual flowering plant endemic to clay soils derived from the Atwell Gulch and Shire members of the Wasatch Formation in Mesa and Garfield Counties, Colorado. There are approximately 40 populations, all less than five acres. The number of plants varies from none to thousands each year, depending on precipitation. The habitat coincides with high quality oil and gas reserves of the Piceance Basin, mostly on federal lands. The primary threats are gas field development and associated construction and transportation activities, as well as increased access for all-terrain vehicles. Substantial surface disturbance alters the unique soil structure that supports this plant, and also destroys seed banks that are critical to the survival of this species. The threats are of a high magnitude because they have the potential to affect the majority of the populations and because the populations cover such small areas of land. The threats are nonimminent since they are not expected to affect this species in the next few years. Based on nonimminent threats of a high magnitude, we retained a listing priority number of 8 for this species.

Phyllostegia bracteata (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Phyllostegia bracteata* is a scandent perennial herb. Currently this species is known from three populations totaling no more than 100 individuals in wet forest habitat of east Maui. *Phyllostegia bracteata* is threatened by feral pigs that may directly prey upon it and degrade and destroy habitat, and nonnative plants that compete for light and nutrients. The threats to *P. bracteata* from pigs and nonnative plants are of a high magnitude and imminent because of their severity, they are occurring range-wide, are ongoing, and no efforts for their control have been undertaken. Therefore, we retained a listing priority number of 2 for this species.

Phyllostegia floribunda (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is an erect subshrub found in mesic to wet forest on the island of Hawaii, Hawaii. This species is known from 13 locations totaling fewer than 100 individuals on State, private, and Federal lands (Hawaii Volcanoes National Park). Only one individual is reported at each of approximately half of the locations. *Phyllostegia floribunda* is threatened by feral pigs that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. Fences protect approximately five populations on private and Park Service lands. Nonnative plants have been reduced in these fenced areas. However, no conservation efforts have been implemented for the unfenced populations. For the species as a whole, the threats are ongoing and imminent, and of a high magnitude. Consequently, we retained a listing priority number of 2 for this species.

Phyllostegia hispida (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a loosely spreading many-branched vine found in wet forest on Molokai, Hawaii. The historic range

of this species was eastern Molokai. Currently, *P. hispida* is known from only one plant in the State of Hawaii's Puu Alii Natural Area Reserve. This species is threatened by the lack of regeneration, feral pigs that eat this plant and degrade and/or destroy habitat, erosion, reduced reproductive vigor and stochastic extinction due to naturally occurring events. No efforts for the control of feral pigs have been undertaken in the habitat occupied by this species. *Phyllostegia hispida* is represented in an *ex-situ* collection (micropropagation) and it is unknown whether the material will transfer to the nursery for normal propagation methods needed for reintroduction. The threats are of a high magnitude and imminent because of their severity, and they are currently occurring throughout the limited range of *P. hispida.* Thus, we retained a listing priority number of 2 for this species.

Physaria tuplashensis, (White Bluffs bladder-pod)—See above in ''*Other Taxonomic Changes in Candidates.*'' The above summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004.

Pittosporum napaliense (Hoawa)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Hoawa species is a small tree found in *Pandanus* forest and mesic valleys on Kauai, Hawaii. This species is known from about six populations totaling several hundred individuals on the eastern portion of the Na Pali coast. *Pittosporum napaliense* is threatened by feral pigs that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. The threats to *P. napaliense* from pigs and nonnative plants are of a high magnitude and imminent because of their severity, they currently occur range-wide, and no efforts for their control have been undertaken. Therefore, we retained a listing priority number of 2 for this species.

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 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 and Tennessee. Historically, there were at least 90 populations of *P. integrilabia.*

Currently there are only 53 extant sites supporting the species. Several populations have been lost to road, residential and commercial construction, and to projects that altered soil and site hydrology, and reduced site suitability for the species. Several of the known populations are in or adjacent to powerline rights-of-way. Mechanical clearing of these areas may benefit the species by maintaining adequate light levels; however, the use of herbicides could pose a significant threat to the species. All-terrain vehicles have damaged several sites and pose a threat to most sites. Most 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. However, care must be taken during timber management to ensure that the hydrology of the bogs that support the species is not altered. Natural succession can result in decreased light levels. 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 threat. Herbivory (primarily deer) threatens the species at several sites. Protection and recovery of this species is dependent upon active management rather than just preservation of its habitat. Invasive, nonnative plants such as Japanese honeysuckle and kudzu threaten several sites. Given the current threats to this species, the magnitude of threat is high. Based upon the number of populations and the anticipation that most of these threats will not be realized in the next several years, the threats are nonimminent and, therefore, we have assigned a listing priority number of 5 to this species.

Platydesma cornuta var. *cornuta* (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This variety is an erect palmoid shrub found in mesic forest on Oahu, Hawaii. This variety is known from three to four populations with a combined total of approximately 100 individuals in the Koolau Mountains on the island of Oahu. Limited monitoring has shown that this population is declining. The threats to *P. cornuta* var. *cornuta* include feral pigs that directly prey upon it and degrade and destroy habitat, and nonnative plants that compete for light and nutrients. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 3 for this variety because of the high magnitude of threats and because they are ongoing, so are imminent.

Platydesma cornuta var. *decurrens* (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This variety is an erect palmoid shrub found in mesic forest on Oahu, Hawaii. This variety is known from a few populations totaling a few hundred individuals in the Waianae Mountains. *Platydesma cornuta* var. *decurrens* is threatened by feral pigs and goats that directly prey upon it and degrade and destroy habitat, and nonnative plants that compete for light and nutrients. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 3 for this variety because the threats are high in magnitude and are ongoing, so are imminent.

Platydesma remyi (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Platydesma remyi* is a shrub or shrubby tree found scattered in wet, low stature forest on the island of Hawaii, Hawaii. This species is known from two populations (one each in the Kohala Mountains and Hamakua) totaling less than 100 individuals. *Platydesma remyi* is threatened by feral pigs and cattle that degrade and destroy habitat, nonnative plants that compete for light and nutrients, reduced reproductive vigor, and stochastic extinction due to naturally occurring events. There are no conservation efforts being implemented to alleviate the threats to *P. remyi.* These threats are ongoing and therefore, imminent, and of a high magnitude because of their severity and because they are occurring throughout its limited range. Therefore, we retained a listing priority number of 2 for this species.

Platydesma rostrata (Pilo kea lau lii)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Pilo kea lau lii is an erect palmoid shrub found in diverse mesic forest and valleys on Kauai, Hawaii. This species is known from about 20 populations totaling several hundred individuals in Kokee and Kuia. *Platydesma rostrata* is threatened by feral goats that degrade and destroy habitat, and nonnative plants that compete for light and

nutrients. Feral goats have been fenced out of 1 of the 20 populations of *P. rostrata*, and nonnative plants have been reduced in the population that is fenced. However, these on-going conservation efforts benefit only 1 of the 20 known populations and, therefore, continue to be of a high magnitude to this species. In addition, threats to *P. rostrata* are imminent because they are ongoing in 19 of the 20 populations. Therefore, we retained a listing priority number of 2 for this species.

Pleomele forbesii (Hala pepe)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Pleomele forbesii* is a tree found in diverse mesic and dry forests on Oahu, Hawaii. This species is currently known from 16 populations totaling 500 individuals. *Pleomele forbesii* is threatened by predation by rats, habitat degradation and destruction by feral pigs and goats, fire, and nonnative plants that compete for light and nutrients. There are no conservation efforts being implemented to alleviate these threats to *P. forbesii.* The threats are of a high magnitude because of their severity and they are occurring throughout the range of this plant in all 16 populations. The threats are ongoing and therefore, imminent. Thus, we retained a listing priority number of 2 for this species.

Potentilla basaltica (Soldier Meadow cinquefoil or basalt cinquefoil)—See above in ''*Summary of Listing Priority Changes in Candidates.*'' No new information was provided in the petition received on May 11, 2004.

Pritchardia hardyi (Loulu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Pritchardia hardyi* is a medium-sized palm tree found in open wet forest on Kauai, Hawaii. This species is known from three populations with a combined total of 300 individuals in the Power Line Road area. *Pritchardia hardyi* is threatened by feral pigs that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. Other potential threats include direct predation of fruit by rats, and human collection and vandalism. No conservation efforts have been initiated to date to alleviate these threats to *P. hardyi.* The threats are of a high magnitude because of their severity and they are occurring throughout the range of this plant in all three populations. The threats are ongoing and therefore, imminent. Thus, we retained a listing priority number of 2 for 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 received on May 11, 2004. *Pseudognaphalium sandwicensium* var. *molokaiense* is a perennial herb found in strand vegetation in dry consolidated dunes on Molokai, Hawaii. This variety is known from two populations totaling a few hundred individuals in the Moomomi area and 25 individuals at Puu Kahulianapa on west Maui. *Pseudognaphalium sandwicensium* var. *molokaiense* is threatened by axis deer (Maui and Molokai) and feral cattle (Molokai) that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. Potential threats include collection for lei and off-road vehicles that directly damage plants and degrade habitat. While ungulate exclusion fences protect one population of *P. sandwicensium* var. *molokaiense* on Molokai and nonnative plant control has been implemented in this population, no conservation efforts have been initiated to date for the other individuals on Molokai and Maui. The threats from axis deer, goats, nonnative plants, collection, and off-road vehicles are of a high magnitude, ongoing and imminent, because no control measures have been undertaken for four of the five Molokai populations or for the two Maui populations. Therefore, we retained a listing priority number of 3 for this variety.

