

America's Top 40:

A Call to Action for the Nation's Most Imperiled Species



A Report from WILDEARTH GUARDIANS

By Nicole Rosmarino, PhD

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MISSION STATEMENT

WildEarth Guardians protects and restores the wildlife, wild places and wild rivers of the American West.

Inquiries about this report and WildEarth Guardians' work can be made directly to:

Nicole Rosmarino, PhD
WildEarth Guardians
1536 Wynkoop St., Suite 301
Denver, CO 80202
303-573-4898
nrosmarino@wildearthguardians.org

Photos: Front cover (*left column, top to bottom*): crimson Hawaiian damselfly (Hawaii Biological Survey/Bishop Museum); Lanai tree snail (William Mull 1976, provided by University of Hawaii, Hawaii Biodiversity & Mapping Project); *Cyanea calycina* (J.K. Obata, provided by University of Hawaii); (*middle column, top to bottom*): Texas golden glade cress (Center for Plant Conservation/Mercer Arboretum and Botanic Gardens); *Cyanea kuhihewa* (Smithsonian Institute, Department of Botany, David H. Lorence); large-flowered Balsamo (Maya LeGrande, provided by University of Hawaii); *Phyllostegia floribunda* (C.H. Lamoureux, provided by University of Hawaii); (*right column, top to bottom*): chucky madtom (Conservation Fisheries, Inc.); jack bean (M. LeGrande, provided by University of Hawaii); Akikiki or Kauai creeper (National Biological Information Infrastructure/Pacific Basin Information Node); Nesiotes Megalagrion damselfly (Hawaii Biological Survey/Bishop Museum); Akoko (M. LeGrande, provided by University of Hawaii); Back cover, Papala (Jay Tutchton).

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Executive Summary

The U.S. Fish and Wildlife Service (Service) keeps a list of species called its "Top 40," which are the most imperiled candidates for Endangered Species Act (ESA) listing in the U.S. Collectively, they represent the worst-off plants and animals in the nation, according to the Service. Yet, most of these species have languished on the candidate list for over a decade. Until they are listed under the ESA, they remain unprotected from the various threats they face.

The Obama administration listed the plant *Phyllostegia hispida*, under the ESA on March 17, 2009,¹ thus ending a ten-month nationwide hiatus in the ESA listing program.² This Molokai plant was badly in need of protection. However, its listing is a drop in the bucket when considering the extinction crisis unfolding nationwide. Some 323 species await listing as candidate or proposed species under the ESA.³ Thousands more plants and animals are in trouble but not yet even in the queue for protection.⁴

The current administration inherited a mess at the Interior Department, and the Service's ESA listing program is among its biggest messes.⁵ The nation needs an active endangered species listing program, where groups of species are listed at once, and the annual listing rate increases by an order of magnitude. The administration should begin by promptly finalizing a listing proposal for 48 Kauai species that were proposed for listing in October 2008.⁶

But it should not stop there. While 12 of the Kauai species were among the nation's Top 40, the majority of the Top 40 have not even been proposed for listing. Some of the species that are not yet even proposed for listing are verging on extinction. For instance, the Langford's tree snail (*Partula langfordi*) was last seen in 1992 and has sat on the candidate list for 15 years, edging no closer to federal protection. The Mariana wandering butterfly (*Vagrans egestina*) was last seen in 1995, and its prospects are bleak: only seven males have been observed in the recent past. The Warton's cave spider (*Cicurina wartoni*) was last seen in 2001. Since then, the lock on the gate to the only cave it inhabits has rusted shut. The Obama administration needs to unlock the gates on the legal ark the ESA provides, not only

¹See 74 Fed. Reg. 11319-11327 (March 17, 2009).

²This report explores the history of final listing actions in the endangered species listing program in recent years, in detail, in a subsequent section. While the Service issued a February 2009 listing rule concerning the flatwoods salamander, that listing did not extend ESA protections to previously unprotected organisms.

³See <http://www.fws.gov/endangered/wildlife.html>, visited April 11, 2009.

⁴Stein, B.A., L.S., Kutner, and J.S. Adams. 2000. Eds. *Precious Heritage: The Status of Biodiversity in the United States*. Oxford University Press; and WildEarth Guardians. 2007. Petition to list 206 Rocky Mountain species under the Endangered Species Act. Submitted to the U.S. Fish and Wildlife Service in July 2007.

⁵Two Interior Inspector General's reports demonstrate the politicized and unscientific way in which endangered decisions were made under the George W. Bush administration. See Interior Inspector General reports dated March 23, 2007 and December 15, 2008. A May 21, 2008 oversight hearing by the U.S. House of Representatives Committee on Natural Resources also explored the problem of politicized endangered species decision-making. This hearing was entitled "The Danger of Deception: Do Endangered Species Have a Chance?" No. 110-72. An earlier oversight hearing by the same committee on the same issue was held on May 9, 2007: "Endangered Species Act Implementation: Science or Politics?" No. 110-24. Despite this pressure on the Service's listing program, the program has nearly ground to a halt.

⁶See 73 Fed. Reg. 62592-62640 (October 21, 2008).

for the Warton's cave spider, but for all of the plants and animals that desperately await federal protection.

This report provides a glimpse into America's Top 40 and provides recommendations for the Obama administration to rise to the challenge of safeguarding the plants and animals that are part of the nation's rich tapestry of life. The most effective way to prevent the extinction of these species is to grant them federal protection under the ESA. The ESA has proven effective in preventing the extinction of over 99 percent of the plant and animals protected under it.⁷ The leading dangers to America's Top 40 are threats that the ESA can effectively address.

Under the George W. Bush administration, the listing program slowed to a crawl. The average number of species listed under this administration was under ten per year, in contrast to approximately 60 per year under the Clinton and George H.W. Bush administrations.⁸ Endangered species have paid the price. Some of the Top 40 have not been seen in years and may already be extinct. They have formally awaited listing for an average of 13 years,⁹ with some of the Top 40 having languished as unprotected candidates for more than 20 years. Many have suffered mounting threats, from escalating habitat destruction to proliferation of exotic species to impacts of the global climate crisis. Federal safeguards have not buffered any of these threats, as an imperiled plant or animal does not enjoy any ESA protections until it is actually listed.

All of America's Top 40 have been denied emergency protection, despite the Service's recognition that some of these species may have already vanished forever. The Service's stubborn refusal to use the emergency protection provision of the ESA results in the most curious rationales – including denying that a Hawaiian plant, *Cyanea eleeleensis*, is imperiled in a significant portion of its range even though the Service believes it may be altogether extinct. For the same plant, the Service argues that the standard listing process is adequate, even though *Cyanea eleeleensis* has awaited federal protection as a candidate for 12 years.

We urge the Obama administration to go in a new direction: decisively and promptly. Expeditiously listing the Top 40 and the rest of the 323 species that are candidates or proposed for federal protection, and proceeding to address the many species that are at-risk but not even candidates, are critical steps towards fixing the ESA listing program. The administration should also utilize the emergency provision for the many species that are in dire straits, but continue to languish in candidate status. Federal listing of species in need will provide a clear barometer of the current administration's commitment to environmental protection.

⁷This figure is derived by dividing the number of species that have been delisted due to extinction (9) by the number of species listed under the ESA (1,893). Data obtained from <http://www.fws.gov/endangered/wildlife.html>, visited March 24, 2009.

⁸Eilperin, Juliet. 2008. Since '01 Guarding Species is Harder: Endangered Listings Drop Under Bush. *Washington Post*. March 23, 2008. P. A1.

⁹This may be an underestimate, due to exclusive reliance on Service data.

Table of Contents

Executive Summary	i
The Top 40 List	1
Patterns of Endangerment	2
Location	2
Taxonomy	2
Imperilment	2
Threats	3
Profiles of America's Top 40	4
Profiles of Species Dropped from the Previous Top 40	36
Imperiled Species Not on the Top 40 List.....	39
Broken Promises for Species on the Brink	41
The "Change We Need" for Imperiled Species?.....	44
Just a Money Problem?.....	47
An Emergency Situation	48
No Time to Waste: Recommendations for the Current Administration	50
Appendix A: U.S. Fish and Wildlife Service's List of America's Most Imperiled Species.....	51
Appendix B: Species the Service Promised to Propose for Listing in FY 2008 and List in FY 2009.....	62
Appendix C: Species the Service Promised to Propose for Listing in FY 2009	74

The Top 40 List

Relying exclusively on the Service's information for these species, we describe here the biological status of each of America's Top 40.¹⁰ (While the Service calls it their "Top 40," the number of species on this list actually totals 43). The Top 40 is a subset of the approximately 323 current candidate and proposed species.¹¹ In its last national notices on candidate species, the Service identified approximately 120 species as having the top listing priority number.¹² They are defined as facing "imminent, high-magnitude" threats and therefore at most risk of extinction.¹³ From these species, the Service drew up a list of approximately 40 species, representing the most at-risk plants and animals nation-wide by examining each species' conservation rank under the International Union for Conservation of Nature (almost all of the Top 40 have a rank of critically endangered); their conservation and threat ranks under NatureServe (almost all are ranked critically endangered, facing substantial and imminent threats); and which had fewer than 50 individuals or four or fewer populations.¹⁴

We chose to examine the Top 40 list referenced in a February 2008 Federal Register notice¹⁵ in order to track the fate of those species. More than a year later, not one of these species has been listed under the ESA. See Appendix A for the Service's complete list.

¹⁰We drew from the Service's Top 40 spreadsheet, the most recent candidate assessment forms, the Service's listing proposal for 48 Kauai species, its December 10, 2008 Candidate Notice of Review (73 Fed. Reg. 75176-75244), and personal communication with Service biologists. Our exclusive reliance on Service data to describe threats to the species, the length of their candidacy, and other factors may lead to some inaccuracies and omissions, but we made this choice deliberately so as to avoid a factual disagreement with the Service. We believe the more important debate concerns the Service's inaction even when their own biologists describe situations in which species are clearly at risk of extinction.

¹¹See <http://www.fws.gov/endangered/wildlife.html>, visited March 24, 2009.

¹²The listing priority number (LPN) is an internal Service ranking system for candidates. The Service describes it in the 2007 Candidate Notice of Review: "Our priority ranking system has three categories for taxonomic status: Species that are the sole members of a genus; full species (in a genus that has more than one species); and subspecies, distinct population segments of vertebrate species, and species for which listing is appropriate in a significant portion of their range. The result of the ranking system is that we assign each candidate a listing priority number of 1 to 12. For example, if the threat(s) is of high magnitude, with immediacy classified as imminent, the listable entity is assigned an LPN of 1, 2, or 3 based on its taxonomic status (e.g., if the species is the only member of a genus, it would be assigned to the LPN 1 category, a full species to LPN 2, and a subspecies, DPS, or significant portion of the range to LPN 3). In summary, the LPN ranking system provides a basis for making decisions about the relative priority for preparing a proposed rule to list a given species." 72 Fed. Reg. 69033, 69035.

¹³In its 2008 Candidate Notice of Review, the total number of full species ranked as facing high-magnitude, imminent threats was 123 (73 FR 75176 at Appendix A). In the 2007 notice, the Service placed this number at more than 120 (72 Fed. Reg. 69034 at 69051).

¹⁴See 73 FR 6660-6684 at p. 6681 (12-month finding on petition to list the Gunnison's prairie dog (*Cynomys gunnisoni*) under the Endangered Species Act).

¹⁵*Id.*

Patterns of Endangerment

Location

The majority of the Top 40 endangered species are in the Service's Pacific Region (Region 1), which includes Hawaii, the Pacific Islands, Washington, Oregon, and Idaho. The region with the second-most Top 40 species is the Southwest (Table 1). While a Region 1 species was listed in 2009 (*Phyllostegia hispida*), no species have been listed in the Southwest Region since 2005.¹⁶

Table 1
Geography of America's Top 40

Region	Number of Top 40 Species	Percentage of Top 40 Species
Pacific (Region 1)	34	79%
Southwest (Region 2)	6	14%
Great Lakes/Big Rivers (Region 3)	1	2%
Southeast (Region 4)	2	5%
Total	43	100%

Taxonomy

Most of America's Top 40 are plants or invertebrates; only two are vertebrates (one fish and one bird) (Table 2).

Table 2
Taxonomy of America's Top 40

Taxonomy	Number of Top 40 Species	Percentage of Top 40 Species
Plant	23	53%
Invertebrate	18	42%
Vertebrate	2	5%
Total	43	100%

Imperilment

Seventeen of the Top 40, or 40 percent, have not been seen for years. Some of these may have already gone extinct. The average length of candidacy for a Top 40 species is thirteen years.¹⁷ The Top 40 species that has waited the longest is the Chupadera springsnail, having been placed on the candidate list in 1988. This species may very well have vanished altogether in the 21 years it has been waiting to board the nation's Ark. It has not been seen in ten years.

¹⁶Based on a search of all US Fish and Wildlife Service *Federal Register* Notices from 2001-2009.

¹⁷This may be an underestimate, due to exclusive reliance on Service data.

Threats

According to the Service, the leading threats to the Top 40 are non-native species, including non-native plants, mammals, insects, snails; limited numbers, restricted ranges, or isolated populations, which expose species to increased dangers from factors such as genetic problems and extirpation from catastrophic events; a lack of legal protections under federal or state laws; and habitat degradation and loss (Table 3). ESA protection could help to address all of these threats.

**Table 3
Threats to America's Top 40**

Threat	Number of Top 40 Species Affected	Percentage of Top 40 Species Affected
Non-native species	39	91%
Limited numbers or restricted range	36	84%
Lack of legal protections	35	81%
Habitat loss	22	51%

Profiles of America's Top 40

“Oha” or “Haha” (*Cyanea eleeleensis*): proposed for listing as endangered

This Kauai plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes “No known living individuals” as of 2001 but qualifies this by “all potentially suitable habitat (wet forest) on Kauai has not been thoroughly surveyed.” The Service wonders whether the species “May be extinct in the wild?”

<p style="text-align: center;">MAY BE EXTINCT</p> <p style="text-align: center;">Number of years on candidate list: 12</p> <p style="text-align: center;">Number of known existing populations: 0</p> <p style="text-align: center;">Number of known existing individuals: 0</p> <p style="text-align: center;">Threats: habitat loss, non-native animals and plants, lack of protections, limited numbers</p> <p style="text-align: center;">Date species was last observed: 2000 (individual was dead)</p> <p style="text-align: center;">Service Lead Region: 1</p>
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The species occurs only on Kauai, Hawaii, and only on private land. It is a six-foot tall flowering shrub that grows in wet forest habitat surrounded by the steep cliffs of Pali Eleele. Discovered in 1977, it is only known from one population totaling less than ten plants in Wainiha Valley. This species has not been found in other surveyed areas of wet forest habitat on the island. In a 2000 survey, the last individual plant of this species was found dead. 2001 and 2002 surveys in adjacent habitat found no individuals. The Service believes the plant would likely be found with additional surveys.

The Service considers these factors as threats to this plant: habitat destruction from feral pigs, herbivory by slugs and rats, a lack of legal protections, competition from non-native plants, and risk of extirpation due to limited population and individuals.

The Service has declined to emergency list this species, stating:

The species does not appear to be appropriate for emergency listing at this time because the immediacy of the threats is not so great as to imperil a significant proportion of the taxon within the time frame of the routine listing process (Candidate Listing Form at p. 6).

The Service promises to emergency list if new information suggests it is warranted. Currently, there are no known individuals of this plant and ongoing threats to it. There is perhaps no clearer example of a species that requires emergency listing. Indeed, the Service’s candidate assessment form indicates that it is likely extinct. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Langford’s tree snail” or “Akaleha” (*Partula langfordi*): candidate, not yet proposed

Photo: Dave Hopper, USFWS

MAY BE EXTINCT

Number of years on candidate list: 15

Number of known existing populations: 0

Number of known existing individuals: 0

Threats: habitat loss, non-native plants and animals, lack of protection, limited numbers

Date species was last observed (in the wild): 1992

Service Lead Region: 1

This island snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is “Restricted to one small island” with “1 live individual observed in 1995.” The Service wonders whether the species “May be extinct in the wild?”

