DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[4500090022]

Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions To List Nine Species as Endangered or Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition findings.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce 12-month findings on petitions to list nine species as endangered or threatened species under the Endangered Species Act of 1973, as amended (Act). After a review of the best available scientific and commercial information, we find that listing the angular dwarf crayfish, Guadalupe murrelet, Huachuca springsnail, two Kentucky cave beetles (Clifton Cave and Icebox Cave beetles), *Artemisia campestris* var. *wormskioldii* (northern wormwood), Scripps's murrelet, Virgin Islands coquí, and Washington ground squirrel is not warranted at this time. However, we ask the public to submit to us at any time any new information that becomes available concerning the stressors to any of the nine species listed above or their habitats.

DATES: The findings announced in this document were made on [INSERT DATE OF FEDERAL REGISTER PUBLICATION].

ADDRESSES: These findings are available on the Internet at *http://www.regulations.gov* at the following docket numbers:

Species	Docket Number
Angular dwarf crayfish	FWS–R4–ES–2011–0049
Guadalupe murrelet	FWS–R8–ES–2016–0081
Huachuca springsnail	FWS–R2–ES–2016–0082
Kentucky cave beetles (Clifton Cave and Icebox Cave beetles)	FWS–R4–ES–2016–0032
Artemisia campestris var. *wormskioldii* (Northern wormwood)	FWS–R1–ES–2016–0083
Scripps's murrelet	FWS–R8–ES–2016–0084
Virgin Islands coquí	FWS–HQ–ES–2013–0125
Washington ground squirrel	FWS–R1–ES–2016–0085

Supporting information used to prepare these findings is available for public inspection, by appointment, during normal business hours, by contacting the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**. Please submit any new information, materials, comments, or questions concerning these findings to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**.

FOR FURTHER INFORMATION CONTACT:

Species	Contact Information
Angular dwarf crayfish	Cary Norquist, Field Supervisor, Mississippi Ecological Services Field Office, 601-965-4900
Guadalupe murrelet	Steve Henry, Field Supervisor, Ventura Fish and Wildlife Office, 805-644-1766
Huachuca springsnail	Steve Spangle, Field Supervisor, Arizona Ecological Services Field Office, 602-242-0210
Kentucky cave beetles (Clifton Cave and Icebox Cave beetles)	Lee Andrews, Field Supervisor, Kentucky Ecological Services Field Office, 502-695-0468
Artemisia campestris var. *wormskioldii* (Northern wormwood)	Brad Thompson, Deputy State Supervisor, Washington Fish and Wildlife Office, 360-753-6046
Scripps's murrelet	Steve Henry, Field Supervisor, Ventura Fish and Wildlife Office, 805-644-1766
Virgin Islands coquí	Janine Van Norman, Chief, Branch of Foreign Species, Headquarters Ecological Services Office, 703-358-2171
Washington ground squirrel	Paul Henson, Field Supervisor, Oregon Fish and Wildlife Office, 503-231-6179; Eric Rickerson, Field Supervisor, Washington Fish and Wildlife Office, 360-753-9440

If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Act (16 U.S.C. 1533) requires that, within 12 months after receiving any petition to revise the Federal Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information indicating that listing an animal or plant species may be warranted, we make a finding ("12-month finding"). In this finding, we determine whether listing the angular dwarf crayfish, Guadalupe murrelet, Huachuca springsnail, two Kentucky cave beetles (Clifton Cave and Icebox Cave beetles), *Artemisia campestris* var. *wormskioldii* (northern wormwood), Scripps's murrelet, Virgin Islands coquí, and Washington ground squirrel is: (1) Not warranted; (2) warranted; or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are endangered or threatened species, and expeditious progress is being made to add or remove qualified species from the Federal Lists of Endangered and Threatened Wildlife and Plants (warranted but precluded).

Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding, that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the **Federal Register**.