Psychotria grandiflora (Kopiko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Psychotria grandiflora* is a small tree or shrub found in mesic to sometimes wet forest on Kauai, Hawaii. This species is found only in the Kokee area on the island of Kauai. Recent surveys determined that the species is now limited to four populations with a total of 18 individuals. *Psychotria grandiflora* is threatened by feral pigs and goats that directly prey upon it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, reduced reproductive vigor, and stochastic extinction due to naturally occurring events. The threats to *P. grandiflora* are of a high magnitude because of their severity, they are occurring throughout the plant's limited range in all four populations, and there are no conservation efforts being implemented to alleviate the threats. The threats are also ongoing and therefore, imminent. Therefore, we retained a listing priority number of 2 for this species.

Psychotria hexandra ssp. *oahuensis* var. *oahuensis* (Kopiko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Psychotria hexandra* ssp. *oahuensis* var. *oahuensis* is a tree or shrub found in mesic and wet forests on Oahu, Hawaii. This variety is known from three populations of less than 20 individuals. The other varieties of this subspecies, *hosakana* and *rockii*, are extinct. *Psychotria hexandra* ssp. *oahuensis* var. *oahuensis* is threatened by feral pigs and rats that consume this plant and degrade and destroy habitat, rats that consume its fruit, and nonnative plants that compete for light and nutrients. All of the threats occur range-wide, and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 3 because the threats are of a high magnitude and are ongoing, so are imminent.

Psychotria hobdyi (Kopiko)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Psychotria hobdyi* is a tree found in mesic forest habitat on Kauai, Hawaii. This species is known from three populations totaling approximately 85 individuals. *Psychotria hobdyi* is threatened by feral goats that degrade and destroy habitat, nonnative plants that compete for light and nutrients, and reduced reproductive vigor and stochastic extinction due to naturally occurring events. There are no conservation measures being taken to alleviate these threats to this species. The threats to *P. hobdyi* from goats and nonnative plants are of a high magnitude because of their severity and they are occurring range-wide. The threats are imminent because they are ongoing. Therefore, we retained a listing priority number of 2 for this species.

Pteralyxia macrocarpa (Kaulu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Kaulu is a tree found in valleys and slopes in diverse mesic forest on Oahu, Hawaii. This species is known from 20 populations totaling less than 500 individuals. *Pteralyxia macrocarpa* is threatened by feral pigs, rats, and the two-spotted leafhopper that consume this plant; by feral pigs that degrade and destroy habitat; and, nonnative plants that compete for light and nutrients. These threats are of a high magnitude because of their severity, they are

occurring throughout its limited range, and no efforts for their control or eradication have been implemented. The threats are also imminent because they are ongoing. We retained a listing priority number of 2 for this species.

Ranunculus hawaiensis (Makou)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Ranunculus hawaiiensis* is an erect or ascending perennial herb found in mesic to wet forest dominated by *Metrosideros polymorpha* and *Acacia koa* with scree substrate on Maui and the island of Hawaii, Hawaii. Populations formerly within Haleakala National Park have been extirpated. This species is known from less than 300 individuals in five populations. However, the majority of these individuals are seedlings, less than 1 inch (2.5 centimeters) tall, and the rate of survival is expected to be very low. *Ranunculus hawaiiensis* is threatened by direct predation by slugs, by feral pigs, goats, cattle, and sheep that consume this plant and degrade and destroy habitat, and by nonnative plants that compete for light and nutrients. Feral ungulates have been fenced out of some of the populations of *R. hawaiiensis*, and nonnative plants have been reduced in some of the fenced areas. However, feral ungulates and nonnative plants are not controlled in the remaining, unfenced populations. In addition, the threat from slugs is of a high magnitude because slugs occur throughout the limited range of this species and no effective measures have been undertaken for their control. Therefore, the threats from pigs, goats, cattle, sheep, slugs, and nonnative plants are of a high magnitude and ongoing and imminent for *R. hawaiiensis*. We retained a listing priority number 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 received on May 11, 2004. *Ranunculus mauiensis* is an erect to weakly ascending perennial herb found in open sites in mesic to wet forest and along streams on Maui and Kauai, Hawaii. This species is currently known from less than 30 individuals on Maui and 30 individuals on Kauai. *Ranunculus mauiensis* is threatened by feral pigs and slugs that consume it, by habitat degradation and destruction by feral pigs, and by nonnative plants that compete for light and nutrients. Feral pigs have been fenced out of the Maui populations of *R. mauiensis*, and nonnative plants have been reduced in the fenced areas. However, these ongoing conservation efforts benefit only the Maui individuals and, therefore, the threats continue to be of a high magnitude to this species on Kauai. Threats to the species overall are also of a high magnitude since half of the individuals are found on Kauai and this represents a significant portion of the range of *R. mauiensis.* In addition, threats to *R. mauiensis* are imminent because they are ongoing in the Kauai populations. Therefore, we retained a listing priority number 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. Tahoe yellow cress is a small perennial herb known only from the shores of Lake Tahoe in California and Nevada. Data collected over the last 25 years suggest a relationship between lake level and site occupancy by Tahoe yellow cress. The data generally indicate that species occurrence fluctuates yearly as a function of both lake level and the amount of exposed habitat. Records kept since 1900 indicate preponderance of years with high lake levels that would isolate and reduce Tahoe yellow cress 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. In addition, there has been widespread and intensive use of the shorezone since European settlement. Today, shorezone conditions are influenced by heavy recreational use, boating, construction of piers and boat launches, and dam operations that control lake elevation. Annual surveys are conducted to determine population numbers, site occupancy, and general disturbance regime. During the 2003 and 2004 annual survey period, the lake level was approximately 6,224 feet (1,898 meters). 2003 was the third consecutive year of low water. The survey located Tahoe yellow cress at 45 of the 72 sites surveyed (65 percent occupied), up from 15 sites (19 percent occupied) in 2000 when the lake level was high at 6,228 feet. Approximately 25,200 stems were counted or estimated in 2003, whereas during the 2000 annual survey, the estimated number of stems was 4,590. A methodology change in 2004 resulted in fewer numbers; the new methodology proved unworkable and was abandoned in 2005. Lake levels were higher in 2005, and less habitat was available; a summary of survey results is not yet available, but total numbers of sites and individuals are expected to be lower than in the period 2001–2003.

Many Tahoe yellow cress 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 protect Tahoe yellow cress with management programs 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, which was completed in 2003 and contains goals and objectives for recovery and survival, a research and monitoring agenda, and will serve 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 Tahoe yellow cress from various land uses have been reduced to a moderate magnitude. In high lake level years such as 2005, however, recreational use is concentrated within Tahoe yellow cress 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 attenuata (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Schiedea attenuata* is an erect, sparingly branched shrub found on cliffs in diverse mesic forest habitat on Kauai, Hawaii. This species is known from one population of less than 20 individuals on the cliffs of Kalalau Valley. *Schiedea attenuata* is threatened by feral goats that directly prey upon it and degrade and destroy habitat, and nonnative plants that compete for light and nutrients. These threats are of a high magnitude because they are occurring throughout its limited range. Threats continue to be imminent because they are ongoing and because of the potential for the elimination of the only known population by a single stochastic or naturally occurring event. Therefore, we retained a listing priority number of 2 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 received on May 11, 2004. *Schiedea pubescens* is a reclining or weakly climbing vine found in diverse mesic to wet forest on Maui and Molokai, Hawaii. Currently, this species is known from six populations totaling approximately 100 individuals on Maui and Molokai. *Schiedea pubescens* is threatened by feral goats 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 Hawaii and 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 three populations on Molokai. In light of the extremely low number of individuals of this species, the threats from goats and nonnative plants are of a high magnitude and imminent for *S. pubescens* and we retained a listing priority number of 2 for this species.

Schiedea salicaria (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Schiedea salicaria* is an erect subshrub or shrub found on ridges and steep slopes in dry shrubland on Maui, Hawaii. Currently, this species is declining throughout its range, and is known from several populations totaling 100 to 300 individuals, typically of 25 individuals per population. This species is threatened by cattle that may directly prey upon it and degrade and destroy habitat, fire, and nonnative plants that compete for light and nutrients. This species is represented in an *ex-situ* collection. All of the threats occur range-wide, and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 because the threats are of a high magnitude because of their severity and are ongoing, so are imminent.

Sedum eastwoodiae (Red Mountain stonecrop)—The following summary is based on information contained in our files and information provided by the California Department of Fish and Game. No new information was provided in the petition received on May 11, 2004. Red Mountain stonecrop is a perennial succulent which occupies relatively barren, rocky openings and cliffs in lower montane coniferous forests, between 1,900 and 4,000 feet elevation. Its distribution is limited to Red Mountain, Mendocino County, California, where it occupies 30 acres scattered over 4 square miles. Total population size is estimated at between 5,300 and 23,000 plants, contained within 27 habitat polygons. Intensive monitoring suggests considerable annual variation in plant seedling success and inflorescence production; stonecrop density varied from year-to-year.

The primary threat to the species is the potential for surface mining for chromium and nickel. The entire distribution Red Mountain stonecrop is either owned by mining interests, or is covered by mining claims, none of which are currently active. Surface mining would destroy habitat suitability for this species. The species is also believed to be threatened by tree and shrub encroachment into its habitat, in absence of fire. Given the magnitude (high) and immediacy (nonimminent) of the threat to the small, scattered populations, and its taxonomy (species), we assigned a listing priority number of 5 to this species.

Sicyos macrophyllus (Anunu)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Sicyos macrophyllus* is a perennial vine found in wet *Metrosideros polymorpha* (ohia) forest and subalpine *Sophora chrysophylla-Myoporum sandwicense* (mamane-naio) on the island of Hawaii, Hawaii. This species is known from several populations with a combined total of a few hundred individuals in the Kohala and Mauna Kea areas and in Hawaii Volcanoes National Park (Puna area) on the island of Hawaii. It appears that a naturally occurring population at Kipuka Ki in Hawaii Volcanoes National Park is reproducing on its own by seeds, but seeds have not been successfully germinated under nursery conditions. This species is threatened by feral pigs and sheep that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. Feral pigs have been fenced out of some of the areas where *S. macrophyllus* currently occurs, but the fences do not exclude sheep. Nonnative plants have been reduced in the populations that are fenced. However, the threats are not controlled and are ongoing in the remaining, unfenced populations, and are, therefore, of a high magnitude and are imminent. In addition, the threat from sheep is of a high magnitude, and ongoing and imminent, in all populations because the current fences do not exclude sheep. Therefore, we retained a listing priority number of 2 for this species.