This nocturnal ½-inch long snail is found only in cool, shaded forest habitats on the island of Aguiguan or “Goat Island” in the Commonwealth of the Northern Mariana Islands. It lives up to five years and gives birth to live young. It has no natural predators. Its potential range lies within ten square kilometers (four square miles). It was first described in the 1950s. The last time a live individual of this species was seen in the wild was in 1992: only one live individual was recorded. In 1993-1994, ten individuals were in captivity at Nottingham University but all have since died. A 2006 survey found no live Langford’s tree snails.

The Service considers these factors as threats to the Langford’s tree snail: conversion of natural habitat to crop agriculture and subsequent encroachment by non-native plants and feral goats, predation by non-native snail and flatworm, a lack of legal protections, small population numbers and consequent vulnerability to random events.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.¹⁸

Picture-wing fly (*Drosophila digressa*): candidate, not yet proposed

This Hawaiian picture-wing fly has been an ESA candidate for 13 years: it was originally placed on the ESA candidate list in 1996. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service estimates that it has three populations but it has not been observed since 1993 (the

¹⁸The Service defines candidate species as those species for which it has sufficient information to develop a listing proposal. See 73 FR 75176.

Candidate Form states that it was last seen in 2006). The Service wonders whether the species "May be extinct in the wild?"

EXTINCTION FEARED

Number of years on candidate list: 13
 Number of known existing populations: 2-3
 Number of known existing individuals: unknown
 Threats: habitat loss, unnatural fire regimes, non-native plants and animals, lack of protections, low numbers and limited habitat
 Date species was last observed: 2006
 Service Lead Region: 1

Limited to the island of Hawaii, this picture-wing fly occurs in mesic to wet forest habitat. It feeds only on plants in the genus *Charpentiera* (a Kauai species in this genus is also in the Top 40). While five populations were known historically, it has since declined. The Service believes it may currently be limited to two to three sites. Currently numbers are unknown, but it likely exists in only low numbers or is extirpated at one or more of the five original population sites. Two observations in 2006 confirm that the species still exists.

The Service considers these factors as threats to this species: habitat loss from feral pigs, goats and cattle, unnatural fire regimes, non-native plants, predation by and competition with non-native insects, a lack of legal protections, and limited habitat and consequent vulnerability to random events.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

"Mariana wandering butterfly" (*Vagrans egestina*): candidate, not yet proposed

This orange and black butterfly, endemic to the islands of Guam and Rota, has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has "One population with 7 individuals (may all have been males)." The Service wonders whether the species "May be extinct in the wild?"

MAY BE EXTINCT

Number of years on candidate list: 12
 Number of known existing populations: 0
 Number of known existing individuals: 0
 Threats: non-native animals, limited numbers
 Date species was last observed: 1995
 Service Lead Region: 1

The Mariana wandering butterfly has not been seen on Guam since 1979 and is considered extirpated from that island. During 1995 surveys on Rota, this butterfly was observed at only one location, and only seven individuals were observed, all of which were thought to be males. No eggs or larvae were found.

The Service considers these factors as threats to this species: predation by non-native insects (ants and wasps); parasitism by non-native and native species; small populations and consequent vulnerability to natural events. It feeds on a single host plant species, *Maytenus thompsonii*.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“Haha” (*Cyanea kuhihewa*): proposed for listing as endangered



Photo: ©Smithsonian Institute, Department of Botany, David H. Lorence

<p>MAY BE EXTINCT IN THE WILD Number of years on candidate list: 12 Number of known existing populations: 0 Number of known existing individuals: 0 in the wild Threats: non-native animals and plants Date species was last observed (in the wild): 2003 Service Lead Region: 1</p>
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This Kauai plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as extinct in the wild. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is “Only known to exist in cultivation” and “May be extinct in the wild?”

The only known population of this one to seven foot flowering shrub occurred on private land in lowland wet forest. First described in 1991, this species was only ever known from one population with six individuals in Limahuli Valley on Kauai. In 2003 the last known individual in the wild died. Prior to that time seeds were collected, and the species is now found only in cultivation.

The Service considers these factors as threats to this species: habitat loss from non-native pigs, herbivory by rats and slugs, and competition with non-native plants.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

***Schiedea attenuata*: proposed for listing as endangered**

This Kauai plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “1 population with less than 20 individuals.”

This flowering shrub lives in wet forest pockets and vertical cliffs in the Kalalau Valley on the island of Kauai. Its sole population numbers fewer than 20 plants, last observed there in 1994.

LAST SEEN IN 1994
 Number of years on candidate list: 12
 Number of known existing populations: 1
 Number of known existing individuals: 20
 Threats: non-native animals and plants, lack of protections, low numbers
 Date species was last observed: 1994
 Service Lead Region: 1

The Service considers these factors as threats to this species: habitat loss from and grazing by non-native goats, a lack of legal protections, low numbers and consequent vulnerability to extinction from random natural events, and habitat modification from and competition with non-native plants.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Kolea” (*Myrsine mezii*): proposed for listing as endangered

This Kauai plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “2 populations with five individuals” and occurs on less than one acre.

Number of years on candidate list: 12
 Number of known existing populations: 2
 Number of known existing individuals: 5
 Threats: non-native animals, lack of protections, low numbers and limited habitat
 Service Lead Region: 1

This small tree occurs in mesic forest habitat in the Koaie Canyon area on the island of Kauai, Hawaii. It is currently known from two populations totaling only five individuals in an area measuring less than one acre.

The Service considers these factors as threats to this species: habitat loss and grazing by non-native pigs, lack of legal protections, and low numbers and limited habitat.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Nesiotes Megalagrion damselfly” or “flying earwig Hawaiian damselfly” (*Megalagrion nesiotes*): candidate, not yet proposed



Photo: ©Hawaii Biological Survey/Bishop Museum

<p style="text-align: center;">MAY BE EXTINCT</p> <p style="text-align: center;">Number of years on candidate list: 13</p> <p style="text-align: center;">Number of known existing populations: 0</p> <p style="text-align: center;">Number of known existing individuals: 0</p> <p style="text-align: center;">Threats: non-native animals, recreation, lack of protections, low numbers</p> <p style="text-align: center;">Date species was last observed: 2002</p> <p style="text-align: center;">Service Lead Region: 1</p>

This Hawaiian damselfly has been an ESA candidate for 13 years: it was originally placed on the ESA candidate list in 1996. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has one known population and that while it was collected in 2000-2002, none were collected in 2003.

While historically found on the islands of Maui and Hawaii, there are no known existing populations. It was last observed in 2002 at the East Wailua Iki Stream within the Koolau Forest Reserve on Maui. There are additional areas with likely habitat that have not been surveyed.

The Service considers these factors as threats to this species: habitat degradation by feral pigs, habitat degradation by recreational use, lack of protections, and low numbers in scattered populations. Threats occur at the last site the species was observed. The Service warns: “all individuals of this species may be adversely impacted by a single randomly occurring natural event.”

The logic for denying this species emergency protection is similar to that pertaining to the preceding species, except the Service states, “we do not have sufficient information about threats other than habitat degradation by feral pigs that may be acting upon populations of this damselfly that may still be extant” (2007 Candidate form at p. 7). Considering that the evidence is clear that habitat degradation by feral pigs is enough to endanger this species, there are other recognized threats, and no known populations of the damselfly, this rationale makes no sense. The Service states that it has sufficient information to develop a proposed rule for this species. In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this damselfly.

“Ha’iwale” (*Cyrtandra sessilis*): candidate, not yet proposed

This Oahu plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing

high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has "2 populations totaling 50 individuals" but its most recent candidate assessment form indicates a total of 80-81 individuals.

Number of years on candidate list: 12
 Number of known existing populations: 2
 Number of known existing individuals: 80
 Threats: non-native animals and plants, lack of protections, low numbers
 Date species was last observed: 2006
 Service Lead Region: 1

There are two populations of this half to one meter tall flowering shrub: one on the Ahupuaa o Kahana State Park, extending into the Ewa Forest Reserve, and the second on private land in the upper Pia Valley near the Hawaii Loa Ridge trail. While the current population is estimated at 80-81 individuals as of 2006, this is a sharp decline in the 1990s, when estimates ranged up to 200-300 individual plants. Additional potential habitat needs to be surveyed.

The Service considers these factors as threats to this species: habitat degradation by feral pigs, lack of legal protections, habitat loss and competition from non-native plants, low numbers and consequent vulnerability to random events.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species, but that the taxonomic validity of the species must first be verified. In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this plant.

“Warton’s cave spider” or “Warton cave meshweaver” (*Cicurina wartoni*): candidate, not yet proposed

This Texas spider has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it exists in one cave and has no population estimates. Other caves have been searched but no Warton’s cave spiders have been found.

LAST SEEN IN 2001
 Number of years on candidate list: 15
 Number of known existing populations: 1
 Number of known existing individuals: unknown
 Threats: habitat loss, pollution, non-native insects, single location, lack of protections
 Date species was last observed: 2001
 Service Lead Region: 2

The sole population occurs in a small, shallow cave on private land in Travis County, Texas, and the landowners have denied researchers access to the cave. The cave is four meters deep, nine meters long, and its ceilings are up to 1.5 meters high. The last verification that the species occupied the cave was in 2001. The lock on the gate to the cave is now rusted shut.

The Service considers these factors as threats to this species: habitat degradation from human access to the cave (which is limited by a locked gate) and from nearby development, pollution from contaminated ground and surface water, competition with native and non-native species (especially fire ants), its single location, and a lack of legal protections.

The logic for denying this species emergency protection is that the occupied cave is gated, but the candidate assessment form indicates threats (alteration of airflow, nutrients, and water into the cave; ground and surface water contamination; fire ants; habitat loss outside the cave) that aren't addressed by the gate. The Service states that it has sufficient information to develop a proposed rule for this species.

“Gonzales springsnail” (*Tryonia circumstriata* (=stocktonensis)): candidate, not yet proposed

This Texas snail has been an ESA candidate for 20 years: it was originally placed on the ESA candidate list in 1989. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has one population.

<p style="text-align: center;">LAST SEEN IN 2003</p> <p style="text-align: center;">Number of years on candidate list: 20</p> <p style="text-align: center;">Number of known existing populations: 1</p> <p style="text-align: center;">Number of known existing individuals: unknown</p> <p style="text-align: center;">Threats: habitat loss, drought, non-native snail, lack of protections, limited distribution</p> <p style="text-align: center;">Date species was last observed: 2003</p> <p style="text-align: center;">Service Lead Region: 2</p>
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Limited to Pecos County, Texas, the Gonzales springsnail occurs exclusively on The Nature Conservancy's (TNC's) Diamond Y Spring Preserve in the margins of springs, seeps, and marshes. Diamond Y Spring is the last major spring flowing in Pecos County. The species occurs in only 30 meters of outflow from Euphrasia Spring. In 2003, the species was verified as still existing.

The Service considers these factors as threats to this species: dried-up springs from groundwater pumping (due to cropland irrigation) and drought; ground and surface water contamination from oil and gas (occurs in active oil and gas field); competition from a non-native snail; a lack of protections (benefits from co-occurring listed species inadequate); and limited distribution. The Service notes the “potential for a catastrophic event is possible at any time” but because of a lack of regular monitoring, “it is unlikely that anyone would detect the effects.” TNC cannot control groundwater withdrawal, the major threat to the species, and has undertaken few conservation efforts to benefit the species.

The logic for denying this species emergency protection is “Due to the current status of the species and its habitat, emergency listing of the Gonzales springsnail is not warranted at this time,” (2008 Candidate Form at p. 8) which makes no sense given that the status of the species, its habitat, and threats acknowledged by the Service all clearly show it is in an urgent

situation. An additional reason provided by the Service for denying emergency protection is that the springsnail co-occurs with other listed species. However, the Service had elsewhere stated that the benefits from these other species being listed do not alleviate threats to the springsnail. The Service states that it has sufficient information to develop a proposed rule for this species.

“Diamond tryonia” or “Diamond Y springsnail” (*Pseudotryonia adamantina*): candidate, not yet proposed

This Texas snail has been an ESA candidate for 20 years: it was originally placed on the ESA candidate list in 1989. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is “Restricted to one spring system.”

<p style="text-align: center;">LAST SEEN IN 2003</p> <p style="text-align: center;">Number of years on candidate list: 20</p> <p style="text-align: center;">Number of known existing populations: 1 spring system</p> <p style="text-align: center;">Number of known existing individuals: unknown</p> <p style="text-align: center;">Threats: habitat loss, drought, non-native snail, lack of protections, limited distribution</p> <p style="text-align: center;">Date species was last observed: 2003</p> <p style="text-align: center;">Service Lead Region: 2</p>
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Limited to Pecos County, Texas, the Diamond Y springsnail occurs exclusively on The Nature Conservancy’s (TNC’s) Diamond Y Spring Preserve in the margins of springs, seeps, and marshes. Diamond Y Spring is the last major spring flowing in Pecos County. In 2003, the species was verified as still existing.

The Service considers these factors as threats to this species: dried-up springs from groundwater pumping (due to cropland irrigation) and drought; ground and surface water contamination from oil and gas (occurs in active oil and gas field); competition from a non-native snail; a lack of protections (benefits from co-occurring listed species inadequate); and limited distribution. The Service notes the “potential for a catastrophic event is possible at any time” but because of a lack of regular monitoring, “it is unlikely that anyone would detect the effects.” TNC cannot control groundwater withdrawal, the major threat to the species, and has undertaken few conservation efforts to benefit the species.

The logic for denying this species emergency protection is identical to that pertaining to the Gonzales springsnail and similarly objectionable. The Service states that it has sufficient information to develop a proposed rule for this species.

“Sisi snail” or “streaked ostodes” (*Ostodes strigatus*): candidate, not yet proposed

This Samoan snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it numbers “Fewer than 50 live individuals found in one valley.”

Found only Maloata Valley on the island of Tutuila in American Samoa, this ground-dwelling snail numbered fewer than 50 live snails in a 1993 survey.

LAST SEEN IN 1993
 Number of years on candidate list: 15
 Number of known existing populations: 1
 Number of known existing individuals: 50
 Threats: habitat loss, hurricanes, non-native plants and animals, lack of protections, low numbers
 Date species was last observed: 1993
 Service Lead Region: 1

The Service considers these factors as threats to this species: habitat loss from forestry and agriculture, hurricanes, non-native plants, predation by non-native snails and flatworms, lack of protections, and low numbers and limited range. Expanded agriculture is “needed to support one of the world’s highest human population growth rates” (2008 Candidate Form at pp. 3-4).

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*.

“Akoko” (*Chamaesyce eleanoriae*): proposed for listing as endangered

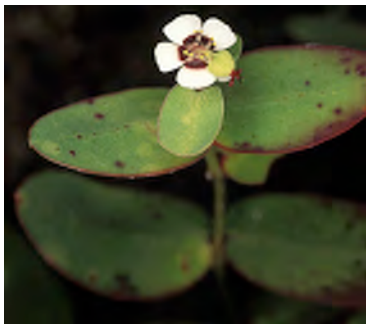


Photo: M. LeGrande, provided by University of Hawaii

Number of years on candidate list: 10
 Number of known existing populations: 3
 Number of known existing individuals: less than 50
 Threats: non-native plants and animals, lack of protections, low numbers
 Service Lead Region: 1

This Kauai plant has been an ESA candidate for ten years: it was originally placed on the ESA candidate list in 1999. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “3 populations of less than 50 individuals”.

This small flowering shrub is restricted to steep slopes and cliffs in and around the Kalalau Valley rim along the Na Pali Coast on Kauai in Hawaii. The species has declined from ten populations totaling 500 individuals in 1992 to three populations numbering fewer than 50 individuals as of 2005.