Summary of Information Pertaining to the Five Factors

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in part 424 of title 50 of the Code of Federal Regulations (50 CFR part 424) set forth procedures for adding species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. The Act defines "endangered species" as any species that is in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6)), and "threatened species" as any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)). Under section 4(a)(1) of the Act, a species may be determined to be an endangered or a threatened species based on any of the following five factors:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

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

We summarize below the information on which we based our evaluation of the five factors provided in section 4(a)(1) of the Act to determine whether the angular dwarf crayfish, Guadalupe murrelet, Huachuca springsnail, two Kentucky cave beetles (Clifton Cave and Icebox Cave beetles), *Artemisia campestris* var. *wormskioldii*, Scripps's murrelet, Virgin Islands coquí, and Washington ground squirrel meet the definition of an endangered or threatened species. More detailed information about these species is

presented in the species-specific assessment forms found on *http://www.regulations.gov* under the appropriate docket number (see **ADDRESSES**, above).

In considering what stressors under the five factors might constitute threats, we must look beyond the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat. In that case, we determine if that stressor rises to the level of a threat, meaning that it may drive or contribute to the risk of extinction of the species such that the species warrants listing as an endangered or threatened species as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely affected could suffice. The mere identification of stressors that could affect a species negatively is not sufficient to compel a finding that listing is appropriate; we require evidence that these stressors are operative threats to the species and its habitat, either singly or in combination, to the point that the species meets the definition of an endangered or a threatened species under the Act.

In making our 12-month findings, we considered and evaluated the best available scientific and commercial information regarding the past, present, and future stressors and threats. We reviewed the petition, information available in our files, other available published and unpublished information. This evaluation may include information from recognized experts, Federal, State, tribal, academic, foreign governments, private entities, and the public.

Angular Dwarf Crayfish (*Cambarellus (Pandicambarus) lesliei)*

Previous Federal Actions

On April 20, 2010, we received a petition dated April 20, 2010, from the Center for Biological Diversity, The Alabama Rivers Alliance, The Clinch Coalition, Dogwood Alliance, The Gulf Restoration Network, Tennessee Forests Council, and The West Virginia Highlands Conservancy requesting that we list 404 species, including the angular dwarf crayfish (*Cambarellus (Pandicambarus) lesliei*) as an endangered or threatened species under the Act and designate critical habitat for the species. The petition included supporting information regarding the species' taxonomy and ecology, historical and current distribution, present status, and potential causes of decline. On September 27, 2011 (76 FR 59836), we published a partial 90-day finding on the petition. In that document, we announced our finding that the petition presented substantial scientific or commercial information indicating that listing the angular dwarf crayfish may be warranted, and we initiated a status review for the species.

Background

The angular dwarf crayfish is one of the smallest crayfish in the northern hemisphere, with adults usually less than 25 millimeters (mm) (1.0 inches (in)) long. The species was described from a slow-moving stream "0.5 mi S of Alabama Port, Mobile County, Alabama" by J. F. Fitzpatrick, Jr. and B. A. Laning in 1976. The angular dwarf crayfish is considered a valid species and meets the Act's definition of a species.

This species has been collected from heavily vegetated ponds, slow-moving streams, and backwater areas, and the principal habitat feature appears to be the presence of dense, submerged aquatic vegetation. Little is known about the life history of the angular dwarf crayfish. Fitzpatrick and Laning (1976) observed egg-bearing females in

February, April, and June, and females-with-young in both April and June, and they concluded that the species was a year-round breeder. However, they also believed that females did not produce eggs annually. Form I males have been found in February, April, June, August, October, and November.

There is no information on the historical distribution of the angular dwarf crayfish. The known range of the species has expanded with limited collection efforts since the species was described in 1976 using specimens collected in Alabama. It is currently known from 4 localities within, or relatively close to, the Pascagoula River in George County, Mississippi, and 27 localities in the lower Alabama and lower Tombigbee River systems, the Mobile-Tensaw Delta, and Mobile Bay tributaries in Baldwin, Mobile, and Washington Counties, Alabama. The population in Mississippi appears to be disjunct from the Alabama population, but this is possibly an artifact of inadequate collecting effort. The angular dwarf crayfish is difficult to collect and is likely often overlooked. There are limited population and demographic data available for the angular dwarf crayfish.