Solanum nelsonii (Popolo)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Solanum nelsonii* is a sprawling or trailing shrub found in coral rubble or sand in coastal sites on the islands of Hawaii, Molokai, Maui, Niihau, Nihoa, and Pearl and Hermes, Hawaii. This species is known from ten populations totaling fewer than 300 individuals, and is declining rapidly on all islands. On Maui and the island of Hawaii, *S. nelsonii* is threatened by development, off-road vehicles, and trampling that degrades and/or destroys habitat, and nonnative plants that compete for light and nutrients. On Molokai, the major threats to *S. nelsonii* are wild cattle and axis deer that adversely modify habitat, and nonnative plants. On Nihoa, and Pearl and Hermes Atoll this species is threatened by nonnative plants. Threats to this species on Niihau are unknown. There are no conservation measures being taken to alleviate the threats to *S. nelsonii* on Maui and the island of Hawaii. On Molokai, conservation measures for this species include ungulate exclusion fences and weed control. On the island of Nihoa, and Pearl and Hermes Atoll, there is no public or recreational use allowed as these islands are within the Hawaiian Islands National Wildlife Refuge (Refuge). Limited nonnative plant control is conducted in the refuge. *Solanum nelsonii* is represented in *ex-situ* collections and in seed storage. Currently, conservation measures have been implemented to the benefit of the individuals on Molokai and within the Refuge. However, there are no efforts to control the ongoing threats to this species on the islands of Hawaii and Maui. Therefore, the threats continue to be of a high magnitude to *S. nelsonii*, and we retained a listing priority number of 2 for this species because the threats are of a high magnitude and are imminent.

Stenogyne cranwelliae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Stenogyne cranwelliae* is a creeping vine found in wet forest dominated by *Metrosideros polymorpha* on the island of Hawaii, Hawaii. *Stenogyne cranwelliae* is known from six populations with a total of 100 individuals. This species is threatened by feral pigs that degrade and destroy habitat, and nonnative plants that compete for light and nutrients. In addition, this species is potentially

threatened by rats that may directly prey upon it. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 because the threats are of a high magnitude and are ongoing, so are imminent.

Stenogyne kealiae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Stenogyne kealiae* is a trailing or scandent vine found in wet forest habitat on Kauai, Hawaii. This species is known from five populations totaling 100 to 200 individuals in the northwestern section of the island of Kauai. *Stenogyne kealiae* is threatened by feral pigs and goats, and deer that degrade and destroy habitat and may directly prey upon it, and by nonnative plants that compete for light and nutrients. The threats to *S. kealiae* from pigs, goats, deer, and nonnative plants are of a high magnitude because of their severity, they are occurring range-wide, and no efforts for their control have been undertaken. The threats are also imminent because they are ongoing. Therefore, we retained a listing priority number of 2 for this species.

Symphyotrichum georgianum (Georgia aster)—The following summary is based on information from our files. No new information was provided in the petition received on May 11, 2004. Historically, 97 populations of Georgia aster were known to exist; 34 of these have apparently been destroyed. The species appears to have been eliminated from one of the five states in which it originally occurred. In most cases the exact cause of extirpation was not documented, but herbicides, highway construction, fire suppression, and residential and industrial development have all altered the historic landscape in which Georgia aster once flourished. Georgia aster has apparently been eliminated from 4 counties in Alabama, 1 county in Florida, 11 counties in Georgia, 1 county in North Carolina, and 5 counties in South Carolina; it remains in 31 counties in 4 states (NC, SC, AL, & GA). Most remaining populations of this species survive adjacent to roads, railroads, utility rights-of-way and other openings where land management occasionally mimics natural disturbance regimes, but where they are vulnerable to accidental destruction from herbicide application, road shoulder grading, and other maintenance activities. Many populations are now threatened also by development (several are within planned residential subdivisions), highway expansion/improvement, and by woody succession due to fire suppression. The severity of threats faced by this species is high and the threats are operating throughout its range. We are not aware of ongoing efforts to abate these threats or otherwise protect existing populations. Therefore, the magnitude of threats is assessed to be high, but because the species appears to tolerate some level of disturbance, we regard the threats as nonimminent and thus, we retained a listing priority of 5 for this species.

Zanthoxylum oahuense (Ae)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Zanthoxylum oahuense* is small tree found in mesic to wet forest habitat on Oahu, Hawaii. Currently this species is known from several populations totaling approximately 500 individuals on Oahu. *Zanthoxylum oahuense* is threatened by feral pigs that directly prey upon it and degrade and destroy habitat, nonnative plants that compete for light and nutrients, and the black twig borer. All of the threats occur range-wide and no efforts for their control or eradication are being undertaken. We retained a listing priority number of 2 for this species because the threats are rangewide and, therefore, of a high magnitude and are ongoing, so are imminent.

Ferns and Allies

Botrychium lineare (Slender moonwort)—The following summary is based on information contained in our files and the petition received on July 28, 1999. See also the 12-month petition finding published on June 6, 2002 (67 FR 39035). Fourteen populations are currently known to exist: One in Alaska (Wrangell County), two in Colorado (El Paso County), four in Montana (Glacier County), three in Oregon (Wallowa County), one in Washington (Ferry County), one in Wyoming (Crook County), one in Alberta, Canada, and one in the Yukon Territory, Canada. Collectively, these 14 sites occur over a large area of western North America. Three additional populations, two in Nevada and one in Idaho, were discovered in surveys conducted in 2001; however, genetic analysis indicated that the plants contain *B. lineare* alleles but they are not pure *B. lineare* individuals. No extant populations are known east of the Rocky Mountains. Most sites occupied by *B. lineare* are generally small, with most less than 465 square meters (5,000 square feet) in area. *Botrychium lineare* populations range in size from 2 to 162 plants, with 6 populations supporting more than 15 individuals. The total number of individuals observed at the 14 extant population sites varies, with observations ranging from 2 to 100 individuals. Eleven of the 12 *B. lineare* populations in the U.S. occur on Federal or Tribal land.

Most *B. lineare* sites are impacted by disturbances including grazing by native and nonnative animals, trampling from hikers, avalanches, and impacts from vehicles. The effects of these various disturbances and their relative level of impact in maintaining or eliminating habitat have not been investigated for the species. Six of the *Botrychium lineare* sites, one in Alaska, four in Montana, and one in Wyoming, are located adjacent to disturbed roadsides or all-terrain vehicle trails and may be affected by roadside traffic or by road maintenance activities, such as herbicide spraying or mowing. The largest known site of *B. lineare* located along a roadside was sprayed in 2000, although impacts on the population are unknown. Toadflax, an aggressive, difficult-to-control, nonnative plant, was introduced from the Pikes Peak roadway into two *B. lineare* sites in Colorado. Other nonnative plants are associated with *B. lineare* sites throughout the species' range and should be regarded as potential threats to the species. Grazing by livestock or wildlife is a potential threat if it occurs prior to the maturation and release of spores thus compromising the capacity for sexual reproduction of affected plants. Regulatory mechanisms may be inadequate to protect this species in Forest Service Regions 1 and 4, which include sites found in Montana, Nevada, Utah, and Idaho, because in those Regions *B. lineare* is not included on their regional sensitive species lists. *Botrychium lineare* is not on Canada's list of threatened or vulnerable species, so there is no special protection for this species in Canada.

The generally small size of most existing *B. lineare* populations (less than 465 square meters (5,000 square feet)) makes this species not only difficult to locate, but also vulnerable to extirpation due to random naturally occurring events. A single random environmental event could extirpate a portion or all of the individuals at a given site. Conversely, the disjunct nature of existing population sites over a wide geographic range covering at least six western states and two Canadian provinces indicates a high likelihood that additional, undetected *B. lineare* population sites exist. This is especially true of the more northern latitudes where the species was until last year, not previously located.

Because the plant is distributed over a wide range and because the species is more difficult to locate than most other plant species, we expect that more populations will continue to be discovered in the future. Because the species is adapted to some level of disturbance and seems to persist in disturbed environments, the threats are not high in magnitude. In addition, since most populations (10 of 14) occur on Federal lands and are afforded some level of protection, threats are currently nonimminent. For these reasons, we assigned a listing priority number of 11 to this species.

Christella boydiae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. This species is a small to medium sized fern found in mesic to wet forest along streambanks on Oahu and Maui, Hawaii. Historically, this species was also found on the island of Hawaii; however, the species has been extirpated from that island. Currently, this species is known from three populations with a combined total of 362 to 422 individuals. The three populations are found in Kipahulu Valley and Waihoi Valley on Maui, and the Koolau Mountains of Oahu. Current populations survive only at the extreme upper elevations of streambanks.

This species is threatened by feral pigs and goats that degrade and/or destroy habitat and that may eat this plant, nonnative plants that compete for light and nutrients, man-made stream diversion, and erosion. Feral pigs and goats have been fenced out of one of the three populations of *C. boydiae* and nonnative plants have been reduced in the fenced area. Although one of the three populations of this species has been fenced and weeds are being controlled in the fenced area, no conservation efforts are underway to alleviate these threats to the other two populations. In addition, no conservation measures have been taken to address the threats from stream diversions and erosion throughout the range of *C. boydiae.* The threats to *C. boydiae* are imminent and of a high magnitude because they are ongoing in two of only three known populations. Therefore, we retained a listing priority number of 2 for this species.