The Service considers these factors as threats to this species: habitat degradation by feral goats, herbivory by non-native goats and rats, lack of protections, non-native plants, and low numbers and consequent vulnerability to extirpation from random events.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Takeuch’s lip fern” (*Doryopteris takeuchii*): candidate, not yet proposed

This Oahu plant has been an ESA candidate for 12 years: it was originally placed on the candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “1 population totaling several hundred individuals.”

<p>LAST SEEN IN 2003</p> <p>Number of years on candidate list: 12</p> <p>Number of known existing populations: 1</p> <p>Number of known existing individuals: several hundred</p> <p>Threats: trampling, habitat loss, lack of protections, non-native plants, fires, low numbers</p> <p>Date species was last observed: 2003</p> <p>Service Lead Region: 1</p>

This small fern occurs on federal and state land on Diamond Head Crater and requires disturbed dry shrubland and grassland. According to all Service documents, it has one population numbering several hundred individuals.

The Service considers these factors as threats to this species: trampling and erosion by hikers, lack of legal protections, non-native plants, fires, and low numbers and consequent vulnerability to extirpation from random events. The Service states that the magnitude of threats facing this species has increased dramatically.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*, despite the fact that no new information on the species’ status has been obtained since at least 2004, and the Service believes that, “it is highly likely that the previously reported threats continue to impact the species at the same or an increased level” (2005 Candidate Form at p. 6). In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this species.

“Degener’s pelea” or “Alani” (*Melicope degeneri*): proposed for listing as endangered

This Kauai plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent

<p>ONCE THOUGHT EXTINCT</p> <p>Number of years on candidate list: 12</p> <p>Number of known existing populations: 4</p> <p>Number of known existing individuals: 15</p> <p>Threats: black twig borer, non-native plants and animals, lack of protections, low numbers</p> <p>Service Lead Region: 1</p>

threats. In the Top 40 spreadsheet, the Service notes that it has 15 individuals at four sites and was once thought to be extinct.

This small, perennial flowering shrub occurs in wet forest habitat at elevations of approximately 1220 meters (4,000 feet) on Kauai. Formerly thought to be extinct, it was rediscovered at Hanakoa Valley in 1993, when ten plants were counted. There is another individual plant known from Koaie Canyon, one plant at Pohakua, and three additional plants were found at Hanakoa Valley.

The Service considers these factors as threats to this species: habitat destruction and herbivory by feral goats, lack of legal protections, the black twig borer, competition from and habitat degradation by non-native plants, and low numbers and consequent vulnerability to random events.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Wawae’iole” (*Huperzia stemmermanniae*): candidate, not yet proposed

This Hawaiian plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has four populations totaling less than 20 individuals.

Number of years on candidate list: 12 Number of known existing populations: 4 Number of known existing individuals: 19-29 Threats: non-native plants and animals, lack of protections, low numbers Service Lead Region: 1

This plant is an epiphyte that grows on living trees and fallen logs in mesic to wet ohia-koa forests. There are four small populations of this clubmoss: two occur on state land in Hawaii and two occur on Maui: one in the Haleakala National Park and one on land managed by The Nature Conservancy of Hawaii (TNCH). Each of the Maui populations contains one individual, and one of those has not been observed since 1995. The total number of individuals is estimated at 19-29.

The Service considers these factors as threats to this species: habitat degradation and herbivory by non-native pigs, goats, cattle, and axis deer; lack of legal protections; non-native plants; and low numbers and limited range.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. In addition, the Service states that emergency protection is not warranted because TNCH protects its population (which numbers one plant) and because of two *ex situ* populations.

“Ala'ala wai nui” (*Peperomia subpetiolata*): candidate, not yet proposed

This Maui plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “Few scattered populations totaling 100 individuals, these individuals may only represent clones of 6 genetically distinct individuals.” The 2008 listing form for the species, however, estimates only 23 individuals.

Number of years on candidate list: 12 Number of known existing populations: 1 (2 subpopulations) Number of known existing individuals: 23 Threats: non-native plants and animals, lack of protections, hybridization, low numbers Service Lead Region: 1
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This perennial herb currently has only one known occurrence of two subpopulations: located in the Olinda Road area, it extends from the Makawao Forest Reserve into The Nature Conservancy’s Waikamoi Preserve. One of these subpopulations numbers 20 individuals, and the other numbers three individuals. This occurrence may represent only a few cloned individuals.

The Service considers these factors as threats to this species: habitat degradation and herbivory from feral pigs, lack of legal protections, non-native plants, hybridization, and low numbers.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“Alani” (*Melicope hiiakae*): candidate, not yet proposed

This Oahu plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “4-5 populations totaling 20 individuals” with “possibly more individuals in areas difficult to survey.”

Number of years on candidate list: 12 Number of known existing populations: 4-5 Number of known existing individuals: 20 Threats: non-native plants and animals, black twig borer, lack of protections, low numbers Service Lead Region: 1
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This tree, measuring up to seven meters (23 feet) high, occurs on steep terrain in wet forest and shrubland. There are four to five known populations totaling about 20 individuals in the Koolau mountains. There may be more individuals in areas that are difficult to access due to

steep terrain. The Service believes it is reasonable to assume populations have continued to decline.

The Service considers these factors as threats to this species: habitat degradation and herbivory by feral pigs, the black twig borer, lack of legal protections, non-native plants, and low numbers.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this species.

“Blunt-lobe cyanea” or “Haha” (*Cyanea obtusa*): candidate, not yet proposed

This Maui shrub has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered.

NatureServe ranks it as facing substantial, imminent threats.

The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has six populations totaling 30 individuals. In the 2008 national Candidate Notice of Review, the Service states that it has two populations with fewer than 24 individuals.

Number of years on candidate list: 12 Number of known existing populations: 2 Number of known existing individuals: fewer than 24 Threats: non-native plants and animals, lack of protections, low numbers Service Lead Region: 1

This flowering shrub, which reaches heights up to five meters (16 feet), is found on gulch slopes and stream walls on Maui. In 1996 it was rediscovered in Manawainui gulch in Kahikinui on east Maui, with a small population of five individuals. The site was revisited in 1997 and four mature individuals were observed, with collections taken for tissue culture propagation. Also in 1997, there was a known population of five to ten individuals at Kahakapao Gulch in the Makawao Forest Reserve on east Maui. The Hawaii Natural Heritage Program also reported to consist of “two dozen in two locations” at Kahakapao gulch in 2001.

The Service considers these factors as threats to this species: habitat degradation by feral pigs, goats, and cattle; herbivory by non-native mammals and slugs; lack of legal protections, competition with non-native plants; and low numbers.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. In addition, the Service notes that private landowners and the state have initiated ungulate and weed control to benefit the species. The Service states that it has sufficient information to develop a proposed rule for this species.

“Bracted phyllostegia” (*Phyllostegia bracteata*): candidate, not yet proposed

This Maui mint has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has “3 populations with no more than 100 individuals in eastern Maui, plus two individuals found on western Maui.” Its 2008 assessment form indicates there are five populations and fewer than 20 individuals.

Number of years on candidate list: 12 Number of known existing populations: 5 Number of known existing individuals: 20 Threats: non-native plants and animals, lack of protections, habitat loss, low numbers Service Lead Region: 1
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This perennial herb inhabits wet forests at elevations of 4,000-5,000 feet. It is currently known from only five occurrences which collectively number 20 or fewer individuals. The Service expects more individuals to be found with new surveys but believes it is reasonable to assume populations have continued to decline.

The Service considers these factors as threats to this species: habitat degradation and herbivory from feral pigs; lack of legal protections; competition with non-native plants; public access, road traffic, road scraping and herbicide spraying on Waikamoi flume road; and low numbers.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*.

“Hardy’s pritchardia” (*Pritchardia hardyi*): proposed for listing as endangered

This Kauai tree has been an ESA candidate for ten years: it was originally placed on the ESA candidate list in 1999. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has three populations totaling approximately 300 individuals.

Number of years on candidate list: 10 Number of known existing populations: 3 Number of known existing individuals: 300 Threats: non-native plants and animals, vandalism, collection, low numbers, lack of protections Service Lead Region: 1
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This four to five meter high palm tree is only found on state land in the Power Line Road area on Kauai. Its habitat is open wet forest at elevations of 500-750 meters. As of 2005, there were only three known populations, totaling 300 trees.

The Service considers these factors as threats to this species: habitat degradation by feral pigs, vandalism, collection, herbivory by feral pigs and rats, lack of legal protections, non-native

plants, low numbers and restricted range. Threats to its habitat are expected to increase without control or eradication of non-native species.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this palm for listing in October 21, 2008. It has not yet been listed under the ESA.

A jack-bean (*Canavalia napaliensis*): proposed for listing as endangered



Photo: M. LeGrande, provided by University of Hawaii

Number of years on candidate list: 19
 Number of known existing populations: 3
 Number of known existing individuals: several hundred
 Threats: non-native plants and animals, lack of protections, limited range
 Service Lead Region: 1

This Kauai climbing plant has been an ESA candidate for 19 years: it was originally placed on the ESA candidate list in 1980. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has three populations totaling several hundred individuals.

This Kauai plant occurs only on state land in mixed habitats at 61-579 meters in elevation, in a small section of the Na Pali coast. As of 2005, three populations totaling several hundred plants were known.

The Service considers these factors as threats to this species: habitat degradation by feral goats, lack of legal protections, non-native plants, low numbers and restricted range. Threats to its habitat are expected to increase without control or eradication of non-native species.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Spleenwort-leaved cyanea” or “Haha” (*Cyanea asplenifolia*): candidate, not yet proposed



Photo: ©Smithsonian Institute, Department of Botany, Ethan Romanchak

ONCE THOUGHT EXTINCT
 Number of years on candidate list: 12
 Number of known existing populations: 8
 Number of known existing individuals: fewer than 145
 Threats: non-native animals and plants, lack of protections
 Service Lead Region: 1

This Maui shrub has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has four populations totaling less than 200 individuals (the total of two populations is approximately 150 individuals). However, the most recent listing form (2008) reports eight populations totaling fewer than 145 individuals.

The spleenwort-leaved cyanea is found on east and west Maui in ohia (*Metrosideros*) or koa-ohia (*Acacia-Metrosideros*) forests. There are four populations in east Maui, and four in west Maui. This species was thought to be extinct after 1920, but was rediscovered in the Kipahulu Valley in east Maui in 1991. The relatively large Kipahulu Valley population, numbering about 350 plants, was devastated by feral goats in 2002.

The Service considers these factors as threats to this species: habitat degradation and herbivory by feral pigs, goats, cattle, and deer; herbivory by rats and slugs; lack of legal protections; and non-native plants. Threats to its habitat are expected to increase without control or eradication of non-native species.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. In addition, the Service notes that private landowners and the state have initiated ungulate and weed control to benefit the species. The Service states that it has sufficient information to develop a proposed rule for this species.

***Stenogyne cranwelliae*: candidate, not yet proposed**

This Hawaiian vine has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has six populations totaling 100 individuals, but its 2008 candidate form estimates 11 populations numbering fewer than 100 individuals.

<p style="text-align: center;">ONCE THOUGHT EXTINCT</p> <p style="text-align: center;">Number of years on candidate list: 12</p> <p style="text-align: center;">Number of known existing populations: 11</p> <p style="text-align: center;">Number of known existing individuals: fewer than 100</p> <p style="text-align: center;">Threats: non-native animals and plants, lack of protections, small population size</p> <p style="text-align: center;">Service Lead Region: 1</p>
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This plant occurs only on state lands in wet ohia forest habitat in the Kohala Mountains on Hawaii. The species was thought extinct until it was rediscovered in 1995.

The Service considers these factors as threats to this species: habitat degradation by feral pigs; herbivory by pigs and rats; lack of legal protections; competition from non-native plants; and small population size. Threats to its habitat are expected to increase without control or eradication of non-native species.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“Papala” (*Charpentiera densiflora*): proposed for listing as endangered



Photo: Jay Tutchton

Number of years on candidate list: 10
 Number of known existing populations: 10
 Number of known existing individuals: 200
 Threats: non-native plants and animals, flooding,
 lack of protections
 Service Lead Region: 1

This Kauai tree has been an ESA candidate for ten years: it was originally placed on the ESA candidate list in 1999. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has ten populations totaling approximately 200 individuals.

This plant, reaching up to 12 meters high, is found only on state land on Kauai. Its habitat is lowland mesic forest, extending into diverse mesic forest, at elevations between 152-671 meters. As of 2005, there were ten populations, numbering a total of 200 individuals, all restricted to a 26-square kilometer area on the Na Pali coast.

The Service considers these factors as threats to this species: habitat degradation by feral goats, lack of legal protections, flooding, and non-native plants. Conservation efforts are occurring for only one of the ten populations. Threats to its habitat are expected to increase without control or eradication of non-native species.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Chucky madtom” (*Noturus crypticus*): candidate, not yet proposed

This Tennessee fish has been an ESA candidate for seven years: it was originally placed on the ESA candidate list in 2002. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that there are no population estimates available due to low numbers.



Photo: Conservation Fisheries, Inc.

NOT SEEN IN WILD SINCE 2004
 Number of years on candidate list: 7
 Number of known existing populations: 3-
 kilometer stream reach
 Number of known existing individuals: unknown,
 only 3 specimens found since 1994
 Threats: sedimentation and pollution, low numbers
 and restricted range, predation, collection
 Date species was last observed: 2004 (in the wild)
 Service Lead Region: 4

This small catfish occurs only in the Little Chucky Creek in Greene County, Tennessee, primarily on private lands. Its habitat is slow to moderate currents over pea gravel, cobble, or slab-rock substrates, with intact riparian buffers. Only three specimens have been encountered since 1994, one in 2000 and two in 2004, despite numerous surveys that have been conducted in historic localities and potential habitat. While the species historically occupied Dunn Creek, the Service now considers the species to be restricted to a three-kilometer reach of Little Chucky Creek. The Service states that a population estimate is not possible due to low numbers and sporadic collection.

The Service considers these factors as threats to this species: sedimentation and pollutants from agricultural land uses, the city of Greeneville, and residential development due to proximity to Great Smoky Mountains National Park; restricted range; overcollection and predation are potential risks because of extreme rarity and limited range; and low numbers and restricted range. While captive propagation is considered an important conservation strategy for this fish, the lone male in captivity died in 2008.¹⁹

The logic for denying this species emergency protection is that there are no immediate threats from which listing would provide additional protection, based on the Service's supposition that listing would only protect the fish from collection or federal agency action. The Service further states that emergency listing could erode support for conservation efforts, whereas a standard listing process would allow public input and Service outreach "to explain why the need for listing exists," despite these collaborative efforts (2007 Candidate Form at unnumbered pp. 12-13).

In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this fish. Service Director Dale Hall promised Congress in February 2008 that this species would be proposed for listing by the end of the fiscal year (ending on September 30, 2008).²⁰ More than six months later, it remains merely a candidate for listing.

¹⁹Pers. comm., Geoff Call, Cookeville Field Office of the Service, March 25, 2009.

²⁰Dale Hall's testimony to Congress is discussed in detail in the Broken Promises section of this report.

“Haha” (*Cyanea calycina*): candidate, not yet proposed

Photo: J.K. Obata, provided by University of Hawaii

Number of years on candidate list: 10 Number of known existing populations: 28 Number of known existing individuals: 262 Threats: non-native plants and animals, lack of protections Service Lead Region: 1
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This Oahu plant has been an ESA candidate for ten years: it was originally placed on the ESA candidate list in 1999. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has 20 populations totaling 200 or more individuals.

This shrub occurs only on Oahu in the Waianae and Koolau Mountains, on a mix of federal, state, and private lands. It occurs in the summit areas of these mountain ranges, in mesic and wet forests and shrublands, wet gulches, and streambanks. According to its 2007 candidate form, there are 28 known populations, totaling 262 plants. The number of plants is split fairly evenly between the two mountain ranges. However, the Service believes this plant's taxonomy needs resolution: the revised entity may only include the Koolau Mountains populations.