Summary of Status Review

Potential stressors for the angular dwarf crayfish were identified in the petition as direct alterations of waterways such as impoundment, diversion, dredging and channelization, and draining of wetlands; and land-use activities such as development, agriculture, logging, and mining. A supporting document entitled "Species Assessment and Listing Priority Assignment Form" (assessment form) for the angular dwarf crayfish provides a summary of the literature and information regarding distribution, habitat requirements, life history, and stressors, as well as an analysis of the stressors to the

species. We were unable to find any direct link between landscape-level stressors and the conservation status of the angular dwarf crayfish. Information acquired during our status review indicated that the angular dwarf crayfish continues to persist throughout its limited historical range, and that its known range has expanded due to recent survey efforts. In addition, the species is difficult to collect and identify, and additional populations are likely to be present within the currently known range.

Our review of the best available scientific and commercial information revealed that the angular dwarf crayfish is poorly understood and additional research is needed to more thoroughly define range, abundance, and population trends. However, during our status review, we did not identify any specific stressors that registered as threats to the species or its habitat throughout its currently known range, or within a significant portion of that range. We found no evidence that the species has experienced curtailment of range or habitat, or is affected by disease or predation, commercial or recreational harvest, the inadequacy of existing regulations, or any other natural or manmade factor.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors potentially acting on the species and its habitat, either singly or in combination, are not of sufficient imminence, intensity, or magnitude to indicate that the angular dwarf crayfish is in danger of extinction (an endangered species), or likely to become endangered within the foreseeable future (a threatened species), throughout all of its range. Because the distribution of the species is narrow and stressors are similar throughout the entire species' range, we found no concentration of stressors that suggests the angular dwarf crayfish may be in danger of

extinction in any portion of its range. This finding is based on the continued presence of the species within its historical range, the expansion of the species' known range with limited survey efforts, and the absence of any direct link between the landscape-level stressors identified in the petition and the conservation status of the angular dwarf crayfish throughout its currently known range, or within a significant portion of that range.

Therefore, we find that listing the angular dwarf crayfish as an endangered or threatened species is not warranted throughout all or a significant portion of its range at this time. This document constitutes the Service's 12-month finding on the April 20, 2010, petition to list the angular dwarf crayfish as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the angular dwarf crayfish's species-specific assessment form and other supporting documents (see **ADDRESSES**, above).

Guadalupe Murrelet (*Synthliboramphus hypoleucus)*

Previous Federal Actions

On April 16, 2002, we received a petition dated April 8, 2002, from the Pacific Seabird Group to list the Xantus's murrelet (*Synthliboramphus hypoleucus*) as a threatened species. In our 2004 annual review of species that are candidates for listing under the Act (also called a candidate notice of review or CNOR) published in the **Federal Register** on May 4, 2004 (69 FR 24876), we added the Xantus's murrelet to our list of candidate species and assigned it a listing priority of 5 (high magnitude of nonimminent threats), and determined that listing the Xantus's murrelet was warranted but precluded by higher priority listing actions. We published subsequent warranted-but-

precluded findings in later CNORs (70 FR 24870, May 11, 2005; 71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November 10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015).

Background

At the time of the petition, the Xantus's murrelet (*Synthliboramphus hypoleucus*) was recognized as having two subspecies, *S. h. hypoleucus* and *S. h. scrippsi*. However, information received since the petition suggested the two subspecies should be recognized as distinct species, the Guadalupe murrelet (*S. hypoleucus*) and the Scripps's murrelet (*S. scrippsi*). In 2012, the American Ornithologists Union (AOU) approved the elevation of the two subspecies to full species status. Incorporating this taxonomic change into the petitioner's request, we evaluated the two (newly recognized) species separately.

The Guadalupe murrelet is a small diving seabird, approximately 23–25 centimeters (9–10 inches) in length and weighing 148–187 grams (5–7 ounces). The at-sea distribution of the species occurs up to 600 kilometers (373 miles) off the coast of southern British Columbia, Canada, south to Baja California Sur, Mexico. Guadalupe murrelets are confirmed to nest on Guadalupe Island and on the San Benito Islands (comprised of San Benito Oeste, San Benito Medio, and San Benito Este) off the west coast of Baja California, Mexico. A historical breeding site with limited birds was observed on Santa Barbara Island, California, but is no longer in use.