Doryopteris takeuchii (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. *Doryopteris takeuchii* is a small fern found in dry shrubland and grassland on Oahu, Hawaii. This newly described species is found only on the island of Oahu on the slopes of Diamond Head Crater in one population totaling hundreds of individuals. This species is threatened by fire that degrades and/or destroys habitat, and nonnative plants that compete for light and nutrients. Potential threats to *D. takeuchii* include human trampling and erosion of its steep hillside habitat. The magnitude of threats continues to be high because no conservation measures have been taken to address them. Threats continue to be imminent because they are ongoing and because of the potential for the elimination of the only known population by a single stochastic or naturally occurring event. We retained a listing priority number of 2 for this species.

Huperzia stemmermanniae (no common name)—The following summary is based on information contained in our files. No new information was provided in the petition received on May 11, 2004. Waewaeiole is found in mesic *Metrosideros polymorpha-Acacia koa* (ohia-koa) forests on the islands of Maui and Hawaii, Hawaii. Only four populations are known, totaling less than 20 individuals on Hawaii and Maui. *Huperzia stemmermanniae* is threatened by feral pigs, goats, and cattle that degrade and/or destroy habitat, fire, and nonnative plants that compete for light, space, and nutrients. The threats to *H. stemmermanniae* from pigs, goats, cattle, fire, and nonnative plants are of a high magnitude and imminent because of their severity, they are occurring range-wide, no efforts for their control have been undertaken, and they are ongoing. Therefore, we retained a listing priority number 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 received on May 11, 2004. Palapalai is a fern found in mesic to wet forests. It is currently found only on the island of Maui, where it is known from three populations totaling 100 to 200 individuals. *Microlepia strigosa* var. *mauiensis* is threatened by feral pigs that degrade and destroy habitat, nonnative plants that compete for light and nutrients, reduced reproductive vigor, and stochastic extinction due to naturally occurring events. Feral pigs have been fenced out of at least one area on Maui where *M. strigosa* var. *mauiensis* currently occurs, and nonnative plants have been reduced in the fenced area. However, the threats are not controlled and are ongoing in the remaining unfenced populations on Maui and all three of the populations on the island of Hawaii. Therefore, the threats from feral pigs and nonnative plants are of a high magnitude and imminent and we retained a listing priority number 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. Because these species are already listed, they are not technically candidates for listing and are not included in Table 1. However, this notice and associated species assessment forms also constitute the resubmitted petition findings for these species. We find that reclassification to endangered status for the five species (which are listed below) is currently warranted but precluded by work identified above (*see ''Petition Findings for Candidate Species''* above). One of the primary reasons that the work identified above is higher priority is that these species are currently listed as threatened under the Act, and therefore they already receive certain protections under the Act. The Service promulgated regulations extending take prohibitions for endangered species under section 9 to threatened species (50 CFR 17.31). Prohibited actions under section 9 include, but are not limited to, take (*i.e.*, harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such activity). Other protections include those under section 7(a)(2) of the Act 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.

(1) North Cascades ecosystem population of the grizzly bear (*Ursus arctos horribilis*) (Region 6) (also *see* 63 FR 30453, June 4, 1998, and the species assessment form (*see* **ADDRESSES**) for additional information on why reclassification to endangered is warranted-but-precluded)—Current grizzly bear distribution has been reduced to 5 areas in the western U.S., including the North Cascades in north central Washington. Populations are estimated to be fewer than 20 animals within the 9,500-square-mile (sq-mi) (25,000-square-kilometer (sq-km)) North Cascades recovery zone. Threats to the species in this recovery zone include incomplete habitat protection measures (motorized access management) and small population size and population fragmentation that produce genetic isolation. We assigned a listing priority

number of 3 for uplisting to this population because of very low population numbers as evidenced by continuing lack of credible sightings and little success identifying animals through hair snagging and genetic analysis. Information indicating isolation of the population in British Columbia and the U.S. limits the chance of natural recovery given the small population size. Population augmentation may be the only way to recover this population.

(2) Cabinet-Yaak population of the grizzly bear (Region 6) (*see* also 64 FR 26725, May 17, 1999, and the species assessment form (*see* **ADDRESSES**) for additional information on why reclassification to endangered is warranted-but-precluded) '' Current grizzly bear distribution has been reduced to 5 areas in the western U.S., including the Cabinet-Yaak in northern Idaho and northwest Montana. Populations are estimated to be 30–40 animals within the 2,600-sq-mi (6,700-sq-km) Cabinet-Yaak recovery zone. Threats to the species in this recovery zone include incomplete habitat protection measures in the form of motorized access management, overutilization by human-caused mortality, and small population size and population fragmentation that produce genetic isolation. We assigned a listing priority number of 3 for uplisting to this population due to continuing high levels of human-caused mortality, new threats to habitat in the form of large-scale mine development proposals in the Cabinet Mountains, and the high potential for further fragmentation of populations within the recovery zone.

(3) Selkirk grizzly population of the grizzly bear (Region 6) (*see also* 64 FR 26725, May 17, 1999, and the species assessment form (*see* **ADDRESSES**) for additional information on why reclassification is warranted-but-precluded) '' Current grizzly bear distribution has been reduced to 5 areas in the western U.S., including the Selkirk Mountains in northern Idaho, northeast Washington, and Southeast British Columbia. Populations are estimated to be 40–50 animals within the 2,200 square mile (5,700 square kilometer) Selkirk Mountains recovery zone. Threats to the species in this recovery zone include incomplete habitat protection measures in the form of motorized access management, overutilization in the form of human-caused mortality, and small population size and population fragmentation that produce genetic isolation. We assigned a listing priority number of 3 for uplisting to this population because of continuing high levels of human-caused mortality in British Columbia and new genetic information indicating the population is isolated and has declined in genetic diversity relative to both adjacent populations.

(4) Spikedace (*Meda fulgida*) (Region 2) (*see* 59 FR 35303, July 11, 1994, and the species assessment form (*see* **ADDRESSES**) for additional information on why reclassification to endangered is warranted-but-precluded) '' The spikedace, a small fish species in a monotypic genus, is found in moderate-to-large perennial waters, where it inhabits shallow riffles with sand, gravel, and rubble substrates, and moderate-to-swift currents and swift pools over sand or gravel substrates. Specific habitat for this species consists of shear zones where rapid flow borders slower flow; areas of sheet flow at the upper ends of mid-channel sand/gravel bars; and eddies at downstream riffle edges. Recurrent flooding and a natural hydrograph are very important in maintaining the habitat of spikedace and in helping maintain a competitive edge over invading nonnative aquatic species.

The spikedace was once common throughout much of the Gila River basin, but it is now restricted to approximately 466 kilometers (289 miles) of stream in portions of the upper Gila River (Grant, Catron, and Hidalgo Counties, New Mexico); middle Gila River (Pinal County, Arizona); lower San Pedro River (Pinal County, Arizona); Aravaipa Creek (Graham and Pinal Counties, Arizona); Eagle Creek (Graham and Greenlee Counties, Arizona); and the Verde River (Yavaipai County, Arizona). Its present range is only about 10 to 15 percent of the historic range, and the status of the species within occupied areas ranges from common to very rare. The species is now common only in Aravaipa Creek in Arizona and some parts of the upper Gila River in New Mexico. The reduction in the historical distribution of spikedace is largely attributable to the continued modification of its habitat and continued interactions with nonnative species. These threats occur over the majority of their range, to varying degrees. Each of the individual spikedace complexes may face unique threats as well. For example, the San Pedro River area is experiencing groundwater depletion which is affecting surface flows within the river channel, whereas Tonto Creek faces continued grazing pressure, recreational use, and dewatering due to diversions. Proposals have been made for water exchanges affecting the Verde River in order to provide water for growing urban areas. Currently, threats are exacerbated by the ongoing drought. While some areas are subjected to fewer disturbances or pressures, there are no known habitat areas that are completely free of disturbance. Effects from nonnative species introductions are permanent, unless streams are actively renovated and/or barriers installed to preclude further recolonization by nonnatives. Federal agencies have reduced grazing pressures by removing cattle from the mainstem of most rivers; however, grazing in the uplands continues to affect watershed condition. Groundwater withdrawals or exchanges that affect streamflow are not reversible. The threats are high in magnitude because effects from nonnative species introductions are permanent, unless streams are actively renovated and/or barriers installed to preclude further recolonization by nonnatives and groundwater withdrawals or exchanges that affect streamflow are not reversible. Because these high magnitude threats have gone on for many years in the past, and are ongoing, the threats are imminent. Therefore, we assigned this species a listing priority of 1 for uplisting to endangered. Note on December 20, 2005, we published a proposed critical habitat rule (70 FR 75545) for this species.

(5) Loach minnow (*Tiaroga cobitis*) (Region 2) (*see* 59 FR 35303, July 11, 1994, and the species assessment form (*see* **ADDRESSES**) for additional information on why reclassification to endangered is warranted-but-precluded)—This small fish, the only species within the genus, is found in small-to-large perennial streams and uses shallow, turbulent riffles with primarily cobble substrate and swift currents. The loach minnow uses the spaces between, and in the lee of, larger substrate for resting and spawning. It is rare or absent from habitats where fine sediments fill the interstitial spaces. Recurrent flooding and a natural hydrograph are very important in maintaining the habitat of loach minnow and in helping the species maintain a competitive edge over invading nonnative aquatic species.