The Service considers these factors as threats to this species: habitat degradation by feral pigs and goats; herbivory by pigs, goats, rats, and slugs; lack of legal protections; competition from non-native plants. Threats to its habitat are expected to increase without control or eradication of non-native species. Ungulate fences currently provide some degree of protection, but to only five of the 28 populations. All populations are threatened by rats and slugs.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species. In the 2008 national Candidate Notice of Review, the Service states that it is developing a listing proposal for this species.

“Chupadera springsnail” (*Pyrgulopsis chupaderae*): candidate, not yet proposed

This New Mexican springsnail has been an ESA candidate for 21 years: it was originally placed on the ESA candidate list in 1988. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is restricted to two hillside groundwater discharge areas associated with Willow Spring.

This springsnail is endemic to Willow Spring on the privately owned Willow Spring Ranch at the south end of the Chupadera Mountains in Socorro County, New Mexico. It has been documented from only two hillside groundwater discharges, located within 0.25 miles from each other. It may be extirpated from one of these sites.

MAY BE EXTINCT

Number of years on candidate list: 21
 Number of known existing populations: 0-2
 Number of known existing individuals: unknown
 Threats: habitat loss, water use and diversion, fire, lack of protections, small range
 Date species was last observed: 1999
 Service Lead Region: 2

Other potential habitat has been surveyed, but no other populations were located. The Service believes that a protected riparian corridor and perennial, oxygenated water within the species' range is imperative for its survival. The property owner has denied biologists from the New Mexico Department of Game and Fish access to the springsnail's habitat since the ranch changed ownership in 1999.

The Service considers these factors as threats to this species: habitat degradation from livestock grazing, groundwater pumping, spring impoundment and dewatering, and contamination; possible threat from a 2002 fire; lack of legal protections; restricted range and mobility; fragmented habitat; and drought.

In response to the question of whether this species deserves emergency listing, the Service stated in its most recent candidate assessment form: "No. Although we are concerned about the status of the snail, the Service has not been able to gather information sufficient to support an emergency listing due to private landowner's restriction of all access to the springs" (2005 Candidate Form at unnumbered p. 6). The Service has no data for the last decade on whether the species still exists, biologists have been continually denied access to the snail's only known location, yet the Service refuses to grant emergency protection.

The Service states in the 2008 national Candidate Notice of Review that it is working on a listing proposal for this species. Service Director Dale Hall promised Congress in February 2008 that this species would be proposed for listing by the end of the fiscal year (ending on September 30, 2008). More than six months later, it remains merely a candidate for listing.

"Texas golden gladecress" (*Leavenworthia texana*): candidate, not yet proposed



Photo: Center for Plant Conservation/Mercer Arboretum and Botanic Gardens

Number of years on candidate list: 12
 Number of known existing populations: 3 wild, 1 introduced
 Number of known existing individuals: 2,200
 Threats: habitat loss, herbicides, non-native plants, drought
 Service Lead Region: 2

This Texas mustard has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has four populations in four small sites, totaling approximately 900 individuals. The 2008 candidate assessment form has a higher population estimate.

The gladecress occurs on the Weches outcrops of east Texas, which were created by ancient Eocene seas 30 to 50 million years ago. Weches glades support diverse plant communities, including some plants found nowhere else in east Texas and highly disjunct from other portions of their ranges. All existing and historic gladecress sites are on private land. Current known sites total less than 0.5 hectare in size. There are four extant sites: two in San Augustine County, one in Sabine County, and one population introduced into Nacogdoches County. The plant's occupied area ranges from nine square meters to 0.1 hectare at each of these sites. The most recent total population estimate (2007) was approximately 2,200.

The Service considers these factors as threats to this species: habitat loss from glauconite mining, highway construction, residential development, agricultural conversion, herbicides, concentrated chicken production, livestock grazing, and non-native plants; herbivory or trampling by cattle; lack of legal protections; access denied to two of the four gladecress sites; low numbers; and drought.

In regard to the long list of threats to the species' habitat, the Service states, "All of these factors have to be considered for future management of the species or the gladecress will face extinction" (2008 Candidate Form at p. 5). Yet, regarding emergency listing, the Service says there is no need, stating, "The landowners involved are aware of the importance of this species and have been cooperative in maintaining the current land use at the remaining known sites. Pre-listing efforts to find additional sites, secure funds for management of known sites, and develop conservation agreements with landowners, should be the focus for the species at this time" (*Id.* at p. 8). This statement stands in contrast to the fact that landowners have denied the state and Service access to two of the four gladecress sites.

"Southern kidneyshell" (*Ptychobranchus jonesi*): candidate, not yet proposed

This mussel has been an ESA candidate for five years: it was originally placed on the ESA candidate list in 2004. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats.

Number of years on candidate list: 5 Number of known existing populations: 9 Number of known existing individuals: unknown (population numbers thought to be low) Threats: habitat loss, sedimentation, water quality degradation, small and isolated populations Service Lead Region: 4

In the Top 40 spreadsheet, the Service notes that of its 23 historical locations, one to two have live animals, three have unknown population status, and 18-19 are inactive. In its 2008

candidate form, the Service reports nine extant populations. The Service further states that population numbers appear to be low, and “It is unknown if this species is reproducing.”

This southeastern mussel is endemic to the Escambia and Yellow river drainages in Alabama and Choctawhatchee river drainage in Alabama and Florida. It has not been detected in the Escambia and Yellow river systems since 1990 and may be extirpated from these drainages. The number of current locations that support this mussel has declined by 71 percent since 1990. Population numbers appear to be low, and it is unknown whether these populations are capable of reproduction and recruitment.

The Service considers these factors as threats to this species: habitat modification, sedimentation, and water quality degradation from a variety of land uses; river damming; limited range and low numbers; pollution; lack of legal protections, especially from non-source point pollution; population fragmentation and isolation; loss or reduction in host fishes; floods; droughts; and non-native aquatic species.

The Service provides no reasons for denying this species emergency protection under the ESA.

“Akikiki” or “Kauai creeper” (*Oreomystis bairdi*): proposed for listing as endangered



Photo credit: National Biological Information Infrastructure/Pacific Basin Information Node

Number of years on candidate list: 15
 Number of known existing populations: 1
 Number of known existing individuals: 1,500
 Threats: non-native disease borne by non-native mosquitoes, non-native animals and plants, narrow range, climate change
 Service Lead Region: 1

This Kauai bird has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has one population with approximately 1,500 individuals, and that its range is reduced to about 36 square km (8,896 acres).

This bird inhabits mesic and wet montane ohia forests on Kauai and feeds on insects and spiders. Its range has decreased by more than half over the past 30 years. In the same timeframe, its population has declined by approximately 80 percent, from 6,832 ± 966 to 1,472 ± 680 birds. Writes the Service, “This relatively rapid and substantial rate of decline indicates the species is at risk of extinction” (2006 Candidate Form at p. 3).

The Service considers these factors as threats to this species: habitat degradation by feral pigs, goats, and non-native plants; avian diseases transmitted by non-native mosquitoes; predation by black rats and owls (including the introduced barn owl); hurricanes; climate change (by causing an increase in the elevation at which regular transmission of avian malaria occurs); and narrow range. While mosquitoes have been less prevalent at higher elevations on Kauai, they have recently been found at the highest elevations on the island, indicating that the creeper's entire population may be threatened by mosquito-borne disease.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Humped tree snail” or “Akaleha” (*Partula gibba*): candidate, not yet proposed



Photo credit: Dave Hopper, USFWS

Number of years on candidate list: 15 Number of known existing populations: 14 Number of known existing individuals: fewer than 2,600 Threats: habitat loss, typhoons, volcanoes, non-native plants and animals, lack of protections, low numbers and restricted range Service Lead Region: 1
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This Polynesian snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has 14 known populations on eight islands with a total of less than 2,600 individuals. However, the 2008 candidate assessment form indicates that it now occurs on seven islands.

This snail occurs on Guam and islands in the Northern Mariana Islands in cool, shaded, humid forest habitat. It lives in coastal strand vegetation, forested river borders, and lowland and highland forests. This snail is nocturnal and feeds on decaying or senescent plant material. When it was discovered, it was considered the most common tree snail in Guam. Today, the species has been extirpated from Tinian and Anatahan. Of the 14 known populations, 11 are on private land and three are on federal land. It is considered rare throughout most of its range.

The Service considers these factors as threats to this species: habitat degradation due to agriculture, development, noxious weeds, and non-native ungulates (pigs, deer, cattle, water buffalo, and goats); habitat degradation by typhoons and volcanic eruptions; predation by the non-native rosy carnivore snail and non-native Manokwar flatworm; a lack of legal protections; and low numbers and restricted range.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“Guam tree snail,” “Pacific tree snail,” or “Akaleha” (*Partula radiolata*): candidate, not yet proposed



Photo: Guam Division of Aquatic and Wildlife Resources

Number of years on candidate list: 15
 Number of known existing populations: 22
 Number of known existing individuals: unknown
 Threats: habitat loss, typhoons, non-native plants and animals, lack of protections
 Service Lead Region: 1

This Guam snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it occurs on 20 sites, with a total of less than 2,000 individuals. The 2008 candidate assessment form states that there are 22 populations with an unknown number of individuals.

This snail is found only on Guam in cool, shaded, humid forest habitats. It lives in coastal strand vegetation, forested river borders, and lowland and highland forests. This snail is nocturnal and feeds on decaying or senescent plant material. Of the 22 known populations, 14 are on private land. In 1992, scientists estimated that the number of sites where it occurred had declined 74 percent since 1920 and considered the species to be rare throughout its range.

The Service describes these factors as threats to this species: habitat degradation due to noxious weeds, typhoons, and non-native ungulates (deer, pigs, and water buffalo); predation by non-native rosy carnivore snail and non-native Manokwar flatworm; and a lack of legal protections.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“A pomace fly” (*Drosophila attigua*): proposed for listing as endangered

This Kauai fly has been an ESA candidate for 13 years: it was originally placed on the ESA candidate list in 1996. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing

high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has two populations, with no estimates on numbers of individuals.

Number of years on candidate list: 13
 Number of known existing populations: 2
 Number of known existing individuals: unknown
 Threats: non-native plants and animals, low numbers and restricted range
 Service Lead Region: 1

This species breeds in the stems and branches of *Cheirodendron* trees and is restricted to areas receiving over 157 inches (400 cm) of rain annually. There are two extant populations of this fly, one in Alakai Swamp and the other at Mount Kahili. According to the Service, “The drosophilid family in Hawaii represents one of the most remarkable cases of adaptive radiation of any group of animals over the entire world” (2005 Candidate Form at p. 3). Research on this family has resulted in the development and testing of new theories of evolutionary biology, including theories about speciation and island evolution.

The Service considers these factors as threats to this species: habitat degradation from ranching, non-native animals and plants, and agricultural development; predation by non-native insects; and low numbers and restricted range.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Rayed bean” (*Villosa fabilis*): candidate, not yet proposed

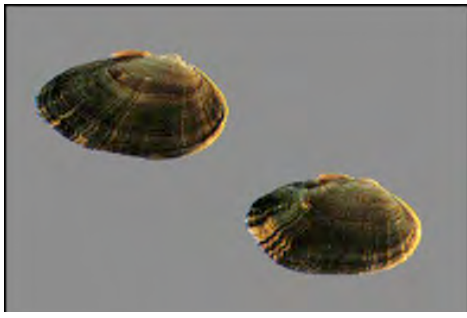


Photo: USFWS

Number of years on candidate list: 5
 Number of known existing populations: 27 streams, 1 lake
 Number of known existing individuals: unknown
 Threats: habitat loss, small and isolated remaining populations, non-native mussels
 Service Lead Region: 3

This mussel has been an ESA candidate for five years: it was originally placed on the ESA candidate list in 2004. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is found in 14 streams and one lake, and few streams harbor viable populations. The 2007 assessment form describes its current range as 25 streams and one lake. A Service official reports that this species currently is thought to occur in 27 streams and one lake.²¹

²¹Pers. comm., Angela Boyer, Endangered Species Coordinator, Region 3, dated March 30, 2009.

The rayed bean occurs in smaller headwater creeks on gravel and sand substrates and also historically occurred in larger rivers. It was previously known from 106 streams, lakes, and canals in the Great Lakes, Ohio River, and Tennessee River systems. It has been extirpated from 76 percent of the streams and other water bodies where it historically occurred.²²

The Service considers these factors as threats to this species: habitat loss and degradation due to impoundments, channelization, chemical contaminants, mining, and sedimentation; small and geographically isolated remaining populations, with increased vulnerability to catastrophic events including toxic chemical spills; and competition from non-native mussels.

The Service rejects emergency protection for this species, stating, "Although the magnitude and immediacy of threats to the rayed bean range-wide are high, expected losses to rayed bean populations during the normal listing process would not risk the continued existence of the entire species or loss of significant recovery potential" (2007 Candidate Form at unnumbered p. 14). However, the rayed bean has now been a candidate for five years.

Service Director Dale Hall promised Congress in February 2008 that this species would be proposed for listing by the end of the fiscal year (ending on September 30, 2008). More than six months later, it remains merely a candidate for listing.

"Makou" (*Ranunculus mauiensis*): candidate, not yet proposed



Photo: R. Hobdy, provided by University of Hawaii

Number of years on candidate list: 12
 Number of known existing populations: 13
 Number of known existing individuals: 107
 Threats: habitat loss, non-native plants and mammals, lack of protections
 Service Lead Region: 1

This Hawaiian buttercup has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN and NatureServe as endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has fewer than 30 individuals on Maui and 30 on Kauai. The 2008 national Candidate Notice of Review describes a total of 107 individuals.

This tall perennial herb occurs on private and state lands on the islands of Maui, Kauai, and Molokai. It has been extirpated from Hawaii and Oahu. It is found in open sites in mesic to wet forest and along streams at elevations of 3,500-5,600 feet. The species is currently known from 13 populations. Four of these populations contain only one plant each. The largest population contains only 31 plants.

²² This estimate is reported in the 2007 candidate form, which was based on this species occurring at 25 streams and 1 lake. The current Service estimate of 27 streams and 1 lake slightly lowers this figure, to 74%.

The Service considers these factors as threats to this species: habitat loss and degradation and herbivory by non-native pigs, goats, and deer; herbivory by slugs; lack of legal protections; and habitat loss and degradation and competition from non-native plants.

The logic for denying this species emergency protection is similar to that pertaining to *Cyanea eleeleensis*. In addition, the Service cites efforts to protect the plant from grazing by non-native mammals. However, thus far, only three plants are protected from grazing by non-native mammals.

“Lanai tree snail” (*Partulina semicarinata*): candidate, not yet proposed



Photo: William Mull 1976, provided by University of Hawaii, Hawaii Biodiversity & Mapping Project

Number of years on candidate list: 15
 Number of known existing populations: 3
 Number of known existing individuals: 29
 Threats: habitat loss, collection, non-native mammals, lack of protections, low numbers and restricted range
 Date species was last observed: 2005
 Service Lead Region: 1

This Hawaiian snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has 29 individuals at three sites.

This snail occurs only on private land on Lanai in mesic and wet forests. Using native trees as hosts, this tree snail is nocturnal, and grazes on fungus and algae growing on the surface of leaves. While the Lanai tree snail was likely abundant and widespread historically, there are currently only three small, isolated populations totaling 29 snails.

The Service considers these factors as threats to this species: habitat loss and degradation due to non-native axis deer; collection (the Service notes that the collection of a single adult snail would remove all or a large percentage of the reproductive population from a bush or tree, thereby driving that population closer to extinction); predation by non-native rats; lack of legal protections; and low numbers and restricted range.

The logic for denying this species emergency protection is that its habitat is in the process of being fenced. In the interim, it continues to be threatened by a slew of factors. As the Service notes in the 2008 national Candidate Notice of Review, no efforts are being

undertaken to protect this snail from predation by rats, an important threat. The Service states that it has sufficient information to develop a proposed rule for this species.