Summary of Status Review

In our current assessment of the status of the species, we developed a Species Status Assessment report (SSA report) outlining the stressors potentially impacting Guadalupe murrelets and their habitat (Species Report—Scripps's Murrelet (*Synthliboramphus scrippsi*) and Guadalupe Murrelet (*Synthliboramphus hypoleucus*)). We consider the SSA report to be the compilation of the best available scientific and commercial information on the status of the Guadalupe murrelet and its habitat. The stressors we evaluated in the species report include: (1) Native predators; (2) nonnative predators; (3) introduced mammals (sheep, goats, cattle, pigs, rabbits, and hares); (4) guano mining; (5) human disturbance; (6) artificial lighting; (7) fishing activity; (8) prey availability; (9) off-shore natural gas exploration and extraction activities; (10) oil pollution; (11) the effects of climate change; and (12) the effects of small population size.

In our assessment, we acknowledge that the Guadalupe murrelet probably underwent steep declines as a result of predation and habitat destruction in the early to mid-1900s, as evidenced by anecdotal and observed accounts. However, no extirpations or steep declines have been observed within the last 40 years, and population numbers remain stable based on the limited survey information. Residual effects from habitat modification and displacement from potential breeding habitat may still be occurring. However, we anticipate that these residual effects will decrease in the future as vegetation recovers naturally and birds slowly move back into previously used breeding habitat. All nonnative predators have been removed from the San Benito Islands. Cats do still occur on the main Guadalupe Island, but only impact a small population of Guadalupe murrelets as the majority nest on off-shore rocks and islets. Some eradication efforts have been conducted, and fencing has been installed around known seabird nesting areas on

Guadalupe Island since 2003. Additional conservation efforts include designation of Guadalupe Island as a Biosphere Reserve in June 2005, by the Government of Mexico. Since 2011, there has been a management plan in place on Guadalupe Island, implementing measures to restrict access, limit existing human activity, and provide measures for restoration and conservation of endemic species and their habitats.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors impacting the species have either been eliminated or reduced to the point where they are not of sufficient imminence, intensity, or magnitude, either singularly or cumulatively, to indicate that the Guadalupe murrelet is currently in danger of extinction (an endangered species), or likely to become endangered within the foreseeable future (a threatened species) throughout all or a significant portion of its range. This is based on the relatively stable population and distribution of the species and the fact that conservation management is occurring throughout the species' range to minimize impacts to both the habitat and individuals.

In considering any significant portion of the range of this species, we evaluated whether the stressors facing Guadalupe murrelet might be geographically concentrated in any one portion of its range and whether these stressors manifest as threats to Guadalupe murrelet such that it would be presently in danger of extinction throughout all of the species' range. We found no portion of its range where the stressors are significantly concentrated or substantially greater than in any other portion of its range. As a result, we find that factors affecting Guadalupe murrelet are essentially uniform throughout its range, indicating no portion of the range warrants further consideration of possible

endangered or threatened status under the Act.

Therefore, we find that listing the Guadalupe murrelet as an endangered or threatened species or maintaining the species as a candidate under the Act is not warranted at this time, and consequently we are removing it from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This document satisfies the requirements of that settlement agreement for the Guadalupe murrelet, and constitutes the Service's 12-month finding on the April 8, 2002, petition to list the Guadalupe murrelet as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the Guadalupe murrelet's species-specific assessment form, the SSA report, and other supporting documents (see **ADDRESSES**, above).

Scripps's Murrelet (*Synthliboramphus scrippsi*)

Previous Federal Actions

On April 16, 2002, we received a petition dated April 8, 2002, from the Pacific Seabird Group to list the Xantus's murrelet (*Synthliboramphus hypoleucus*) as a threatened species. In our 2004 CNOR, published in the **Federal Register** on May 4, 2004 (69 FR 24876), we added the Xantus's murrelet to our list of candidate species and assigned it a listing priority of 5 (high magnitude of nonimminent threats), and

determined that listing the Xantus's murrelet was warranted but precluded by higher priority listing actions. We published subsequent warranted-but-precluded findings in later CNORs (70 FR 24870, May 11, 2005; 71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November 10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015).