The loach minnow was once locally common throughout much of the Gila River basin, including the mainstem Gila River upstream of Phoenix, and the Verde, Salt, San Pedro, and San Francisco subbasins. The present range is only 15 to 20 percent of its historic range, and the status of the species within occupied areas ranges from common to rare. The species is now common only in Aravaipa Creek and the Blue River in Arizona, and limited portions of the San Francisco, upper Gila, and Tularosa rivers in New

Mexico. The reduction in the historical distribution of loach minnow is largely attributable to the continued modification of its habitat and continued interactions with nonnative species. These threats occur over the majority of the range, to varying degrees. Each of the individual loach minnow complexes may face unique threats as well. For example, the San Pedro River area is experiencing groundwater depletion which is affecting surface flows within the river channel, whereas Tonto Creek faces continued grazing pressure, recreational use, and dewatering due to diversions. Proposals have been made for water exchanges affecting the Verde River in order to provide water for growing urban areas. Currently, threats are exacerbated by the ongoing drought. While some areas are subjected to fewer disturbances or pressures, there are no known habitat areas that are completely free of disturbance. Effects from nonnative species introductions are permanent unless streams are actively renovated and/or barriers installed to preclude further recolonization by nonnatives. Federal agencies have reduced grazing pressures by removing cattle from the mainstem of most rivers; however, grazing in the uplands continues to affect watershed condition. Groundwater withdrawals or exchanges that affect streamflow are not reversible. Most of these high-magnitude threats to the loach minnow are already ongoing, in particular grazing, water withdrawals, nonnative stocking programs, recreational use, and drought. Because threats have gone on for many years in the past, are associated with irreversible commitments (*e.g.*, water exchanges), or are not easily reversed (*e.g.*, nonnative stocking and impacts from grazing), the threats are high in magnitude and imminent. Therefore, we assigned this species a listing priority number of 1 for uplisting to endangered. Note on December 20, 2005, we published a proposed critical habitat rule (70 FR 75545) for this species.

Current Notice of Review

We gather data on plants and animals native to the U.S. that appear to merit consideration for addition to the Lists of Endangered and Threatened Wildlife and Plants. This notice 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 notices as they become available. We sorted 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 and all species proposed for listing under the Act. We emphasize that we are not proposing these candidate species for listing by this notice, but we anticipate developing and publishing 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 on Resubmitted Petitions'' section for additional information).

The ''Priority'' column indicates the listing priority number (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 comments or questions (*see* addresses 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 are species we included either as proposed species or as candidates in the previous CNOR (published May 11, 2005) that are no longer proposed species or candidates for listing. Since May 11, 2005, we added 19 of these species to the Lists of Endangered and Threatened Wildlife and Plants and removed 14 species from candidate status for the reasons indicated by the codes. The first column indicates the present status of the 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 the candidate list 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 Act's definition of ''species'' and current taxonomic understanding.

U—Species 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 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 your 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, Oregon 97232–4181 (503/231–6158).

California/Nevada Operations Office (CNO). California and Nevada. Regional Director (TE), U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W2606, Sacramento, California 95825.

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

Region 3. Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. Regional Director (TE), U.S. Fish and Wildlife Service, Bishop Henry Whipple Federal Building, One Federal Drive, Fort Snelling, Minnesota 55111–4056 (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, Georgia 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, Massachusetts 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, Colorado 80225–0486 (303/236–7400).

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

We provided comments received in response to the previous CNOR to the Region having lead responsibility for each candidate species mentioned in the comment. 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 pursuant to section 4(b)(7) of the Act is appropriate). Comments we receive will become part of the administrative record for the species, which we maintain at the appropriate Regional Office.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home addresses from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment, but you should be aware that the Service may be required to disclose your name and address pursuant to the Freedom of Information Act. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Authority: This notice is published under the authority of the Endangered Species Act (16 U.S.C. 1531 *et seq.*).

Dated: August 23, 2006.

Marshall Jones,

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	Historic range
Category	Priority					
MAMMALS						
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*	2	R5	*Sylvilagus transitionalis*	Leporidae	Cottontail, New England	U.S.A. (CT, MA, ME, NH, NY, RI, VT).
C*	6	CNO	*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.
C*	3	R1	*Thomomys mazama couchi*.	Geomyidae	Pocket gopher, Mazama (Shelton).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama glacialis*.	Geomyidae	Pocket gopher, Mazama (Roy Prairie).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama louiei*	Geomyidae	Pocket gopher, Mazama (Cathlamet).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama melanops*.	Geomyidae	Pocket gopher, Mazama (Olympic).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama pugetensis*.	Geomyidae	Pocket gopher, Mazama (Olympia).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama tacomensis*.	Geomyidae	Pocket gopher, Mazama (Tacoma).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama tumuli*.	Geomyidae	Pocket gopher, Mazama (Tenino).	U.S.A. (WA).
C*	3	R1	*Thomomys mazama yelmensis*.	Geomyidae	Pocket gopher, Mazama (Yelm).	U.S.A. (WA).
C*	3	CNO	*Spermophilus tereticaudus chlorus*.	Sciuridae	Squirrel, Palm Springs (= Coachella Valley) round-tailed ground.	U.S.A. (CA).
C*	9	R1	*Spermophilus brunneus endemicus*.	Sciuridae	Squirrel, Southern Idaho ground.	U.S.A. (ID).
C*	5	R1	*Spermophilus washingtoni*	Sciuridae	Squirrel, Washington ground.	U.S.A. (WA, OR).
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.
C*	2	R1	*Oreomystis bairdi*	Fringillidae	Creeper, Kauai	U.S.A. (HI).
C*	3	CNO	*Coccyzus americanus*	Cuculidae	Cuckoo, yellow-billed (Western U.S. DPS).	U.S.A. (Lower 48 States), Canada, Mexico, Central and South America.
C*	6	R1	*Gallicolumba stairi*	Columbidae	Ground-dove, friendly (American Samoa DPS).	U.S.A. (AS), Independent Samoa.
C*	3	R1	*Eremophila alpestris strigata*.	Alaudidae	Horned lark, streaked	U.S.A. (OR, WA), Canada (BC).
C*	6	R5	*Calidris canutus rufa*	Scolopacidae	Knot, red	U.S.A. (Atlantic coast), Canada, South America.
C*	5	R7	*Brachyramphus brevirostris*.	Alcidae	Murrelet, Kittlitz's	U.S.A. (AK), Russia.
C*	2	CNO	*Synthliboramphus hypoleucus*.	Alcidae	Murrelet, Xantus's	U.S.A. (CA), Mexico.
C*	8	R2	*Tympanuchus pallidicinctus*.	Phasianidae	Prairie-chicken, lesser	U.S.A. (CO, KA, NM, OK, TX).
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).

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	Historic range
Category	Priority					
C*	3	R1	*Oceanodroma castro*	Hydrobatidae	Storm-petrel, band-rumped (Hawaii DPS).	U.S.A. (HI), Atlantic Ocean, Ecuador (Galapagos Islands), Japan.
C*	5	R4	*Dendroica angelae*	Emberizidae	Warbler, elfin woods	U.S.A. (PR).
			REPTILES			
C*	2	R2	*Sceloporus arenicolus*	Iguanidae	Lizard, sand dune	U.S.A. (TX, NM).
C*	9	R3	*Sistrurus catenatus catenatus*.	Viperidae	Massasauga (=rattlesnake), eastern.	U.S.A. (IA, IL, IN, MI, MO, MN, NY, OH, PA, WI), Canada.
C*	3	R4	*Pituophis melanoleucus lodingi*.	Colubridae	Snake, black pine	U.S.A. (AL, LA, MS).
C*	8	R4	*Pituophis ruthveni*	Colubridae	Snake, Louisiana pine	U.S.A. (LA, TX).
C*	3	R2	*Kinosternon sonoriense longifemorale*.	Kinosternidae	Turtle, Sonoyta mud	U.S.A. (AZ), Mexico.
			AMPHIBIANS			
C*	3	CNO	*Rana luteiventris*	Ranidae	Frog, Columbia spotted (Great Basin DPS).	U.S.A. (AK, ID, MT, NV, OR, UT, WA, WY), Canada (BC).
C*	3	CNO	*Rana muscosa*	Ranidae	Frog, mountain yellow-legged (Sierra Nevada DPS).	U.S.A. (CA, NV).
C*	2	R1	*Rana pretiosa*	Ranidae	Frog, Oregon spotted	U.S.A. (CA, OR, WA), Canada (BC).
C*	11	CNO	*Rana onca*	Ranidae	Frog, relict leopard	U.S.A. (AZ, NV, UT).
C*	3	R3	*Cryptobranchus alleganiensis bishopi*.	Crytobranchidae	Hellbender, Ozark	U.S.A. (AR, MO).
C*	2	R2	*Eurycea waterlooensis*	Plethodontidae	Salamander, Austin blind	U.S.A. (TX).
C*	2	R2	*Eurycea naufragia*	Plethodontidae	Salamander, Georgetown	U.S.A. (TX).
C*	2	R2	*Eurycea chisholmensis*	Plethodontidae	Salamander, Salado	U.S.A. (TX).
C*	11	CNO	*Bufo canorus*	Bufonidae	Toad, Yosemite	U.S.A. (CA).
C*	2	R4	*Necturus alabamensis*	Proteidae	Waterdog, black warrior (=Sipsey Fork).	U.S.A. (AL).
			FISHES			
PE	3	CNO	*Gila bicolor vaccaceps*	Cyprinidae	Chub, Cowhead Lake tui	U.S.A. (CA).
C*	2	R2	*Gila nigra*	Cyprinidae	Chub, headwater	U.S.A. (AZ, NM).
C*	11	R6	*Etheostoma cragini*	Percidae	Darter, Arkansas	U.S.A. (AR, CO, KS, MO, OK).
C*	5	R4	*Etheostoma susanae*	Percidae	Darter, Cumberland	U.S.A. (KY, TN).
C*	5	R4	*Percina aurora*	Percidae	Darter, Pearl	U.S.A. (LA, MS).
C*	2	R4	*Etheostoma phytophilum*	Percidae	Darter, rush	U.S.A. (AL).
C*	2	R4	*Etheostoma moorei*	Percidae	Darter, yellowcheek	U.S.A. (AR).
C*	3	R6	*Thymallus arcticus*	Salmonidae	Grayling, Fluvial arctic (upper Missouri River DPS).	U.S.A. (MT, WY).
C*	2	R4	*Noturus crypticus*	Ictaluridae	Madtom, chucky	U.S.A. (TN).
C	5	R4	*Moxostoma* sp.	Catostomidae	Redhorse, sicklefin	U.S.A. (GA, NC, TN).
C*	2	R3	*Cottus* sp.	Cottidae	Sculpin, grotto	U.S.A. (MO).
C*	5	R2	*Notropis oxyrhynchus*	Cyprinidae	Shiner, sharpnose	U.S.A. (TX).
C*	5	R2	*Notropis buccula*	Cyprinidae	Shiner, smalleye	U.S.A. (TX).
C*	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.
			CLAMS			
C*	5	R4	*Villosa choctawensis*	Unionidae	Bean, Choctaw	U.S.A. (AL, FL).
C	2	R3	*Villosa fabalis*	Unionidae	Bean, rayed	U.S.A. (IL, IN, KY, MI, NY, OH, TN, PA, VA, WV), Canada (ON).
C	2	R4	*Fusconaia (=Obovaria) rotulata*.	Unionidae	Ebonyshell, round	U.S.A. (AL, FL).
C*	2	R2	*Popenaias popei*	Unionidae	Hornshell, Texas	U.S.A. (NM, TX), Mexico.