“Newcomb’s tree snail” (*Newcombia cumingi*): candidate, not yet proposed

This tree snail has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN and NatureServe as endangered. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has one population of 36 individuals. The most recent candidate assessment form indicates only nine individuals.

Number of years on candidate list: 15 Number of known existing populations: 1 Number of known existing individuals: 9 Threats: habitat loss, non-native plants and animals, lack of protections, low numbers and restricted range Date species was last observed: 2006 Service Lead Region: 1
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This snail occurs on private land in Maui. It feeds on fungi and algae growing on the leaves and trunks of living native trees. It was rediscovered in 1994, after not having been documented since the early 1900s. The snail’s only currently known population is on a single ridge on the northeastern slope of West Maui. Its total inhabited area is approximately six acres. In the most recent surveys (2006), only nine living tree snails were found. It is the only member of its genus on Maui.

The Service considers these factors as threats to this species: habitat loss from non-native plants; predation by non-native rats, the rosy carnivore snail, Manokwar flatworm, and the introduced terrestrial snail, *Oxychilus alliarius*; a lack of legal protections; low numbers and restricted range. All Newcomb’s tree snails taken into captivity have died.

The Service denies emergency listing to this species on the basis that “predator control and nonnative plant management is likely to occur” (2008 Candidate Form at p. 8), which is little assurance of survival for a species with nine remaining individuals. In addition, the 2008 national Candidate Notice of Review states that there are no efforts to protect the species from a major threat – the rosy carnivore snail. The Service states that it has sufficient information to develop a proposed rule for this species.

“Large-flowered Balsamo” (*Psychotria grandiflora*): proposed for listing as endangered

This Hawaiian plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN as endangered and by NatureServe as critically endangered. In the Top 40 spreadsheet, the Service notes that it has four populations with 18 individuals.



Photo: Maya LeGrande, provided by University of Hawaii

Number of years on candidate list: 12
 Number of known existing populations: 4
 Number of known existing individuals: 18
 Threats: habitat loss, non-native plants and mammals, lack of protections, low numbers and restricted range
 Service Lead Region: 1

This plant occurs only at Kokee State Park on Kauai in mesic to wet forest at elevations of 3,400-4,000 feet. It is a member of the coffee family, reaching up to 16 feet high with reddish leathery leaves. The species was likely widespread and abundant historically.

The Service considers these factors as threats to this species: habitat degradation and herbivory by non-native pigs and goats; a lack of legal protections; competition from non-native plants; and low numbers and restricted range.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service proposed this species for listing in October 21, 2008. It has not yet been listed under the ESA.

“Remy Pilokea” (*Platydesma remyi*): candidate, not yet proposed



Photo: Bob Hobdy, provided by University of Hawaii

Number of years on candidate list: 12
 Number of known existing populations: 2
 Number of known existing individuals: 50
 Threats: habitat loss, non-native plants and mammals, lack of protections, low numbers and restricted range
 Service Lead Region: 1

This Hawaiian plant has been an ESA candidate for 12 years: it was originally placed on the ESA candidate list in 1997. It is listed by IUCN as endangered and by NatureServe as critically endangered. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has two populations totaling fewer than 100 individuals. However, the 2008 candidate assessment form estimated its total population as fewer than 50 plants.

This three to ten feet tall shrub or shrubby tree inhabits wet forests on old volcanic slopes at elevations of 2,000 feet or higher on Hawaii. There are only two populations in existence: the Hilo Forest Reserve population numbers one to three plants, and the state Laupahoehoe Natural Area Reserve population numbers fewer than 40 plants.

The Service considers these factors as threats to this species: habitat degradation and loss and herbivory by non-native pigs and cattle; a lack of legal protections; habitat degradation and loss and competition by non-native plants; and low numbers and a restricted range.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. The Service states that it has sufficient information to develop a proposed rule for this species.

“Crimson Hawaiian damselfly” (*Megalagrion leptodemas*): candidate, not yet proposed



Photo credit: Hawaii Biological Survey/Bishop Museum

Number of years on candidate list: 15 Number of known existing populations: 4 Number of known existing individuals: unknown Threats: habitat loss, non-native fish and insects, lack of protections, low numbers and restricted range Service Lead Region: 1
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This damselfly has been an ESA candidate for 15 years: it was originally placed on the ESA candidate list in 1994. It is listed by IUCN as endangered and by NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is found in four streams, and there are no population size estimates.

The Crimson Hawaiian damselfly is endemic to Oahu and is currently found only on four streams on state lands. Both females and males are primarily red and yellow with a wingspan of about 1.5 inches. It breeds in the slow reaches of streams and stream pools. Historically, this damselfly was considered abundant at some sites, but adults are now rare at all localities and immature damselflies have not been seen. It is considered the rarest and most endangered of the endemic Oahu damselflies.

The Service considers these factors as threats to this species: alteration and degradation of freshwater habitat due to agriculture, urban development, ground water use, alteration of aquifer and source waters; predation by non-native fish and non-native insects (backswimmers); a lack of legal protections; competition by non-native insects (caddisflies); and low numbers and restricted range.

The logic for denying this species emergency protection is identical to that pertaining to *Cyanea eleeleensis*. In the 2008 national Candidate Notice of Review, the Service states that

it is developing a listing proposal for this damselfly. The Service states that it has sufficient information to develop a proposed rule for this species.

“Page springsnail” (*Pyrgulopsis morrisoni*): candidate, not yet proposed

This southwestern snail has been an ESA candidate for 13 years: it was originally placed on the ESA candidate list in 1996. It is listed by IUCN as data deficient and by NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it is found in ten acres of habitat within the Oak Creek springs complex.

Number of years on candidate list: 13 Number of known existing populations: current range of 10 acres Number of known existing individuals: unknown Threats: habitat loss, water depletion and degradation, planned residential development, lack of protections, drought, climate change, isolation of populations Service Lead Region: 2
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This snail occurs primarily on private and state land, in a ten-acre area along the west side of Oak Creek and its tributary, Spring Creek. It is found only in Yavapai County, Arizona. Its preferred habitat is a spring emerging from the ground as a shallow flowing stream with gravel and pebble substrates.

The Service considers these factors as threats to this species: spring modification (including impoundment and enclosure) for domestic, agricultural, ranching, fish hatchery, and recreational uses; removal of spring vegetation; trespass livestock; groundwater withdrawal and aquifer depletion; water quality degradation from toxic substances; planned residential development; a lack of legal protections; drought; climate change; and isolation of populations.

The Service has denied this species emergency protection on the basis that “some conservation effort is ongoing” (2008 Candidate Form at p. 13). The Service states that it has sufficient information to develop a proposed rule for this species.

Profiles of Species Dropped from the Previous Top 40

While these species were on the Top 40 list, they were subsequently dropped from the list by the Service after it revised their threat ranking. By definition, a species cannot make the Top 40 unless it suffers the highest degree of threat, as determined by the Service.

“Many-flowered phyllostegia” (*Phyllostegia floribunda*): candidate, not yet proposed

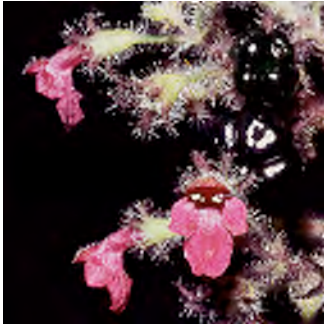


Photo: C.H. Lamoureux, provided by University of Hawaii

<p>Number of years on candidate list: 10 Number of known existing populations: 10 wild Number of known existing individuals: 20-30 wild (additional planted) Threats: non-native plants and animals, lack of protections Service Lead Region: 1</p>

This Hawaiian plant has been an ESA candidate for ten years: it was originally placed on the ESA candidate list in 1999. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the Service notes that it has four populations with 100-500 individuals. However, the Service changed its listing priority number to 8 (moderate to low magnitude, imminent threats) in the December 2007 candidate notice of review, which drops it from the Top 40.

This small shrub occurs on a mix of private, state, and federal lands in mesic to wet forests at elevations of 430-1,130 meters. It is known from ten locations totaling 20-30 wild plants. There are four outplanted populations, the largest of which is approximately 100 plants.

The Service considers these factors as threats to this species: habitat degradation and herbivory from feral pigs; lack of legal protections; and habitat degradation and competition from non-native plants. Conservation efforts, including fencing and controlling non-native species, prompted the Service to revise this plant's listing priority number to 8.

The Service cites conservation efforts as a rationale for denying this species emergency protection. The Service states that it has sufficient information to develop a proposed rule for this species.

“Texas hornshell” (*Popenaias popeii*): candidate, not yet proposed

This southwestern mussel has been an ESA candidate for eight years: it was originally placed on the ESA candidate list in 2001. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats. In the Top 40 spreadsheet, the



Photo: New Mexico Department of Game and Fish

Number of years on candidate list: 8
 Number of known existing populations: 4
 Number of known existing individuals: unknown
 Threats: habitat loss, water diversion and contamination, increased sedimentation
 Service Lead Region: 2

Service notes that it exists in two locations, one in New Mexico and one in Texas, and a possible relic population in the Rio Grande, in Texas. The 2008 candidate assessment form describes four existing populations: one in New Mexico, and three in Texas.

This mussel requires permanent river flow, adequate water quality, and suitable substrates. Individuals may live for more than twenty years. The Texas hornshell is the last remaining native mussel in New Mexico: all of the seven other mussel species have been extirpated. When it was confirmed to exist in the Black River in New Mexico in 1996, it had previously not been found since the 1930s. In Texas, 48 dead hornshells were found in the Big Bend National Park stretch of the Rio Grande in surveys starting in 2005, two live hornshells were found in the Devil's River in 2008, and one was found in the mainstem of the Rio Grande in 2008.

The Service considers these factors as threats to this species: modification of stream habitat from a variety of land uses; water pollution; water diversion and groundwater pumping; contamination from oil and gas operations; cumulative impacts from adverse land uses; siltation and sedimentation; and a lack of legal protections. This species' listing number was revised in the 2008 national Candidate Notice of Review from two to a listing priority number of 8, which drops it from the Top 40. The downgrade was due to the discovery of new populations and recovery planning in New Mexico and Texas.

The Service's logic for denying this species emergency protection is a lack of immediate increases in threats that would result in extinction.

“Brand’s phacelia” (*Phacelia stellaris*): candidate, not yet proposed

This plant has been an ESA candidate for five years: it was originally placed on the ESA candidate list in 2004. It is listed by IUCN and NatureServe as critically endangered. NatureServe ranks it as facing substantial, imminent threats. The Service considers it as facing high-magnitude, imminent threats.

Number of years on candidate list: 5
 Number of known existing populations: 5 (in U.S.)
 Number of known existing individuals: tens of thousands
 Threats: small population size, habitat loss, border wall construction, trampling and disturbance, non-native plants
 Service Lead Region: 8

In the Top 40 spreadsheet, the Service notes that it has four populations, with less than 2,000 total individuals. However, the 2008 candidate assessment form estimates five extant populations with tens of thousands

of plants at one location alone (Silver Strand). Three of the five populations are very small, numbering in the tens to low hundreds. Because this plant was downgraded to a listing priority of 5, it is dropped from the Top 40.

This flowering plant historically occurred in Los Angeles, Riverside, and San Diego counties in the U.S., and northern Baja California in Mexico. It has been extirpated from Los Angeles and there are a total of five known occurrences in the U.S. It requires open habitats on sandy soils or on coastal back dunes or coastal scrub and is found on sandy benches, dunes, washes, or river floodplains. Much of its habitat has been lost to urbanization and habitat degradation. One population, at Lichty Mesa in extreme southwestern corner of San Diego County, is within a few hundred yards of the U.S. border wall and may be harmed by road construction.

The Service considers these factors as threats to this species: small population size; habitat loss from development or agriculture; border wall construction; trampling and disturbance; and non-native plants. The listing priority number for this species is 5, which means that while the Service believes it faces high-magnitude threats, it considers those threats to be non-imminent.

The Service does not analyze emergency listing for this species.

Imperiled Species Not on the Top 40 List

There are many species that are in dire straits, have languished on the candidate list for years, but don't qualify for the Top 40. For the lizard and snail, this is likely because they have more existing individuals than the Top 40. For the lark, it is because it is a subspecies rather than a full species. The plight of these species is important to recognize in and of itself, but also to underscore that the Top 40 are only the worst-off of the nation's critically imperiled wildlife. These are just three examples - there are many more.

Sand dune lizard (*Sceloporus arenicolus*)

The sand dune lizard has the second narrowest range of any reptile in North America, occurring only in southeast New Mexico and western Texas. Scientists have warned for over a decade that it may be too late to pull this reptile back from the brink.²³ Yet, it is still not even proposed for listing and didn't make the Service's Top 40. In the 2008 national Candidate Notice of Review, the Service states that it is currently developing a listing rule for this species. Service Director Dale Hall promised Congress in February 2008 that the sand dune lizard would be proposed for listing in FY 2008 (which ended on September 30, 2008). More than six months later, the species has still not been proposed. The Southwest office of the Service recently stated that it would be proposed for listing sometime in FY 2009.²⁴ The Service recognizes that this species is at imminent risk of extinction but rejected a 2008 request for emergency listing.



Photo: William Radke, USFWS

San Bernardino springsnail (*Pyrgulopsis bernardina*)

The San Bernardino springsnail's range is currently restricted to Snail Spring on the (privately owned) Slaughter Ranch in Cochise County, Arizona, and at one to two springs in Sonora, Mexico. It is so imperiled that workers used garden hoses to keep the species alive when its spring habitat dried up. While the Service considers it to occur on one acre in the U.S. (in Arizona) and approximately 50 acres in Mexico, it has not been detected in the U.S. since 2005. It faces several threats to its miniscule remaining habitat, including groundwater depletion



Photo: William Radke, USFWS

²³See 2007 candidate assessment form at p. 5, citing Snell et al. 1997: Snell, H. L., L. W. Gorum, L. J. S. Pierce, and K. W. Ward. 1997. Results from the fifth year (1995) research on the effect of shinnery oak removal on populations of sand dune lizard, *Sceloporus graciosus arenicolous*, in New Mexico. Final report to New Mexico Department of Game and Fish. Contract #80-516.6.-01. Dated April 1997.

²⁴Pers. comm., Patricia Melhop, Listing Coordinator, Region 2, dated March 24, 2009.

from irrigation and other human water use.²⁵ Like the sand dune lizard, Service Director Hall promised Congress that the springsnail would be proposed for listing in FY 2008, but that promise was broken: it is still merely a candidate for listing. The Service recognizes that this species is at imminent risk of extinction but rejected a 2007 request for emergency listing.

Streaked horned lark (*Eremophila alpestris strigata*)

With only 730 breeding birds range-wide, which face a slew of threats, this subspecies of horned lark is perched on the brink. Historically, it occurred in British Columbia, Washington, and Oregon and was described as very abundant in some areas. It is now likely extirpated from Canada and significant areas in Washington and Oregon. The last observation of the streaked horned lark in Canada was in 2002, and that survey turned up a single male.

The Oregon population is estimated at 400 birds, and the Washington population is estimated at 330 birds. In Washington, this subspecies may be declining by an alarming 40 percent every year. Loss of habitat is the primary threat to this bird, but it also faces a variety of other threats: nest predation, inadequate legal protections, collisions with aircraft, military bombing tests, the small size of remaining populations, exotic animal encroachment, and cowbird parasitism. Yet, because it is a subspecies (not a full species), it does not qualify for the Top 40.



Photo credit: Washington Dept. of Fish and Wildlife

The above species did not even make the Top 40. The Top 40 species themselves likely qualify for Endangered status under the ESA. The lack of listings has meant the effective repeal of the law's Threatened category, which was envisioned by Congress as precautionary, to protect species before their situation became too dire.²⁶

²⁵See the San Bernardino springsnail's 2007 Candidate Form.

²⁶See Rosmarino, Nicole J. 2002. "Endangered Species Act: Controversies, Science, Values, and the Law." Ph.D. Dissertation, University of Colorado at Boulder.