Background

At the time of the petition, the Xantus's murrelet (*Synthliboramphus hypoleucus*) was recognized as having two subspecies, *S. h. hypoleucus* and *S. h. scrippsi*. However, information since the petition suggested the two subspecies should be recognized as distinct species, the Guadalupe murrelet (*S. hypoleucus*) and the Scripps's murrelet (*S. scrippsi*). Incorporating this taxonomic change into the petitioner's request, we evaluated the two (newly recognized) species separately.

The Scripps's murrelet is a small diving seabird, approximately 23–25 centimeters (9–10 inches) in length and weighing 148–187 grams (5–7 ounces). The at-sea distribution of the species occurs up to 600 kilometers (373 miles) off the coast of southern British Columbia, Canada, south to Baja California, Mexico. Scripps's murrelets are confirmed to nest on the Channel Islands (San Miguel, Santa Cruz, Anacapa, Santa Barbara, Santa Catalina, and San Clemente Islands) off the California coast and on several islands off the coast of Baja California, Mexico (Coronado, Todos Santos, San Jeronimo, and San Benito Islands). The species is present on the island of San Martin, Mexico, but there is no confirmed breeding.

Summary of Status Review

In our current assessment of the status of the species, we developed a SSA report outlining the stressors potentially impacting Scripps's murrelets and their habitat (Species Report—Scripps's Murrelet (*Synthliboramphus scrippsi*) and Guadalupe Murrelet (*Synthliboramphus hypoleucus*). We consider the SSA report to be the compilation of the best available scientific and commercial information on the status of the Scripps's murrelet and its habitat. The stressors we evaluated in the species report include: (1) Native predators; (2) nonnative predators; (3) introduced mammals (sheep, goats, cattle, pigs, rabbits, and hares); (4) guano mining; (5) human disturbance; (6) artificial lighting; (7) fishing activity; (8) prey availability; (9) off-shore natural gas exploration and extraction activities; (10) oil pollution; (11) the effects of climate change; and (12) the effects of small population size.

In our assessment, we acknowledge that the Scripps's murrelet probably underwent steep declines as a result of predation and habitat destruction in the early to mid-1900s as evidenced by anecdotal and observed accounts; however, no extirpations or steep declines have been observed within the last 40 years and populations numbers remain stable, based on the limited survey information. Population numbers of Scripps's murrelet have rebounded on Santa Barbara Island and Anacapa Island after the removal of nonnative predators and habitat restoration (both natural and prescripted), and now make up over 40 percent of the breeding population for the species. Residual effects from habitat modification and displacement from potential breeding habitat may still be occurring. However, we anticipate that these residual effects will decrease in the future as vegetation recovers naturally and birds slowly move back into previously used breeding

habitat. All nonnative predators have been removed from all breeding and nonbreeding islands. Additional conservation efforts include restrictions of human activity near breeding areas on the Channel Islands and designation of several of the islands off the coast of Baja California as natural reserves by the Government of Mexico. These measures restrict access and limit human activity and provide measures for restoration and conservation of endemic species.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors impacting the species have either been eliminated or reduced to the point where they are not of sufficient imminence, intensity, or magnitude to indicate that the Scripps's murrelet is currently in danger of extinction (endangered), or likely to become endangered within the foreseeable future (threatened) throughout all or a significant portion of its range. This is based on stable or increasing populations and distribution of the species and the fact that conservation management is occurring throughout the species' range for both impacts to habitat and individuals.

In considering any significant portion of the range of this species, we evaluated whether the stressors facing Scripps's murrelet might be geographically concentrated in any one portion of its range and whether these stressors in a portion of its range manifest as threats to Scripps's murrelet such that it would be presently in danger of extinction throughout all of the species' range. We found no portion of its range where the stressors are significantly concentrated or substantially greater than in any other portion of its range. As a result, we find that factors affecting Scripps's murrelet are essentially

uniform throughout its range, indicating no portion of the range warrants further consideration of possible endangered or threatened status under the Act.

Therefore, we find that listing the Scripps's murrelet as an endangered or threatened species or maintaining the species as a candidate under the Act is not warranted at this time, and consequently we are removing this species from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This document satisfies the requirements of that settlement agreement for the Scripps's murrelet, and constitutes the Service's 12-month finding on the 2002 petition to list the Scripps's murrelet as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the Scripps's murrelet's species-specific assessment form, the SSA report, and other supporting documents (see **ADDRESSES**, above).