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	Historic range
Category	Priority					
C*	5	R4	*Ptychobranchus subtentum.*	Unionidae	Kidneyshell, fluted	U.S.A. (AL, KY, TN, VA).
C	2	R4	*Ptychobranchus jonesi*	Unionidae	Kidneyshell, southern	U.S.A. (AL, FL).
C*	5	R4	*Lampsilis rafinesqueana*	Unionidae	Mucket, Neosho	U.S.A. (AR, KS, MO, OK).
C	2	R3	*Plethobasus cyphyus*	Unionidae	Mussel, sheepnose	U.S.A. (AL, IA, IL, IN, KY, MN, MO, MS, OH, PA, TN, VA, WI, WV).
C*	2	R4	*Margaritifera marrianae*	Margaritiferidae	Pearlshell, Alabama	U.S.A. (AL).
C*	5	R4	*Lexingtonia dolabelloides*	Unionidae	Pearlymussel, slabside	U.S.A. (AL, KY, TN, VA).
C	5	R4	*Pleurobema strodeanum*	Unionidae	Pigtoe, fuzzy	U.S.A. (AL, FL).
C*	2	R4	*Pleurobema hanleyanum*	Unionidae	Pigtoe, Georgia	U.S.A. (AL, GA, TN).
C	5	R4	*Fusconaia escambia*	Unionidae	Pigtoe, narrow	U.S.A. (AL, FL).
C	11	R4	*Quincuncina burkei*	Unionidae	Pigtoe, tapered	U.S.A. (AL, FL).
C	5	R4	*Hamiota (=Lampsilis) australis.*	Unionidae	Sandshell, southern	U.S.A. (AL, FL).
C	4	R3	*Cumberlandia monodonta*	Margaritiferidae	Spectaclecase	U.S.A. (AL, AR, IA, IN, IL, KS, KY, MO, MN, NE, OH, TN, VA, WI, WV).
C*	2	R4	*Elliptio spinosa*	Unionidae	Spinymussel, Altamaha	U.S.A. (GA).
			SNAILS			
C	2	R4	*Pleurocera foremani*	Pleuroceridae	Hornsnail, rough	U.S.A. (AL).
C	2	R4	*Elimia melanoides*	Pleuroceridae	Mudalia, black	U.S.A. (AL).
C*	9	R6	*Oreohelix peripherica wasatchensis.*	Oreohelicidae	Mountainsnail, Ogden	U.S.A. (UT).
C*	8	R6	*Stagnicola bonnevillensis*	Lymnaeidae	Pondsnail, Bonneville	U.S.A. (UT).
C*	2	R4	*Leptoxis foremani (=downei).*	Pleuroceridae	Rocksnail, Interrupted (=Georgia).	U.S.A. (GA, AL).
C*	2	R1	*Ostodes strigatus*	Potaridae	Sisi snail	U.S.A. (AS).
C*	2	R2	*Pseudotryonia adamantina.*	Hydrobiidae	Snail, Diamond Y Spring	U.S.A. (TX).
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	*Partulina semicarinata*	Achatinellidae	Snail, Lanai tree	U.S.A. (HI).
C*	2	R1	*Partulina variabilis*	Achatinellidae	Snail, Lanai tree	U.S.A. (HI).
C*	2	R1	*Partula langfordi*	Partulidae	Snail, Langford's tree	U.S.A. (MP).
C*	2	R2	*Cochliopa texana*	Hydrobiidae	Snail, Phantom cave	U.S.A. (TX).
C*	2	R1	*Eua zebrina*	Partulidae	Snail, Tutuila tree	U.S.A. (AS).
C*	2	R2	*Pyrgulopsis chupaderae*	Hydrobiidae	Springsnail, Chupadera	U.S.A. (NM).
C*	2	CNO	*Pyrgulopsis notidicola*	Hydrobiidae	Springsnail, elongate mud meadows.	U.S.A. (NV).
C*	11	R2	*Pyrgulopsis gilae*	Hydrobiidae	Springsnail, Gila	U.S.A. (NM).
C*	2	R2	*Tryonia circumstriata (=stocktonensis).*	Hydrobiidae	Springsnail, Gonzales	U.S.A. (TX).
C*	5	R2	*Pyrgulopsis thompsoni*	Hydrobiidae	Springsnail, Huachuca	U.S.A. (AZ), Mexico.
C*	11	R2	*Pyrgulopsis thermalis*	Hydrobiidae	Springsnail, New Mexico	U.S.A. (NM).
C*	5	R2	*Pyrgulopsis morrisoni*	Hydrobiidae	Springsnail, Page	U.S.A. (AZ).
C*	2	R2	*Tryonia cheatumi*	Hydrobiidae	Springsnail (=Tryonia), Phantom.	U.S.A. (TX).
C*	2	R2	*Pyrgulopsis trivialis*	Hydrobiidae	Springsnail, Three Forks	U.S.A. (AZ).
C*	2	R1	*Newcombia cumingi*	Achatinellidae	Tree snail, Newcomb's	U.S.A. (HI)
			INSECTS			
C*	11	R6	*Zaitzevia thermae*	Elmidae	Beetle, Warm Springs Zaitzevian riffle.	U.S.A. (MT).
C*	8	R1	*Nysius wekiuicola*	Lygaeidae	Bug, Wekiu	U.S.A. (HI).
C	3	R4	*Anaea troglodyta floridalis*	Nymphalidae	Butterfly, Florida leafwing	U.S.A. (FL).
C*	3	R1	*Hypolimnas octucula mariannensis.*	Nymphalidae	Butterfly, Mariana eight-spot.	U.S.A. (GU, MP).
C*	2	R1	*Vagrans egestina*	Nymphalidae	Butterfly, Mariana wandering.	U.S.A. (GU, MP).
C*	6	R4	*Cyclargus thomasi bethunebakeri.*	Lycaenidae	Butterfly, Miami blue	U.S.A. (FL), Bahamas.
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).

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	Historic range
Category	Priority					
C*	5	R4	*Pseudanophthalmus major*.	Carabidae	Cave beetle, beaver	U.S.A. (KY).
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*	11	R4	*Pseudanophthalmus inexpectatus*.	Carabidae	Cave beetle, surprising	U.S.A. (KY).
C*	5	R4	*Pseudanophthalmus parvus*.	Carabidae	Cave beetle, Tatum	U.S.A. (KY).
C*	3	R1	*Euphydryas editha taylori*	Nymphalidae	Checkerspot, Taylor's (=Whulge).	U.S.A. (OR, WA), Canada (BC).
C*	9	R1	*Megalagrion nigrohamatum nigrolineatum*.	Coenagrionidae	Damselfly, blackline Hawaiian.	U.S.A. (HI).
C*	2	R1	*Megalagrion leptodemas*	Coenagrionidae	Damselfly, crimson Hawaiian.	U.S.A. (HI).
C*	2	R1	*Megalagrion nesiotes*	Coenagrionidae	Damselfly, flying earwig Hawaiian.	U.S.A. (HI).
C*	2	R1	*Megalagrion oceanicum*	Coenagrionidae	Damselfly, oceanic Hawaiian.	U.S.A. (HI).
C*	8	R1	*Megalagrion xanthomelas*	Coenagrionidae	Damselfly, orangeblack Hawaiian.	U.S.A. (HI).
C*	2	R1	*Megalagrion pacificum*	Coenagrionidae	Damselfly, Pacific Hawaiian.	U.S.A. (HI).
C	3	R4	*Strymon acis bartrami*	Lycaenidae	Hairstreak, Bartram's	U.S.A. (FL).
C	5	CNO	*Ambrysus funebris*	Naucoridae	Naucorid bug (=Furnace Creek), Nevares Spring.	U.S.A. (CA).
C*	2	R1	*Drosophila attigua*	Drosophilidae	fly, Picture-wing	U.S.A. (HI).
C*	2	R1	*Drosophila digressa*	Drosophilidae	fly, Picture-wing [unnamed].	U.S.A. (HI).
C*	5	R2	*Heterelmis stephani*	Elmidae	Riffle beetle, Stephan's	U.S.A. (AZ).
C*	11	R3	*Hesperia dacotae*	Hesperiidae	Skipper, Dakota	U.S.A. (MN, IA, SD, ND, IL), Canada.
C*	5	R1	*Polites mardon*	Hesperiidae	Skipper, Mardon	U.S.A. (CA, OR, WA).
C*	9	R6	*Cicindela limbata albissima*.	Cicindelidae	Tiger beetle, Coral Pink Sand Dunes.	U.S.A. (UT).
C*	5	R4	*Cicindela highlandensis*	Cicindelidae	Tiger beetle, highlands	U.S.A. (FL).
ARACHNIDS						
C*	2	R2	*Cicurina wartoni*	Dictynidae	Meshweaver, Warton's cave.	U.S.A. (TX).
CRUSTACEANS						
C	2	R2	*Gammarus hyalleloides*	Gammaridae	Amphipod, diminutive	U.S.A. (TX).
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).
C*	4	R1	*Vetericaris chaceorum*	Procaridae	Shrimp, anchialine pool	U.S.A. (HI).
C*	5	R4	*Typhlatya monae*	Atyidae	Shrimp, troglobitic groundwater.	U.S.A. (PR), Barbuda, Dominican Republic.