Broken Promises for Species on the Brink

In February 2008, in an attempt to reduce Congressional pressure regarding its concerns about the ESA listing program, Service Director Dale Hall pledged to the House Appropriations Committee that the Service would list the polar bear and propose 70 additional U.S. species for listing in FY 2008.²⁷ He further pledged to finalize listings for these species in FY 2009 and propose an additional 20 U.S. species for listing in FY 2009. Falling far short, here are the major listing actions the Service accomplished pertaining to Hall's vow:

- The polar bear was listed on May 15, 2008, but the Service issued a special rule declaring that major threats to the species would not be limited despite the listing;²⁸
- The Service proposed 48 Kauai species for listing on October 21, 2008;²⁹
- The Service proposed a Molakai plant species, *Phyllostegia hispida*, for listing on February 19, 2008³⁰ and finalized the listing rule on March 17, 2009.³¹ By the time this species was listed, only 24 wild individual plants were known to exist. Until recently, it was thought to be extinct in the wild.³²

The only other final listing action of U.S. species since Dale Hall's promise to Congress was the Service's issuance of a final listing rule on February 10, 2009 for the frosted flatwoods (*Ambystoma cingulatum*) and reticulated flatwoods (*A. bishopi*) salamanders, which had previously been listed as the flatwoods salamander (*A. cingulatum*).³³ While a needed action, in light of revised taxonomy, it did not address the listing backlog or expand the ESA's protective reach to previously unprotected organisms.

Dale Hall's promise came at a time when the credibility of the U.S. endangered species listing program was at an all-time low. What the nation needed was complete fulfillment of that promise. Instead, many species on the list of 70 that were to be proposed in FY 2008 saw no such proposals. These species were supposed to actually be listed in FY 2009, but that is now very uncertain, as they are presently mere candidates, and no closer to listing than they were in February 2008. Moreover, the backlog in listing proposals means that the additional 20 species that were supposed to be proposed for listing in FY 2009 will likely continue to linger in candidate status. See Appendix B for a complete list of species for whom Dale Hall promised to propose listing in FY 2008 and finalize listing determinations in FY 2009.

Of the 70 species that were supposed to be listed by September 30, 2009, only one has been listed; 47 are proposed for listing; 21 remain unproposed candidates; and one is not even a candidate. Of the 20 species that were supposed to be proposed for listing by September 30, 2009, none have been proposed. See Appendix C for a complete list of species for whom Dale Hall promised to propose listing in FY 2009. There are approximately five months left

²⁷See House of Representatives Committee on Appropriations Hearing held February 28, 2008.

²⁸See 73 FR 28211-28303 and 73 FR 76249-76269.

²⁹See 73 FR 62592-62640.

³⁰See 73 FR 9078-9085.

³¹See 74 FR 11319-11327.

³²*Id.* at 11319.

³³See 74 FR 6700-6774.

before the end of the year, and much work to do before the Service comes even close to fulfilling Hall's promise.

The Top 40 species did not figure prominently in Hall's list of species for which he promised final listing rules in FY 2009: 14 of the species were among the Top 40. Several of these (Chucky madtom, Chupadera springsnail, rayed bean) have not yet even been proposed for listing. Hall's promised listing proposals in FY 2009 included only four of the Top 40 species. None have yet received listing proposals. Over half of the nation's Top 40 have not even been slated to receive listing proposals by the end of FY 2009. Hall's promise therefore made little sense. The Service had developed a list of the most at-risk U.S. species based on biology, yet this list was ignored.

Hall's February 2008 promise was one in a long string of broken promises for species on the brink. Lynn Scarlett, then the Deputy Interior Secretary, pledged to the House Natural Resources Committee on May 9, 2007 that the Service would publish final listing decisions for 38 species in FY 2008.³⁴ Yet only one species was listed in FY 2008: the polar bear.

On December 6, 2007, in its annual Candidate Notice of Review,³⁵ the Service promised proposed listing for:

- Three Southeastern aquatic species (Georgia pigtoe, interrupted rocksnail, and rough hornsnail) [these species were included in Hall's February 2008 announcement]
- Two Oahu plants (*Doryopteris takeuchii* and *Melicope hiiakae*) [these species are among the Top 40]
- 31 Kauai species (Kauai creeper, *Drosophila attigua*, *Astelia waialealae*, *Canavalia napaliensis*, *Chamaesyce eleanoriae*, *Chamaesyce remyi* var. *kauaiensis*, *Chamaesyce remyi* var. *remyi*, *Charpentiera densiflora*, *Cyanea eleeleensis*, *Cyanea kuhihewa*, *Cyrtandra oenobarba*, *Dubautia imbricata* ssp. *imbricata*, *Dubautia plantaginea* ssp. *magnifolia*, *Dubautia waialealae*, *Geranium kauaiense*, *Keysseria erici*, *Keysseria helenae*, *Labordia helleri*, *Labordia pumila*, *Lysimachia daphnoides*, *Melicope degeneri*, *Melicope paniculata*, *Melicope puberula*, *Myrsine mezii*, *Pittosporum napaliense*, *Platydesma rostrata*, *Pritchardia hardyi*, *Psychotria grandiflora*, *Psychotria hobdyi*, *Schiedea attenuata*, *Stenogyne kealiae*) [these species are either among the Top 40 or were included in Hall's February 2008 announcement]
- Four Hawaiian damselflies (*Megalagrion nesiotes*, *Megalagrion leptodemas*, *Megalagrion oceanicum*, *Megalagrion pacificum*) [The first of these damselflies is among the Top 40]
- *Phyllostegia hispida* [This species was included in Hall's February 2008 announcement]

Fifteen months later, the Service has listed only one of these species: *Phyllostegia hispida*.

³⁴See Scarlett's testimony at p. 7 of House Resources Committee hearing "Endangered Species Act Implementation: Science or Politics?"

³⁵See 72 FR 69034 at p. 69050.

On September 12, 2006 in its Candidate Notice of Review,³⁶ the Service promised proposed listing for:

- Arctic grayling
- Georgia pigtoe
- Interrupted rocksnail
- *Astelia waialealae*
- *Cyrtandra kaulantha*
- *Phyllostegia hispida*

While the Arctic grayling was promised a proposed listing determination, the Service slammed the door in its face by issuing a “not warranted” finding for this critically imperiled fish on April 24, 2007, despite it having a listing priority number of three.³⁷ As a result, it was removed from the candidate list altogether. Once again, only *Phyllostegia hispida* has been listed. Only one of six of these species has obtained federal protection, and it took 2.5 years from the time the promise was made. Five of the six species were included in Hall’s February 2008 announcement, which shows that his promise, at least for these five species, was an old promise.

On May 11, 2005, in its annual Candidate Notice of Review,³⁸ the Service described work on proposed listings for:

- Boreal toad
- Salt Creek tiger beetle
- Cactus ferruginous pygmy owl
- Gunnison sage-grouse

The results: the boreal toad was removed from the candidate list on September 29, 2005,³⁹ the Gunnison sage-grouse was removed from the candidate list on April 18, 2006,⁴⁰ the cactus ferruginous pygmy owl was delisted on April 14, 2006,⁴¹ and the Salt Creek tiger beetle was listed as endangered on October 6, 2005.⁴² The beetle alone made it through to the finish line of federal protection. The beetle’s population numbered a mere 153 adults at the time it was listed.⁴³ Only one of four promises of proposed listings actually resulted in federal protection.

³⁶See 71 FR 53756 at p. 53771.

³⁷See 72 FR 20305-20314.

³⁸See 70 FR 24870 at p. 24890.

³⁹See 70 FR 56880-56884.

⁴⁰See 71 FR 19953-19982.

⁴¹See 71 FR 19452-19458.

⁴²See 70 FR 58335-58351.

⁴³*Id.*

The “Change We Need” for Imperiled Species?

As the 100th day of the Obama administration approaches, there has been no significant increase in the pace of the ESA listing program. Interior Secretary Salazar has issued just two final listing rules: 1) the final listing rule for two species of flatwoods salamanders that were previously listed as a different taxon; and 2) the final listing rule for *Phyllostegia hispida*. This slow pace is despite 323 species awaiting listing as candidates or proposed species.

A clear measure of whether there has been a notable shift is a comparison in the Service's rationale of what listing actions are precluding protection for species the agency finds warrant federal listing. There has been no noticeable shift, as seen by comparing the last decision under George W. Bush using this rationale, for the northern Mexican gartersnake (*Thamnophis eques megalops*) (issued November 25, 2008)⁴⁴ with the first decision under Barack Obama using this rationale, for the yellow-billed loon (*Cavia adamsii*) (issued March 25, 2009).⁴⁵ The Service argued that action was currently precluded for both the gartersnake and loon and action would continue to be precluded by other priorities over the next year. In both decisions, the Service cited:

- More than 120 species with the highest listing priority number;
- The Top 40 species; and
- An identical list of “High Priority Listing Actions.”

However, the 120 species with the highest listing priority number are not being listed under the ESA, the Top 40 are not being listed under the ESA, and all of the species listed by name among the “High Priority Listing Actions” were species for which Dale Hall promised listing action in 2008, discussed above in the Broken Promises section. The other species listed among the “High Priority Listing Actions” were 21 Oahu species, which Dale Hall promised would be proposed in FY 2009. None have yet been proposed. That means in a late March 2009 decision by the Obama administration, the Service is promising the same actions pledged over a year earlier by the Bush administration.

Equally disturbing, both the gartersnake and loon decisions included the following paragraph *verbatim*:

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.

Given that even the most imperiled candidate species, America's Top 40, are not being protected under the ESA, and indeed many have been awaiting listing for a decade or more,

⁴⁴See 73 FR 71788-71826.

⁴⁵See 74 FR 12932-12968.

the assertion that the Service is being efficient, timely, or expeditious is not credible – either under the Bush administration or under the first months of the Obama administration.

One reason for the similarity in policies is that many of the Service's top decision-makers haven't changed. For example:

- Rowan Gould is acting Service Director, but has had many previous roles in the Service: as the agency's Deputy Director, Assistant Director – Wildlife and Sports Fish Restoration, Regional Director of the Alaska Region, Deputy Assistant Director, Fisheries in Washington, D.C., and Deputy Regional Director for the Service's Pacific Region.⁴⁶
- Ken Stansell is the current Deputy Director for the Service and began in that role in March 2007. Prior to that, he served as Acting Deputy Director since February 2006.⁴⁷
- Bryan Arroyo is the Assistant Director for Endangered Species. Arroyo served under Dale Hall (both when Hall was Southwest Director and later national Service Director) since at least 1998.⁴⁸
- Robyn Thorson is the Pacific Region Director. Thorson previously served as the Bush administration's Midwest Region Director for five years.⁴⁹
- Dr. Benjamin Tuggle is the Southwest Region Director, and he served in the same capacity under the Bush administration since 2006.⁵⁰

While these individuals should not be judged for simply serving for various administrations, the public should not be expected to believe there has been a shift in the endangered species program when many of the same decision-makers that served under Bush are currently in identical or similar posts under the Obama Administration. To remain in their posts, the leadership at the Service should explicitly commit to an escalated listing program and should match their promises with prompt actions.

At least one top decision-maker stands out as aligned with the worst elements of the Bush administration's attack on endangered species: Ren Lohofener. Lohofener was director of the Pacific Region (Region 1), which contains the majority of the nation's Top 40. A December 2008 Interior Inspector General report indicated that Lohofener was involved in, and defended, several controversial decisions in which political interference prevented endangered species from receiving protection. Indeed, Lohofener is sympathetic to – if not directly allied with – the former Deputy Assistant Secretary for Fish and Wildlife and Parks, Julie MacDonald, who was the spotlight of the Interior political scandals from 2006-2008, and who resigned just prior to Congressional hearings on the issue. MacDonald was involved in hundreds of endangered species decisions and made her mark by rewriting agency

⁴⁶See <http://www.fws.gov/offices/rowangould.html>, visited April 11, 2009.

⁴⁷See <http://www.fws.gov/offices/kenstansell.htm>, visited April 11, 2009.

⁴⁸See <http://www.fws.gov/offices/bryanarroyo.html>, visited April 11, 2009.

⁴⁹See <http://www.fws.gov/pacific/news/2008/robyn.pdf>, visited April 11, 2009.

⁵⁰See <http://www.fws.gov/offices/btuggle.html>, visited April 11, 2009.

biologists' findings, bullying Service employees, and relentlessly obstructing endangered species protection.⁵¹

Yet, Lohofener's perspective on MacDonald was generally favorable, as described by the Inspector General:

According to Lohofener, MacDonald brought a critical review to the process, which he believed was beneficial. Lohofener stated that he personally was "extremely critical" of listings because there were currently 1,350 species listed, yet none were being adequately recovered. He stated that he believed there were many "ill informed" listings that occurred over the past years due to the lack of tough, critical reviews of the packages when they were being processed. He said he believed FWS needed "to clean up its act" in order to have the ESA work the way it was supposed to work. In fact, he stated that he believed FWS was still listing species for "non-biological reasons." In sum, Lohofener stated that he did not agree with MacDonald's approach; however, he believed she raised FWS' awareness for the need to strengthen its ESA packages in order to make them "biologically defensible."⁵²

Despite Lohofener's lack of remorse about the devastating impact of MacDonald's extensive obstruction of endangered species protections, he is now director of Region 8, with purview over California, Nevada, and the Klamath Basin area of Oregon.⁵³ Equally outrageous is his contention that there have been too many ESA listings given this report's demonstration that many of the Top 40 ESA candidates may very well have gone extinct while awaiting listing, have been on the candidate list for an average of 13 years,⁵⁴ and have repeatedly been promised – but denied – federal protection.⁵⁵ The Government Accountability Office has also documented long delays in ESA petition findings in recent years.⁵⁶

⁵¹See Interior Inspector General reports dated March 2007 and December 2008, and May 2007 and 2008 Congressional oversight hearings.

⁵²See Interior Inspector General report, dated December 15, 2008, at p. 133, emphasis added.

⁵³See <http://www.fws.gov/cno/pdf/ren.pdf>, visited April 11, 2009.

⁵⁴The average of 13 years may be an underestimate, due to exclusive reliance on Service data.

⁵⁵Lohofener cannot claim ignorance, as previous reports have demonstrated that candidate species have gone extinct while awaiting listing, and candidates have suffered prolonged waiting periods. See especially Greenwald, D. Noah. 2006. Politicizing extinction: the Bush administration's dangerous approach to endangered wildlife. A Center for Biological Diversity report, issued May 2007. Online at: <http://biologicaldiversity.org/publications/papers/PoliticizingExtinction.pdf>.

⁵⁶See Testimony of Robin M. Nazzaro, Director of Natural Resources and Environment for the Government Accountability Office (GAO), before the House Committee on Natural Resources, released May 21, 2008. GAO-08-688T. The GAO found in the time period 2005-2007, 90-day findings on ESA listing petitions took the Service a median time of 2.5 years to issue.

Just a Money Problem?

While the Service often blames conservationists for the listing slow-down, the Inspector General found that federal government actions obstructing endangered species protection wasted hundreds of thousands of dollars.⁵⁷ Indeed, the Center for Biological Diversity has documented how the problem is not simply a lack of resources: the Bush administration listed far fewer species per year than previous administrations, despite having larger listing budgets:

The Fish and Wildlife Service listed nearly 30 species per million dollars in 1997 and more than seven species per million in 1998. Between 2002 and 2006, in contrast, the agency listed an average of just 2.4 species per million dollars of budget.⁵⁸

What the Center for Biological Diversity's analysis indicates is that the problem is not simply underfunding, it is how Interior and the Service use the funds they are provided. For example, former Interior Secretary Dirk Kempthorne oversaw the longest listing hiatus in the history of the ESA, letting more than two years go by without adding one species to the federal protected list, from May 2006-May 2008.⁵⁹ The Service was allocated \$12.4 million specifically for listing in this time period, but did not manage to list one species with this money.⁶⁰ The failure was intentional, as the Bush administration's goal was clearly to block species listings.