Huachuca Springsnail (*Pyrgulopsis thompsoni)*

Previous Federal Actions

We designated the Huachuca springsnail as a Category 2 candidate in the Animal Notice of Review published in the **Federal Register** on January 6, 1989 (54 FR 554). Category 2 candidate species were those species for which listing as an endangered species or a threatened species was possibly appropriate, but for which biological

information sufficient to support a proposed rule was lacking. The February 28, 1996, CNOR (61 FR 7596) discontinued recognition of categories and in that document we designated the Huachuca springsnail a candidate species as currently defined. On May 11, 2004, we received a petition dated May 4, 2004, from the Center for Biological Diversity, requesting that we list 225 plants and animals, including the Huachuca springsnail, as endangered species under the Act and designate critical habitat. In response to the May 4, 2004, petition to list the Huachuca springsnail as an endangered species, we published a warranted-but-precluded 12-month finding in the **Federal Register** on May 11, 2005 (70 FR 24870). We published subsequent warranted-but-precluded 12-month findings in later CNORs (71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November 10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015).

Background

The Huachuca springsnail is a small (1.7 to 3.2 millimeters (0.07 to 0.13 inches)) aquatic snail (class Gastropoda; subclass Rissooidea; family Hydrobiidae) endemic to Santa Cruz and Cochise Counties in southeastern Arizona and adjacent portions of northern Sonora, Mexico. There are an estimated 29 historical spring ecosystem sites (23 on Federal land, 4 on private land, 2 in Mexico), of which 23 are confirmed as occupied sites. The Huachuca springsnail is most commonly found in rheocrene ecosystems (water emerging from the ground as a flowing stream) where proximity to spring vents plays a key role in their life history. Most information regarding Huachuca springsnail life

history is derived from closely related congeners or other members of the Hydrobiidae family. Springsnails are gill-breathing and have an entirely benthic life cycle with a typical lifespan of about one year. Female springsnails are noticeably larger than males and are oviparous (egg-laying), and reproduction occurs throughout the year in warm water and seasonally in colder environments. Springsnails are known to feed primarily on periphyton, which is a complex mixture of algae, detritus, bacteria, and other microbes that live upon submerged surfaces in aquatic environments. Due to their small size, springsnail mobility is limited and significant dispersal events are unlikely to occur. Suitable habitat for springsnails includes spring ecosystems that produce running water with firm substrates characterized by cobble, gravel, woody debris, and aquatic vegetation.

Summary of Status Review

The SSA report for the Huachuca springsnail provides a summary of the information assembled and reviewed by the Service and incorporates the best available scientific and commercial information for this species. In the SSA report, we evaluated the potential stressors that could be affecting Huachuca springsnail populations. Those stressors that could meaningfully impact the status of the species include: (1) Reduction of spring discharge; (2) springhead modification; (3) conversion from lotic (flowing water) to lentic (standing water) systems; (4) aquatic vegetation management; (5) water contamination; (6) predation; and (7) competition. We evaluated each of these factors for their potential to have population- and species-level effects to the Huachuca springsnail (for further information, please refer to the Huachuca springsnail SSA report). Many of these stressors are ameliorated by ongoing conservation efforts. The majority of springs

that are occupied by the Huachuca springsnail are on Federal lands where there are some existing protections in place related to general land use plans (Department of Defense and U.S. Forest Service). In addition, a candidate conservation agreement (CCA) is under development that could potentially enhance existing conservation measures and protections.

The Huachuca springsnail continues to occupy a very large portion of its estimated historical range (found in 23 of 29 spring sites surveyed since 2004), and a substantial portion of the spring habitat throughout the species' current range is relatively intact (25 of 29 sites assessed as either high- or medium-quality habitat). Current Huachuca springsnail occupancy, and the amount and distribution of high- and medium-quality habitat, supports sufficient resiliency to sustain the Huachuca springsnail into the near future. These levels are commensurate with historical information, and there is no information to suggest that the species will not continue to occur at these levels.

In considering the foreseeable future as it relates to the status of the Huachuca springsnail, we considered the stressors acting on the species and looked to see if reliable predictions about the status of the species in response to those factors could be drawn. We considered whether we could reliably predict any future effects that might affect the status of the species, recognizing that our ability to make reliable predictions into the future is limited by the variable quantity and quality of available data about impacts to the Huachuca springsnail and the species' response to those impacts.