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	Historic range
Category	Priority					
FLOWERING PLANTS						
C*	8	CNO	*Abronia alpina*	Nyctaginaceae	Sand-verbena, Ramshaw Meadows.	U.S.A. (CA).
C*	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 campestris* var. *wormskioldii*.	Asteraceae	Wormwood, northern	U.S.A. (OR, WA).
C*	2	R1	*Astelia waialealae*	Liliaceae	Pa'iniu	U.S.A. (HI).
C*	11	R6	*Astragalus tortipes*	Fabaceae	Milk-vetch, Sleeping Ute	U.S.A. (CO).
C*	2	R1	*Bidens amplectens*	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	3	R1	*Bidens campylotheca pentamera*.	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	6	R1	*Bidens campylotheca waihoiensis*.	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	8	R1	*Bidens conjuncta*	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	3	R1	*Bidens micrantha ctenophylla*.	Asteraceae	Ko'oko'olau	U.S.A. (HI).
C*	8	R4	*Brickellia mosieri*	Asteraceae	Brickell-bush, Florida	U.S.A. (FL).
C*	2	R1	*Calamagrostis expansa*	Poaceae	No common name	U.S.A. (HI).
C*	2	R1	*Calamagrostis hillebrandii*	Poaceae	No common name	U.S.A. (HI).
C*	5	R4	*Calliandra locoensis*	Mimosaceae	No common name	U.S.A. (PR).
C*	5	CNO	*Calochortus persistens*	Liliaceae	Mariposa lily, Siskiyou	U.S.A. (CA, OR).
C*	5	R4	*Calyptranthes estremerae*	Myrtaceae	No common name	U.S.A. (PR).
C*	2	R1	*Canavalia napaliensis*	Fabaceae	'Awikiwiki	U.S.A. (HI).
C*	2	R1	*Canavalia pubescens*	Fabaceae	'Awikiwiki	U.S.A. (HI).
C*	8	R1	*Castilleja christii*	Scrophulariaceae	Paintbrush, Christ's	U.S.A. (ID).
C*	6	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*	6	R4	*Chamaesyce deltoidea serpyllum*.	Euphorbiaceae	Spurge, wedge	U.S.A. (FL).
C*	2	R1	*Chamaesyce eleanoriae*	Euphorbiaceae	'Akoko	U.S.A. (HI).
C*	3	R1	*Chamaesyce remyi* var. *kauaiensis*.	Euphorbiaceae	'Akoko	U.S.A. (HI).
C*	3	R1	*Chamaesyce remyi* var. *remyi*.	Euphorbiaceae	'Akoko	U.S.A. (HI).
C*	2	R1	*Charpentiera densiflora*	Amaranthaceae	Papala	U.S.A. (HI).
C*	6	CNO	*Chorizanthe parryi* var. *fernandina*.	Polygonaceae	Spineflower, San Fernando Valley.	U.S.A. (CA).
C*	2	R4	*Chromolaena frustrata*	Asteraceae	Thoroughwort, Cape Sable.	U.S.A. (FL).
C*	2	R4	*Consolea corallicola*	Cactaceae	Cactus, Florida semaphore.	U.S.A. (FL).
C*	2	R4	*Cordia rupicola*	Boraginaceae	No common name	U.S.A. (PR), Anegada.
C*	2	R1	*Cyanea asplenifolia*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea calycina*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea eleeleensis*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea kuhihewa*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea kunthiana*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea lanceolata*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea obtusa*	Campanulaceae	Haha	U.S.A. (HI).
C*	2	R1	*Cyanea tritomantha*	Campanulaceae	Aku	U.S.A. (HI).
C*	2	R1	*Cyrtandra filipes*	Gesneriaceae	Ha'iwale	U.S.A. (HI).
C*	2	R1	*Cyrtandra kaulantha*	Gesneriaceae	Ha'iwale	U.S.A. (HI).
C*	2	R1	*Cyrtandra oenobarba*	Gesneriaceae	Ha'iwale	U.S.A. (HI).
C*	2	R1	*Cyrtandra oxybapha*	Gesneriaceae	Ha'iwale	U.S.A. (HI).
C*	2	R1	*Cyrtandra sessilis*	Gesneriaceae	Ha'iwale	U.S.A. (HI).
C*	9	R4	*Dalea carthagenensis floridana*.	Fabaceae	Prairie-clover, Florida	U.S.A. (FL).
C*	5	R5	*Dichanthelium hirstii*	Poaceae	Panic grass, Hirsts'	U.S.A. (DE, GA, NC, NJ).
C*	5	R4	*Digitaria pauciflora*	Poaceae	Crabgrass, Florida pineland.	U.S.A. (FL).
C*	3	R1	*Dubautia imbricata imbricata*.	Asteraceae	Na'ena'e	U.S.A. (HI).
C*	3	R1	*Dubautia plantaginea magnifolia*.	Asteraceae	Na'ena'e	U.S.A. (HI).
C*	2	R1	*Dubautia waialealae*	Asteraceae	Na'ena'e	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	Historic range
Category	Priority					
C*	6	R2	*Echinomastus erectocentrus* var. *acunensis*.	Cactaceae	Cactus, Acuna	U.S.A. (AZ), Mexico.
C*	8	R2	*Erigeron lemmonii*	Asteraceae	Fleabane, Lemmon	U.S.A. (AZ).
C*	11	R1	*Erigeron basalticus*	Asteraceae	Daisy, basalt	U.S.A. (WA).
C*	2	R1	*Eriogonum codium*	Polygonaceae	Buckwheat, Umtanum Desert.	U.S.A. (WA).
C	2	CNO	*Eriogonum diatomaceum*	Polygonaceae	Buckwheat, Churchill Narrows.	U.S.A (NV).
C*	5	CNO	*Eriogonum kelloggii*	Polygonaceae	Buckwheat, Red Mountain	U.S.A. (CA).
C*	2	R1	*Festuca hawaiiensis*	Poaceae	No common name	U.S.A. (HI).
C*	11	R2	*Festuca ligulata*	Poaceae	Guadalupe fescue	U.S.A. (TX), Mexico.
C*	2	R1	*Gardenia remyi*	Rubiaceae	Nanu	U.S.A. (HI).
C*	5	R1	*Geranium hanaense*	Geraniaceae	Nohoanu	U.S.A. (HI).
C*	8	R1	*Geranium hillebrandii*	Geraniaceae	Nohoanu	U.S.A. (HI).
C*	5	R1	*Geranium kauaiense*	Geraniaceae	Nohoanu	U.S.A. (HI).
C*	5	R4	*Gonocalyx concolor*	Ericaceae	No common name	U.S.A. (PR).
C	5	R4	*Harrisia aboriginum*	Cactaceae	Pricklyapple, aboriginal (shell mound applecactus).	U.S.A. (FL)
C*	5	CNO	*Hazardia orcuttii*	Asteraceae	Orcutt's hazardia	U.S.A. (CA), Mexico.
C*	2	R1	*Hedyotis fluviatilis*	Rubiaceae	Kampua'a	U.S.A. (HI).
C*	11	R4	*Helianthus verticillatus*	Asteraceae	Sunflower, whorled	U.S.A. (AL, GA, TN).
C*	5	R2	*Hibiscus dasycalyx*	Malvaceae	Rose-mallow, Neches River.	U.S.A. (TX).
C*	9	R4	*Indigofera mucronata keyensis*.	Fabaceae	Indigo, Florida	U.S.A. (FL).
C	2	R6	*Ipomopsis polyantha*	Polemoniaceae	Skyrocket, Pagosa	U.S.A. (CO).
C*	5	CNO	*Ivesia webberi*	Rosaceae	Ivesia, Webber	U.S.A. (CA, NV).
C*	3	R1	*Joinvillea ascendens ascendens*.	Joinvilleaceae	'Ohe	U.S.A. (HI).
C*	2	R1	*Keysseria (=Lagenifera) erici*.	Asteraceae	No common name	U.S.A. (HI).
C*	2	R1	*Keysseria (=Lagenifera) helenae*.	Asteraceae	No common name	U.S.A. (HI).
C*	2	R1	*Korthalsella degeneri*	Viscaceae	Hulumoa	U.S.A. (HI).
C*	2	R1	*Labordia helleri*	Loganiaceae	Kamakahala	U.S.A. (HI).
C*	2	R1	*Labordia pumila*	Loganiaceae	Kamakahala	U.S.A. (HI).
C*	5	R4	*Leavenworthia crassa*	Brassicaceae	Gladecress, unnamed	U.S.A. (AL).
C*	2	R2	*Leavenworthia texana*	Brassicaceae	Gladecress, Texas golden	U.S.A. (TX).
C*	5	R4	*Lesquerella globosa*	Brassicaceae	Bladderpod, Short's	U.S.A. (IN, KY, TN).
C*	2	R4	*Linum arenicola*	Linaceae	Flax, sand	U.S.A. (FL).
C*	3	R4	*Linum carteri* var. *carteri*	Linaceae	Flax, Carter's small-flowered.	U.S.A. (FL).
C*	2	R1	*Lysimachia daphnoides*	Primulaceae	Lehua makanoe	U.S.A. (HI).
C*	2	R1	M*elicope christophersenii*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Melicope degeneri*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Melicope hiiakae*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Melicope makahae*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Melicope paniculata*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Melicope puberula*	Rutaceae	Alani	U.S.A. (HI).
C*	2	R1	*Myrsine fosbergii*	Myrsinaceae	Kolea	U.S.A. (HI).
C*	2	R1	*Myrsine mezii*	Myrsinaceae	Kolea	U.S.A. (HI).
C*	2	R1	*Myrsine vaccinioides*	Myrsinaceae	Kolea	U.S.A. (HI).
C*	8	R5	*Narthecium americanum*	Liliaceae	Asphodel, bog	U.S.A. (DE, NC, NJ, NY, SC).
C*	2	R1	*Nothocestrum latifolium*	Solanaceae	'Aiea	U.S.A. (HI).
C*	2	R1	*Ochrosia haleakalae*	Apocynaceae	Holei	U.S.A. (HI).
C*	3	R2	*Pediocactus peeblesianus fickeiseniae*.	Cactaceae	Cactus, Fickeisen plains	U.S.A. (AZ).
C*	2	R6	*Penstemon debilis*	Scrophulariaceae	Beardtongue, Parachute	U.S.A. (CO).
PT	2	R6	*Penstemon grahamii*	Scrophulariaceae	Beardtongue, Graham	U.S.A. (CO, UT).
C*	6	R6	*Penstemon scariosus* var. *albifluvis*.	Scrophulariaceae	Beardtongue, White River	U.S.A. (CO, UT).
C*	2	R1	*Peperomia subpetiolata*	Piperaceae	'Ala 'ala wai nui	U.S.A. (HI).
C	2	CNO	*Phacelia stellaris*	Hydrophyllaceae	Brand's phacelia	U.S.A. (CA), Mexico.
C*	8	R6	*Phacelia submutica*	Hydrophyllaceae	Phacelia, DeBeque	U.S.A. (CO).
C*	2	R1	*Phyllostegia bracteata*	Lamiaceae	No common name	U.S.A. (HI).
C*	2	R1	*Phyllostegia floribunda*	Lamiaceae	No common name	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	Historic range
Category	Priority					
C*	2	R1	*Phyllostegia hispida*	Lamiaceae	No common name	U.S.A. (HI).
C*	5	R1	*Physaria* (=*Lesquerella*) *tuplashensis*.	Brassicaceae	Bladderpod, White Bluffs	U.S.A. (WA).
C*	2	R1	*Pittosporum napaliense*	Pittosporaceae	Ho'awa	U.S.A. (HI).
C*	5	R4	*Platanthera integrilabia*	Orchidaceae	Orchid, white fringeless	U.S.A. (AL, GA, KY, MS, NC, SC, TN, VA).
C*	3	R1	*Platydesma cornuta* var. *cornuta*.	Rutaceae	No common name	U.S.A. (HI).
C*	3	R1	*Platydesma cornuta* var. *decurrens*.	Rutaceae	No common name	U.S.A. (HI).
C*	2	R1	*Platydesma remyi*	Rutaceae	No common name	U.S.A. (HI).
C*	2	R1	*Platydesma rostrata*	Rutaceae	Pilo kea lau li'i	U.S.A. (HI).
C	2	R1	*Pleomele fernaldii*	Agavaceae	Hala pepe	U.S.A. (HI).
C*	2	R1	*Pleomele forbesii*	Agavaceae	Hala pepe	U.S.A. (HI).
C*	11	CNO	*Potentilla basaltica*	Rosaceae	Cinquefoil, Soldier Meadow.	U.S.A. (NV).
C*	2	R1	*Pritchardia hardyi*	Asteraceae	Lo'ulu	U.S.A. (HI).
C*	3	R1	*Pseudognaphalium (=Gnaphalium) sandwicensium* var. *molokaiense*.	Asteraceae	'Ena'ena	U.S.A. (HI).
C*	2	R1	*Psychotria grandiflora*	Rubiaceae	Kopiko	U.S.A. (HI).
C*	3	R1	*Psychotria hexandra* ssp. *oahuensis* var. *oahuensis*.	Rubiaceae	Kopiko	U.S.A. (HI).
C*	2	R1	*Psychotria hobdyi*	Rubiaceae	Kopiko	U.S.A. (HI).
C*	2	R1	*Pteralyxia macrocarpa*	Apocynaceae	Kaulu	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	CNO	*Rorippa subumbellata*	Brassicaceae	Cress, Tahoe yellow	U.S.A. (CA, NV).
C*	2	R1	*Schiedea attenuata*	Caryophyllaceae	No common name	U.S.A. (HI).
C*	2	R1	*Schiedea pubescens*	Caryophyllaceae	Ma'oli'oli	U.S.A. (HI).
C*	2	R1	*Schiedea salicaria*	Caryophyllaceae	No common name	U.S.A. (HI).
C*	5	CNO	*Sedum eastwoodiae*	Crassulaceae	Stonecrop, Red Mountain	U.S.A. (CA).
C*	2	R1	*Sicyos macrophyllus*	Cucurbitaceae	'Anunu	U.S.A. (HI).
C	9	R4	*Sideroxylon reclinatum* ssp. *austrofloridense*.	Sapotaceae	Bully, Everglades	U.S.A. (FL).
C*	2	R1	*Solanum nelsonii*	Solanaceae	Popolo	U.S.A. (HI).
C	8	R4	*Solidago plumosa*	Asteraceae	Goldenrod, Yadkin River	U.S.A. (NC).
C*	2	R1	*Stenogyne cranwelliae*	Lamiaceae	No common name	U.S.A. (HI).
C*	2	R1	*Stenogyne kealiae*	Lamiaceae	No common name	U.S.A. (HI).
C*	5	R4	*Symphyotrichum georgianum*.	Asteraceae	Aster, Georgia	U.S.A. (AL, FL, GA, NC, SC).
C*	2	R1	*Zanthoxylum oahuense*	Rutaceae	A'e	U.S.A. (HI).
FERNS AND ALLIES						
C*	11	R1	*Botrychium lineare*	Ophioglossaceae	Moonwort, slender	U.S.A. (CA, CO, ID, MT, OR, WA), Canada (AB, BC, NB, QC).
C*	2	R1	*Christella boydiae* (= *Cyclosorus boydiae* var. *boydiae* + *Cyclosorus boydiae kipahuluensis*).	Thelypteridaceae	No common name	U.S.A. (HI).
C*	2	R1	*Doryopteris takeuchii*	Pteridaceae	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	Palapali	U.S.A. (HI).