Our plea is for the Obama administration to go in a new direction. We urge the administration and Interior Secretary Salazar to rapidly increase the pace of species listings before it is too late. In addition, we urge the administration to ask Congress for increased funds for listing. While the Service can increase the number of species it lists per million dollars, Interior also needs more money to fund ESA listing. The listing budget (including critical habitat designation) has averaged approximately \$15 million per year since 1992, yet a 1990 Inspector General report estimated \$144 million was needed to address the listing backlog.⁶¹ The Service subsequently increased the estimate of what is required to \$153 million.⁶² The Service should ask for what it needs to protect the Top 40 and the rest of the 323 species that are candidates or proposed for listing, as well as to address at-risk species that are not yet candidates for federal protection.

⁵⁷See cover letter to 2008 Inspector General report at unnumbered p. 2.

⁵⁸See Greenwald 2006, *Politicizing Extinction*.

⁵⁹The hiatus occurred between the May 9, 2006 listing of 12 species of Hawaiian picture wing flies (71 FR 26835-26852) and the listing of the polar bear on May 15, 2008 (73 FR 28211-28303).

⁶⁰This sum is based on Service figures for its listing budget: \$5.1 million for listing in FY 2006 (71 FR 53756 at p. 53772), \$5.2 million for listing in FY 2007 (72 FR 69034 at p. 69050), and \$8.2 million for listing in FY 2008 (73 FR 75176 at p. 75186). We then pro-rated these figures based on the approximate portion of the year in which the Service failed to list any species: all of FY 2007 was included in the sum; as was 1/3 of FY 2006 (\$1.7 million); and 2/3 of FY 2008 (\$5.5 million), for a total of \$12.4 million.

⁶¹U.S. Department of Interior Inspector General. 1990. Report no. 90-98. Washington, DC.

⁶²The U.S. Fish and Wildlife Service estimated that approximately \$153 million would be needed to address the current backlog of listing and critical habitat obligations. Secretary of Interior, Gale Norton and U.S. Fish and Wildlife Service Director, Steven Williams, defendants' responses to interrogatories in *Defenders of Wildlife et al. v. Gale Norton and Steven Williams* (CIV 02-00163-M DWM), page 4. See also Greenwald et al. 2006 at p. 64.

An Emergency Situation

The Obama administration could employ an important tool to prevent these species from going extinct – the emergency listing provision of the ESA. Under the ESA, the Secretary is required to monitor all species that are warranted, but precluded from listing,⁶³ and to “make prompt use” of the ESA’s emergency listing authority⁶⁴ “to prevent a significant risk to the well being of any such species.”⁶⁵ Emergency listing provides temporary protection for 240 days while the Service implements the standard listing protocol to afford a species long-term protection.⁶⁶ The Service has very rarely used this authority, despite the express requirement of the law to do so.

While the Service evaluates every year whether it will emergency list a species, it consistently refuses to emergency list, and the resulting evaluations sometimes border on the ridiculous. Highlights from the Top 40 species accounts include: the Service’s denial of emergency listing to the “Oha” or “Haha” (*Cyanea eleeleensis*), a Kauai plant which has no known individuals and was last observed in 2000. The Service’s explanation is:

The species does not appear to be appropriate for emergency listing at this time because the immediacy of the threats is not so great as to imperil a significant proportion of the taxon within the time frame of the routine listing process.⁶⁷

Flaws in this logic are obvious: Threats aren’t immediate to a species that may be extinct? The species may be gone from its entire range, yet a significant proportion of the taxon is not imperiled? The time frame of the routine listing process is adequate when the species has been a candidate for 12 years and has been feared extinct for more than half that time?

The Service adopted this nonsensical justification for denying emergency listing verbatim for 24 of the other Top 40 species, including the Langford’s tree snail, which has been on the candidate list for 15 years and was last seen in the wild in 1992; the Mariana wandering butterfly, which has been on the candidate list for 12 years, and was last seen in 1995, at which point only seven males (no females) were observed; another “Haha” plant (*Cyanea kuhihewa*), which has been a candidate for 12 years but was last seen in wild in 2003; *Schiedea attenuata*, a plant that has not been seen for 15 years and has been on the candidate list for 12; Kolea, of which only five plants are currently known to exist; and Sisi snail, a candidate for 15 years which hasn’t been seen for 16 years.

The Service also adopted variations on its rationale for denying emergency protection for the nation’s most imperiled species. For the Nesiotes Megalagrion damselfly, which has been a candidate for 13 years but hasn’t been seen since 2002, the Service stated that, “we do not have sufficient information about threats other than habitat degradation by feral pigs that may

⁶³See 16 U.S.C. § 1533(b)(3)(C)(iii).

⁶⁴See 16 U.S.C. § 1533(b)(7).

⁶⁵See 16 U.S.C. § 1533(b)(3)(C)(iii).

⁶⁶See 16 U.S.C. § 1533(b)(7).

⁶⁷See 2005 Candidate Listing Form for *Cyanea eleeleensis* at p. 6.

be acting upon populations of this damselfly that may still be extant." This makes no sense, considering that there are no known populations of the damselfly; the Service cites a string of threats in addition to feral pigs (habitat degradation by recreational use, lack of protections, low numbers in scattered populations); and even warns that, "all individuals of this species may be adversely impacted by a single randomly occurring natural event."

For the Warton's cave spider, the Service continues to demonstrate that it is simply going through the motions on its emergency listing analysis. The logic for denying this species emergency protection is that the occupied cave is gated. Yet, that gate is preventing the Service from even verifying that the species still exists. Moreover, the candidate assessment form indicates threats such as alteration of flow of air, nutrients, and water into the cave; ground and surface water contamination; fire ants; and habitat loss outside the cave, that aren't addressed by the gate.

As these examples illustrate, many of the Top 40 qualify as being at "significant risk." The Service should therefore use the emergency provision to protect the most at-risk of the Top 40 and any other candidate species for which a significant risk to their well-being exists.

No Time to Waste: Recommendations for the Current Administration

Our aim in writing this report is simple: we want to demonstrate to the Obama administration that there is no time to waste in protecting the nation's Top 40 under the Endangered Species Act. The average time the Top 40 species have spent on the candidate list is approximately 13 years.⁶⁸ As a result, some may already be extinct, having not been afforded the safety net the Endangered Species Act could provide.

Secretary Salazar has pledged to re-instill transparency, ethics, and a commitment to science in the Department of Interior. This is a forward step toward better processes in Interior. In addition to sound decision-making processes, the nation's endangered species need results.

The administration is closing in on its 100th day in office. To demonstrate its commitment to a protected environment, we urge swift and effective action with measurable results. By the end of FY 2009, we urge the Interior Secretary to:

- Finalize the listing proposal for the 48 Kauai species;
- Propose all species for listing included on the Service's February 2008 list to Congress and issue final listing rules for these species within one year of their proposal date;
- Emergency list any Top 40 species for which listing rules have not been finalized by the end of the fiscal year;
- Emergency list any other candidate species that are clearly in need – the sand dune lizard, San Bernardino springsnail, and streaked horned lark provide vivid examples of species in need;
- Request adequate funds from Congress (at least \$153 million) to address the listing backlog; and
- Timely process any incoming petitions to protect the thousands of at-risk U.S. species that are not even candidates for listing.

With these and additional steps, the Interior Department will demonstrate its commitment to our nation's bedrock environmental law: the Endangered Species Act. This law works well in preserving our nation's wildlife and plants and can help pull America's Top 40 back from the brink.

⁶⁸This may be an underestimate, due to exclusive reliance on Service data.

Appendix A

U.S. Fish and Wildlife Service's List of America's Most Imperiled Species

Lead Region	Scientific Name	Common Name	Year of Initial Candidacy	Years on Candidate List	Type of Species	IUCN Red List Status	NatureServe Threat Rank	Nature Serve Global Rank	Population Estimates	Notes
R1	<i>Cyanea eleeeleensis</i>	Oha	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	No known living individuals (2001); all potentially suitable habitat (wet forest) on Kauai has not been thoroughly surveyed	May be extinct in the wild?
R1	<i>Partula langfordi</i>	Langford's tree snail	1994	15	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	Restricted to one small island; one live individual observed in 1995	May be extinct in the wild?
R1	<i>Drosophila digressa</i>	A pomace fly	1996	13	Invertebrate - insect	Critically endangered	A=substantial, imminent threat	G1	3 populations; has not been observed since 1993	May be extinct in the wild?

R1	<i>Vagrans egestina</i>	Mariana wandering butterfly	1997	12	Invertebrate - insect	Critically endangered	A=substantial, imminent threat	G1	One population with 7 individuals (may all have been males)	May be extinct in the wild?
R1	<i>Cyanea kuhihewa</i>		1997	12	Plant	Extinct in wild	A=substantial, imminent threat	GH	Only known to exist in cultivation	May be extinct in the wild?
R1	<i>Schiedea attenuata</i>		1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	1 population with less than 20 individuals	Occurs on state land, Kauai; proposed rule funded in FY07
R1	<i>Myrsine mezii</i>	Kolea	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	2 populations with 5 individuals	Occurs on less than 1 acre on state land, Kauai; proposed rule funded in FY07

R1	<i>Megalagrion nesiotes</i>	Nesiotes Megalagrion Damselfly (flying earwig)	1996	13	Invertebrate - insect	Critically endangered	A=substantial, imminent threat	G1	1 known population; no data on abundance	Found in 1994 along E. Wailua Iki Stream on state land in Maui; collected there in 2000, 2001, 2002; none collected in 2003; proposed rule funded in FY07
R1	<i>Cyrtandra sessilis</i>	Ha'iwale	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	2 populations totaling 50 individuals	Occurs on state land, Oahu
R2	<i>Cicurina wartoni</i>	Warton's cave spider	1994	15	Invertebrate - spider	Critically endangered	A=substantial, imminent threat	G1	Exists in 1 cave; no population estimates	Other caves searched but species not found; included in FY 2007 PFW Candidate Conservation pilot project

R2	<i>Tryonia circumstriata</i>	Gonzales spring snail	1989	20	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	1 population	Outflow of Diamond Y spring; included in FY2007 PFW-Candidate Conservation pilot project
R2	<i>Pseudotryonia adamantina</i>	Diamond tryonia	1989	20	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	Restricted to one spring system - upper watercourse of 1.2km; density estimates ranged from 0.5 to 108 individuals per .01 square meters at 12 small sites	Included in FY 2007 PFW Candidate Conservation pilot project
R1	<i>Ostodes strigatus</i>	Sisi snail (streaked ostodes)	1994	15	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	Fewer than 50 live individuals found in one valley	Conservation efforts on-going

R1	<i>Chamaesyce eleanoriae</i>	Akoko	1999	10	Plant	Critically endangered	A=substantial, imminent threat	G1	3 populations of less than 50 individuals (2005)	Occurs on state land, proposed rule funded in FY 2007
R1	<i>Doryopteris takeuchii</i>	Takeuch's lip fern	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	1 population totaling several hundred individuals	Occurs on National Guard and state lands in Diamond Head, Oahu; proposed rule funded in FY07
R1	<i>Melicope degeneri</i>	Degener's pelea	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	15 individuals at 4 sites	Once thought to be extinct; occurs on state land, Kauai, proposed rule funded in FY07
R1	<i>Huperzia stemmermanniae</i>		1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	4 populations totaling less than 20 individuals	

R1	<i>Peperomia subpetiolata</i>		1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	Few scattered populations totaling 100 individuals, these individuals may only represent clones of 6 genetically distinct individuals	
R1	<i>Melicope hiakae</i>		1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	4-5 populations totaling 20 individuals	Occurs on state and federal lands in Koolau Mtns, Oahu. Steep terrain, possibly more individuals in areas difficult to survey. Proposed rule funded in FY 2007.

R1	<i>Cyanea obtusa</i>	Blunt-lobe cyanea	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	6 populations totaling 30 individuals	
R1	<i>Phyllostegia bracteata</i>	Bracted phyllostegia	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	3 populations with no more than 100 individuals in eastern Maui, plus 2 individuals found on western Maui	
R1	<i>Pritchardia hardyi</i>	Hardy's pritchardia	1999	10	Plant	Critically endangered	A=substantial, imminent threat	G1	3 populations totaling approximately 300 individuals	Kauai; proposed rule funded in FY2007
R1	<i>Canavalia napaliensis</i>	a jack-bean	1980	19	Plant	Critically endangered	A=substantial, imminent threat	G1	3 populations totaling several hundred individuals	
R1	<i>Cyanea asplenifolia</i>	Spleenwort- leaved cyanea	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	4 populations totaling less than 200 individuals (the total of 2 populations is approximately 150 individuals)	

R1	<i>Stenogyne cranwelliae</i>		1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	6 populations totaling 100 individuals	
R1	<i>Charpentiera densiflora</i>	Papala	1999	10	Plant	Critically endangered	A=substantial, imminent threat	G1	10 populations totaling approx. 200 individuals	Kauai; proposed rule funded in FY2007
R4	<i>Noturus crypticus</i>	Chucky madtom	2002	7	Vertebrate - fish	Critically endangered	A=substantial, imminent threat	G1	Believed to be restricted to an approximately 3-km reach of Little Chuck Creek, no population estimates available due to low numbers	
R1	<i>Cyanea calycina</i>		1999	10	Plant	Critically endangered	A=substantial, imminent threat	G1	20 populations totaling 200 or more individuals	Occurs on state, federal, and private lands on Oahu; taxonomy needs resolution

R2	<i>Pyrgulopsis chupaderae</i>	Chupadera springsnail	1988	21	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	Restricted to two hillside groundwater discharge areas associated with Willow Spring (.25 miles apart)	
R2	<i>Leavenworthia texana</i>	Texas golden glade cress	1997	12	Plant	Critically endangered	A=substantial, imminent threat	G1	4 populations in 4 small sites; totaling approximately 900 individuals	
R4	<i>Ptychobranchnus jonesi</i>	Southern kidneyshell	2004	5	Invertebrate - mussel	Critically endangered	A=substantial, imminent threat	G1	Of 23 historical locations, 1-2 have live animals, 3 have unknown population status, 18-19 are inactive	
R1	<i>Oreomystis bairdi</i>	Akikiki (Kauai creeper)	1994	15	Vertebrate - bird	Critically endangered	A=substantial, imminent threat	G1	1 population with approximately 1,500 individuals	Range reduced to about 36 square km (8,896 acres), Kauai

R1	<i>Partula gibba</i>	Humped tree snail	1994	15	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	14 known populations on 8 islands; less than 2,600 individuals
R1	<i>Partula radiolata</i>	Guam tree snail	1994	15	Invertebrate - snail	Critically endangered	A=substantial, imminent threat	G1	Restricted to Guam - 20 sites; total of less than 2,000 individuals
R1	<i>Drosophila attigua</i>	A pomace fly	1996	13	Invertebrate - insect	Critically endangered	A=substantial, imminent threat	G1	2 populations, no estimates on numbers of individuals
R3	<i>Villosa fabilis</i>	Rayed bean	2004	5	Invertebrate - mussel	Critically endangered	A=substantial, imminent threat	G1	Found in 14 streams and 1 lake; few streams harbor viable populations
R1	<i>Ranunculus mauianus</i>	Makou	1997	12	Plant	Endangered	A=substantial, imminent threat	G1	fewer than 30 individuals on Maui and 30 on Kauai [sic]
R1	<i>Partulina semicarinata</i>	Lanai tree snail	1994	15	Invertebrate - snail	Endangered	A=substantial, imminent threat	G1	29 individuals in 3 of 17 sites surveyed