For the Huachuca springsnail, the most significant stressor looking into the future is climate change, resulting in both springhead modification and spring discharge decline. When evaluated under plausible future scenarios, however (see Huachuca springsnail

SSA report), the best available scientific and commercial information does not show that these stressors to the Huachuca springsnail are likely to result in meaningful population declines in the foreseeable future.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five listing factors, we find that the stressors acting on the species and its habitat, either singly or in combination, are not of sufficient imminence, intensity, or magnitude to indicate that the Huachuca springsnail is in danger of extinction (an endangered species), or likely to become endangered within the foreseeable future (a threatened species), throughout all of its range. This is based on the relatively stable population and distribution of the species and the fact that conservation management is occurring throughout the species' range to minimize impacts to both the habitat and individuals.

We also evaluated the current range of the Huachuca springsnail to determine if there are any apparent geographic concentrations of potential threats to the species. Generally speaking, the risk factors affecting the Huachuca springsnail occur throughout the range of the species; however, portions of the range that are outside of areas currently afforded protection from future spring modifications (i.e., springs located on private land and in Mexico) may be subject to impacts not found throughout the range of the species, which is mostly located on Federal lands. If we assume that all areas on unprotected land had springhead modification that resulted in the habitat being made entirely unusable to the Huachuca springsnail, that conversion would represent a loss of 21 percent of available habitat. At this scale, we have no information to suggest that the remaining 79

percent of available habitat on Federal lands would not continue to support sufficient Huachuca springsnail resiliency and redundancy. Additionally, there is no genetic information available for the populations on private land and in Mexico to suggest there are unique genetic values for these areas that would need to be maintained to support representation. Based on this analysis, we conclude that the portion of the range of the Huachuca springsnail on Federal lands (79 percent of available habitat) contains sufficient redundancy, resiliency, and representation that ensure that the Huachuca springsnail would not be in danger of extinction in a significant portion of its range if the available habitat on non-Federal lands (21 percent of available habitat) were to become unusable for the species.

Based on the above evaluations, we find that listing the Huachuca springsnail as an endangered or threatened species or maintaining the species as a candidate is not warranted throughout all or a significant portion of its range at this time, and consequently we are removing it from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This document satisfies the requirements of that settlement agreement for the Huachuca springsnail, and constitutes the Service's 12-month finding on the May 4, 2004, petition to list the Huachuca springsnail as an endangered or threatened species. A detailed

discussion of the basis for this finding can be found in the Huachuca springsnail's species-specific assessment form, SSA report, and other supporting documents (see **ADDRESSES**, above).

Two Kentucky Cave Beetles (Clifton Cave Beetle (*Pseudanophthalmus caecus*) and Icebox Cave Beetle (*Pseudanophthalmus frigidus*))

Previous Federal Actions

The Icebox Cave beetle was added to the Federal list of candidate species in the 1989 CNOR (54 FR 554; January 6, 1989) as a Category 2 candidate species. The Clifton Cave beetle was added to the Federal list of candidate species in the 1994 CNOR (59 FR 58982; November 15, 1994) as a Category 2 candidate species. When the 1996 CNOR (61 FR 7596) discontinued recognition of categories, the Icebox Cave beetle and Clifton Cave beetle were no longer considered candidate species.

On October 30, 2001, the Service added both the Icebox Cave beetle and the Clifton Cave beetle to the candidate list through the Service's own internal process (66 FR 54808). However, the Service received a petition from the Center for Biological Diversity and others, dated May 11, 2004, to list eight cave beetles, including the Clifton Cave beetle and Icebox Cave beetle. In the May 11, 2005, CNOR (70 FR 24870), the Service determined that listing the Clifton Cave beetle and Icebox Cave beetle was warranted but precluded by higher priority listing decisions. Further, we have included both species addressed in this finding in every CNOR since 2001 (66 FR 54808, October 30, 2001; 67 FR 40657, June 13, 2002; 69 FR 24876, May 4, 2004; 70 FR 24870, May 11, 2005; 71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November

10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015).