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						
T	L	R7	*Enhydra lutris kenyoni*	Mustelidae	Otter, Northern Sea (southwest Alaska DPS).	U.S.A. (AK, WA).
BIRDS						
Rc	A	R6	*Centrocercus minimus*	Phasianidae	Sage-grouse, Gunnison	U.S.A. (AZ, CO, KS, OK, NM, UT).
Rc	A	R1	*Ptilinopus perousii perousii*	Columbidae	Fruit-dove, many-colored	U.S.A. (AS), Independent Samoa.
REPTILES						
Rc	A	R2	*Graptemys caglei*	Emydidae	Turtle, Cagle's map	U.S.A. (TX).
AMPHIBIANS						
Rc	N	R6	*Bufo boreas boreas*	Bufonidae	Toad, boreal (Southern Rocky Mountains DPS).	U.S.A. (AK, CA, CO, ID, MT, NM, OR, UT, WA, WY), Canada (BC).
FISHES						
E	L	R2	*Gila intermedia*	Cyprinidae	Chub, Gila	U.S.A. (AZ, NM), Mexico.
SNAILS						
E	L	R2	*Tryonia kosteri*	Hydrobiidae	Snail, Koster's tryonia	U.S.A. (NM).
E	L	R2	*Assiminea pecos*	Assimineidae	Snail, Pecos assiminea	U.S.A. (NM, TX), Mexico.
E	L	R2	*Pyrgulopsis roswellensis*	Hydrobiidae	Springsnail, Roswell	U.S.A. (NM).
INSECTS						
Rc	U	R4	*Pseudanophthalmus pholete.*	Carabidae	Cave beetle, greater Adams.	U.S.A. (KY).
Rc	U	R4	*Pseudanophthalmus cataryctos.*	Carabidae	Cave beetle, lesser Adams	U.S.A. (KY).
Rc	I	R1	*Phaeogramma sp.*	Tephritidae	Gall fly, Po'olanui	U.S.A. (HI).
E	L	R1	*Drosophila aglaia*	Drosophilidae	fly, Picture	U.S.A. (HI). wing [unnamed]
E	L	R1	*Drosophila differens*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila hemipeza*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila heteroneura*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila montgomeryi*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
T	L	R1	*Drosophila mulli*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila musaphila*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila neoclavisetae*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila obatai*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila ochrobasis*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila substenoptera*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R1	*Drosophila tarphytrichia*	Drosophilidae	fly, Picture wing [unnamed]	U.S.A. (HI).
E	L	R6	*Cicindela nevadica lincolniana.*	Cicindelidae	Tiger beetle, Salt Creek	U.S.A. (NE).
CRUSTACEANS						
E	L	R2	*Gammarus desperatus*	Gammaridae	Amphipod, Noel's	U.S.A. (NM).
Rc	I	R1	*Antecaridina lauensis*	Atyidae	Shrimp, anchialine pool	U.S.A. (HI), Mozambique, Saudi Arabia, Japan.
Rc	I	R1	*Calliasmata pholidota*	Alpheidae	Shrimp, anchialine pool	U.S.A. (HI), Funafuti Atoll, Saudi Arabia, Sinai Peninsula, Tuvalu.
FLOWERING PLANTS						
Rc	A	R6	*Aliciella cespitosa*	Polemoniaceae.	Alice-flower, wonderland	U.S.A. (UT).
Rc	A	R6	*Astragalus equisolensis*	Fabaceae	Milk-vetch, horseshoe	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.					
Rc	A	R6	*Castilleja aquariensis*	Scrophulariaceae.	Paintbrush, Aquarius	U.S.A. (UT).
Rc	I	R2	*Paronychia congesta*	Caryophyllaceae.	Whitlow-wort, bushy	U.S.A. (TX).
Rc	A	CNO	*Sidalcea hickmanii parishii*	Malvaceae	Checkerbloom, Parish's	U.S.A. (CA).

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