R1	<i>Newcombia cumingi</i>	Newcomb's tree snail	1994	15	Invertebrate - snail	Endangered		G1	1 population of 36 individuals	
R1	<i>Psychotria grandiflora</i>	Large-flowered Balsamo	1997	12	Plant	Endangered		G1	4 populations with 18 individuals	Occurs on Kokee State Park, Kauai; Proposed rule funded in FY07
R1	<i>Platydesma remyi</i>	Remy Pilokea	1997	12	Plant	Endangered		G1	2 populations totaling fewer than 100 individuals	
R1	<i>Megalagrion leptodemas</i>	Crimson Hawaiian damselfly	1994	15	Invertebrate - insect	Endangered	A=substantial, imminent threat	G1	Found in 4 streams; no population size estimates	Occurs on State Park land, Oahu; Proposed Rule funded in FY07
R2	<i>Pyrgulopsis morrisoni</i>	Page springsnail	1996	13	Invertebrate - snail	Data deficient	A=substantial, imminent threat	G1	Found in 10 acres of habitat within Oak Creek springs complex	60% AGFD, 10% NPS, and 30% private

Appendix B

Species the Service Promised to Propose for Listing in FY 2008 and List in FY 2009

Scientific Name	Common Name	Outcome as of April 2009	USFWS Region	Listing Priority Number*	Taxon	Location
<i>Astelia waialealee</i>	Pa'iniu	Proposed in Oct 2008	R1	2	Flowering plant (perennial herb)	Kauai, HI (within three bogs of Alakai swamp)
<i>Canavalia napaliensis</i> (Top 40)	`Awikiwiki	Proposed in Oct 2008	R1	2	Flowering plant (perennial climber)	Kauai, HI (small section of the Na Pali coast)
<i>Chamaesyce eleanoriae</i> (Top 40)	`Akoko	Proposed in Oct 2008	R1	2	Flowering plant (small shrub)	Kauai, HI (Kalalau Valley Rim)
<i>Chamaesyce remyi</i> var. <i>kauaiensis</i>	`Akoko	Proposed in Oct 2008	R1	3	Flowering plant (shrub)	Kauai, HI
<i>Chamaesyce remyi</i> var. <i>remyi</i>	`Akoko	Proposed in Oct 2008	R1	3	Flowering plant (shrub)	Kauai, HI
<i>Charpentiera densiflora</i> (Top 40)	Papala	Proposed in Oct 2008	R1	2	Flowering plant (tree)	Kauai, HI (Na Pali coast)

<i>Cryptobranchus alleganiensis bishopi</i>	Ozark hellbender	Candidate; not proposed	R3	3	Amphibian	Great Lakes
<i>Cumberlandia monodonta</i>	Spectaclecase	Candidate; not proposed	R3	4	Clam	Great Lakes
<i>Cyanea dolichopoda</i>	Long-foot cyanea	Proposed in Oct 2008	R1		Not a candidate at time of listing proposal Flowering plant	NatureServe: Kauai, HI
<i>Cyanea eleeleensis</i> (Top 40)	Haha	Proposed in Oct 2008	R1	2	Flowering plant (shrub)	Kauai, HI
<i>Cyanea kolekoleensis</i>	Oha	Proposed in Oct 2008	R1		Not a candidate at time of listing proposal Flowering plant	NatureServe: southern Kauai, HI (Wahiawa Mountains)

<i>Cyanea kuhihewa</i> (Top 40)	Haha	Proposed in Oct 2008	R1	2	Flowering plant (shrub)	Kauai, HI (Limahuli Valley)
<i>Cyrtandra oenobarba</i>	Ha`iwale	Proposed in Oct 2008	R1	2	Flowering plant (subshrub)	Kauai, HI
<i>Cyrtandra paliku</i>	No common name	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI (north-facing wet cliffs of Kekoiki in the Makaleha Mountains)
<i>Diellia mannii</i>		Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Fern	Kauai, HI

<i>Doryopteris angelica</i>	Digit fern	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Fern	Kauai, HI
<i>Drosophila attigua</i> (Top 40)	A picture-winged fly	Proposed in Oct 2008	R1	2	Insect	Kauai, HI
<i>Dryopteris crinalis</i> var. <i>podosorus</i> **	Kauaikinana Woodfern	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Fern	NatureServe: Kauai, HI (upper elevations)
<i>Dubautia imbricata</i> ssp. <i>ibricata</i>	Na`ena`e	Proposed in Oct 2008	R1	3	Flowering plant (shrub)	Kauai, HI (Wahiawa Mountains only)
<i>Dubautia kalalauensis</i>		Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NOT FOUND IN NATURESERVE: discovery published in June 2005.

<i>Dubautia kenwoodii</i>	No common name	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI
<i>Dubautia plantaginea ssp. magnifolia</i>	Na`ena`e	Proposed in Oct 2008	R1	3	Flowering plant (shrub or small tree)	Kauai, HI (near summit of Waialeale)
<i>Dubautia waialealae</i>	Na`ena`e	Proposed in Oct 2008	R1	2	Flowering plant (shrub)	Kauai, HI (Waialeale summit on the Alakai plateau)
<i>Elliptio spinosa</i>	Altamaha spiny mussel	Candidate; not proposed	R4	2	Clam	Southeast
<i>Epioblasma triquetra</i>	Snuffbox mussel	Not a candidate	R4	N/A	Clam	Southeast & Midwest
<i>Etheostoma phytophilum</i>	Rush darter	Candidate; not proposed	R4	2	Fish	Southeast
<i>Etheostoma susanae</i>	Cumberland darter	Candidate; not proposed	R4	5	Fish	Southeast
<i>Geranium kauaiense</i>	Nohoanu	Proposed in Oct 2008	R1	5	Flowering plant (subshrub)	Kauai, HI (Alakai Swamp)

<i>Ipomopsis polyantha</i>	Pagosa skyrocket	Candidate; not proposed	R6		2	Flowering plant	Mountain-Prairie (vicinity of Pagosa Springs, CO)
<i>Keysseria erici</i>	No common name	Proposed in Oct 2008	R1		2	Flowering plant (perennial herb)	Kauai, HI (Alakai Swamp)
<i>Keysseria helenae</i>	No common name	Proposed in Oct 2008	R1		8	Flowering plant (perennial herb)	Kauai, HI (Alakai Swamp)
<i>Labordia helleri</i>	Kamakahala	Proposed in Oct 2008	R1		2	Flowering plant (shrub, sometimes climbing)	Kauai, HI
<i>Labordia pumila</i>	Kauai labordia, Kamakahala	Proposed in Oct 2008	R1		2	Flowering plant (shrub)	Kauai, HI (Alakai and Waialeale areas)
<i>Leptoxis foremani</i>	Interrupted rocksnail	Candidate; not proposed	R4		2	Snail	Southeast
<i>Loxops caeruleirostris</i>	Kauai akepa or Akekee	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal		Bird	NatureServe: Kauai, HI

<i>Lysimachia daphnoides</i>	lehua makanoe	Proposed in Oct 2008	R1	8 (ranked 2 in most recent listing form, dated July 2005)	Flowering plant (small shrub)	Kauai, HI (Alakai Swamp)
<i>Lysimachia iniki</i>	Wailua River Island-loosestrife	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI (headwaters of the Wailua River)
<i>Lysimachia pendens</i>	Broadleaf Island-loosestrife	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI
<i>Lysimachia scopulensis</i>	Shiny-leaf Island-loosestrife	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI (Kalalau Valley)

<i>Lysimachia venosa</i>	Veiny Island-loosestrife	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI (Waialeale)
<i>Melicope degeneri</i> (Top 40)	Alani	Proposed in Oct 2008	R1	2	Flowering plant (small shrub)	Kauai, HI
<i>Melicope paniculata</i>	Alani	Proposed in Oct 2008	R1	2	Flowering plant (small tree)	Kauai, HI
<i>Melicope puberula</i>	Alani	Proposed in Oct 2008	R1	2	Flowering plant (shrub or small tree)	Kauai, HI
<i>Myrsine knudsenii</i>	Kokee colicwood	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	Kauai, HI
<i>Noturus crypticus</i> (Top 40)	Chucky madtom	Candidate; not proposed	R4	2	Fish	Southeast

<i>Oreomystis bairdi</i> (Top 40)	Kauai creeper or Akikiki	Proposed in Oct 2008	R1	2	Bird	Kauai, HI
<i>Penstemon debilis</i>	Parachute penstemon or Parachute beardtongue	Candidate; not proposed	R6	2	Flowering plant	Mountain-Prairie (Garfield County, CO)
<i>Phacelia submutica</i>	DeBeque phacelia	Candidate; not proposed	R6	8	Flowering plant	Mountain-Prairie (vicinity of DeBeque, CO)
<i>Phoxinus saylori</i>	Laurel dace	Candidate; not proposed	R4	5	Fish	Southeast
<i>Phyllostegia hispida</i>	Hispid Phyllostegia	Listed in March 2009	R1	2	Flowering plant (mint family)	Molokai, HI (eastern portion)
<i>Phyllostegia renovans</i>	No common name (recently discovered species)	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant (mint family)	Kauai, HI

<i>Pittosporum napaliense</i>	Ho'awa	Proposed in Oct 2008	R1	2	Flowering plant (small tree)	Kauai, HI
<i>Platydesma rostrata</i>	Pilo kea lau li`i	Proposed in Oct 2008	R1	2	Flowering plant	Kauai, HI
<i>Plethobasus cyphus</i>	Sheepnose mussel	Candidate; not proposed	R3	2	clam	Great Lakes
<i>Pleurobema hanleyianum</i>	Georgia pigtoe	Candidate; not proposed	R4	2	clam	Southeast
<i>Pleurocera foremani</i>	Rough hornsnail	Candidate; not proposed	R4	2	snail	Southeast
<i>Pritchardia hardyi</i> (Top 40)	Lo'ulu	Proposed in Oct 2008	R1	2	Flowering plant (palm tree)	Kauai, HI (Power Line Road area)
<i>Psychotria grandiflora</i> (Top 40)	Kopiko	Proposed in Oct 2008	R1	2	Flowering plant (tree)	Kauai, HI (western)
<i>Psychotria hobbyi</i>	Kopiko	Proposed in Oct 2008	R1	2	Flowering plant (tree)	Kauai, HI (western)
<i>Pyrgulopsis bernardina</i>	San Bernardino Springsnail	Candidate; not proposed	R2	2	snail	AZ, Mexico

<i>Pyrgulopsis chupadera</i> (Top 40)	Chupadera Springsnail	Candidate; not proposed	R2	2	snail	NM
<i>Pyrgulopsis gilae</i>	Gila Springsnail	Candidate; not proposed	R2	11	snail	NM
<i>Pyrgulopsis thermalis</i>	New Mexico Springsnail	Candidate; not proposed	R2	11	snail	NM
<i>Pyrgulopsis trivialis</i>	Three Forks Springsnail	Candidate; not proposed	R2	2	snail	AZ
<i>Sceloporus arenicolus</i>	Sand Dune Lizard	Candidate; not proposed	R2	2	reptile	NM, TX
<i>Schiedea attenuata</i> (Top 40)	No common name	Proposed in Oct 2008	R1	2	Flowering plant (shrub)	Kauai, HI (cliffs of Kalalau Valley)
<i>Stenogyne kealiae</i>	No common name	Proposed in Oct 2008	R1	2	Flowering plant (vine)	Kauai, HI (northwestern)

<i>Tetraplasandra bisattenuata</i>		Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	Not in NatureServe or FWS CNOR
<i>Tetraplasandra flynnii</i>	No common name	Proposed in Oct 2008	R1	Not a candidate at time of listing proposal	Flowering plant	NatureServe: Kauai, HI
<i>Villosa fabalis</i> (Top 40)	Rayed bean	Candidate; not proposed	R3	2	clam	Great Lakes
<p>*Listing Priority Number: this is a number assigned by USFWS according to the magnitude and imminence of threats facing a plant or animal. The lower the number, the higher the degree of threat: 2 is the most urgent category for a full species, and 3 is the most urgent category for a subspecies or variety.</p> <p>**Note: NatureServe includes entries for both <i>Dryopteris crinalis</i> and <i>Dryopteris podosora</i>. This analysis assumed that the taxon FWS intends to list is <i>D. podosora</i>.</p>						

Appendix C

Species the Service Promised to Propose for Listing in FY 2009

Species	Common name	Outcome as of April 2009	USFWS Region	Listing Priority Number*	Taxon	Location
<i>Bidens amplexans</i>	Ko`oko`olau	Candidate; not proposed	R1	2	Flowering plant (herb)	Oahu, HI (Waianae Mountains)
<i>Cyanea calycina</i> (Top 40)	Haha	Candidate; not proposed	R1	2	Flowering plant (shrub)	Oahu, HI (Waianae and Koolau mountains)
<i>Cyanea lanceolata</i>	Haha	Candidate; not proposed	R1	2	Flowering plant (shrub)	Oahu, HI (Koolau Mountains)
<i>Cyanea purpurellifolia</i>	Purple leaved rollandia	Not a candidate	R1	N/A	Flowering plant	NatureServe: Oahu, HI (Koolau Mountains)
<i>Cyrtandra gracilis</i>	Slender cyrtandra	Not a candidate	R1	N/A	Flowering plant	NatureServe: Oahu, HI (Koolau Mountains)
<i>Cyrtandra kaulantha</i>	Ha`iwale	Candidate; not proposed	R1	2	Flowering plant (shrub)	Oahu, HI (Waianu Valley)

<i>Cyrtandra sessilis</i> (Top 40)	Ha`iwale	Candidate; not proposed	R1	2	Flowering plant (shrub)	Oahu, HI (Koolau Mountains)
<i>Cyrtandra waiolani</i>	Waiolani cytandra	Not a candidate	R1	N/A	Flowering plant	Oahu, HI (Koolau Mountains)
<i>Doryopteris takeuchii</i> (Top 40)	No common name	Candidate; not proposed	R1	2	Fern	Oahu, HI (Diamond Head Crater)
<i>Korthalsella degeneri</i>	Hulumoa	Candidate; not proposed	R1	2	Flowering plant (subshrub)	Oahu, HI (Makua Valley)
<i>Megalagrion nigrohamatum nigrolineatum</i>	Blackline Hawaiian damselfly	Candidate; not proposed	R1	9	Insect	Oahu, HI (Koolau Mountains)
<i>Melicope christophersenii</i>	Alani	Candidate; not proposed	R1	2	Flowering plant (shrub or tree)	Oahu, HI (Waianae Mountains)
<i>Melicope hiiakae</i> (Top 40)	Alani	Candidate; not proposed	R1	2	Flowering plant (small tree)	Oahu, HI (Koolau Mountains)

<i>Melicope makahae</i>	Alani	Candidate; not proposed	R1	2	Flowering plant (shrub or shrubby tree)	Oahu, HI (Waianae Mountains)
<i>Platydesma cornuta</i> var. <i>cornuta</i>	No common name	Candidate; not proposed	R1	3	Flowering plant (shrub)	Oahu, HI (Koolau Mountains)
<i>Platydesma cornuta</i> var. <i>decurrens</i>	No common name	Candidate; not proposed	R1	3	Flowering plant (shrub)	Oahu, HI (Waianae Mountains)
<i>Pleomele forbesii</i>	Hala pepe	Candidate; not proposed	R1	2	Flowering plant (tree)	Oahu, HI (Waianae Mountains)
<i>Psychotria hexandra</i> ssp. <i>oahuensis</i>	Oahu wild coffee (=kopiko)	Candidate; not proposed	R1	3	Flowering plant (shrub or tree)	Oahu, HI (Koolau Mountains)
<i>Pteralyxia macrocarpa</i>	Kaulu	Candidate; not proposed	R1	2	Flowering plant (tree)	Oahu, HI (Waianae and Koolau mountains)
<i>Tetraplasandra lydgatei</i>		Not a candidate	R1	N/A	Flowering plant	
<i>Zanthoxylum oahuense</i>	A'e	Candidate; not proposed	R1	2	Flowering plant (tree)	Oahu, HI (Koolau Mountains)
*Listing Priority Number: this is a number assigned by USFWS according to the magnitude and imminence of threats facing a plant or animal. The lower the number, the higher the degree of threat: 2 is the most urgent category for a full species, and 3 is the most urgent category for a subspecies or variety.						