Background

The species are small (about 4 millimeters in length), predatory cave beetles that occupy moist habitats containing organic matter transported from sources outside the cave environment. Members of the *Pseudanophthalmus* genus vary in abundance from fairly widespread species that are found in many caves to species that are extremely rare and often restricted to only one or two caves. The two beetles addressed by this finding are examples of the latter group as they are restricted to one or two cave habitats in Kentucky. The Clifton Cave Beetle is known from two caves (Clifton Cave and Richardson's Spring Cave) in Woodford County, while the Icebox Cave beetle is known from one cave (Icebox Cave) in Bell County.

Summary of Status Review

When the Clifton Cave beetle and Icebox Cave beetle were first identified as candidates for protection under the Act (66 FR 54808; October 30, 2001), the Service considered both species to be vulnerable to habitat destruction or modification caused by a disruption of the natural inflow of energy into the cave environment; we considered both species to be vulnerable to habitat disturbance within the cave environment resulting from vandalism, pollution, or sedimentation; and we noted the inadequacy of existing regulatory mechanisms to ameliorate those threats. In the 2005 CNOR (70 FR 24879; May 11, 2005), we also considered the species' restricted distribution and perceived small population sizes to increase their vulnerability to these effects, and we recognized

the potential of these characteristics to limit the species' natural exchange of genetic material, leading to lower genetic diversity and reduced fitness. Both species were assigned a listing priority number (LPN) of 5, which reflects threats of a high magnitude that are not considered imminent.

Over the last year, new field surveys and monitoring efforts for the Clifton Cave beetle and Icebox Cave beetle have improved our understanding of the species' distribution and threats. A supporting document entitled "Species Assessment and Listing Priority Assignment Form" (assessment form) for each of the two cave beetle species provides a summary of the literature and information regarding distribution, habitat requirements, life history, and stressors, as well as a detailed analysis of the stressors to the species. Based on these findings, we have re-examined each species' status and re-evaluated the magnitude and imminence of their threats. We acknowledge that the species have narrow ranges and are sometimes difficult to locate within known habitats; however, based on these new field surveys we have determined that each species' overall status is more secure than previously believed.

With respect to the Clifton Cave beetle, we have no evidence suggesting that the closure of Clifton Cave has harmed the species. Closure of the cave likely benefited the species, as the cave did not appear to be accessible to humans prior to its original disturbance in the early 1960s. Land use surrounding Clifton Cave has not changed dramatically since the 1960s, so we do not expect that habitats within the cave have been disturbed, nor do we expect a future rise in any habitat-related stressors. Due to the consistent land use and low disturbance within the watershed, we also expect that energy inputs via sinkholes, rock fissures, or other karst windows have been maintained, and

have provided the energy needed to maintain the cave ecosystem.

Agricultural land use is even more prevalent in areas surrounding the species' other known cave, Richardson's Spring Cave; however, recent surveys demonstrate that the Clifton Cave beetle has persisted within the cave for over 20 years and continues to be present at levels similar to (or perhaps higher than) those observed in 1994. The species' persistence and high relative abundance over the past two decades indicate that any potential habitat stressors related to agriculture or small population size have not been sufficient to adversely affect the species. The species' persistence also suggests that physical disturbance and vandalism caused by human entry is not a threat (Service 2016, entire). The cave's low ceiling and narrow passage are not favorable for human visitors, and Lewis and Lewis observed no evidence of recent human entry during surveys in 2015.

With respect to the Icebox Cave beetle, ground disturbance associated with development, agriculture, or resource extraction does not appear to pose a current threat to the species. There is visible evidence of past logging (e.g., abandoned, unpaved roads) near the cave's entrance and some residential development in nearby Pineville, Kentucky, but areas surrounding the cave entrance are forested and remain relatively undisturbed. Land use surrounding the cave has changed little since the beetle's discovery in 1963, and we do not expect this to change. Because of these conditions, we also expect that energy inputs via sinkholes or other karst windows have likely been maintained and will continue to provide energy needed to support the cave ecosystem. Our review of current land use and the species' persistence within Icebox Cave for over 50 years indicates that stressors associated with ground disturbance are not occurring at

levels that would cause negative population trends for the Icebox Cave beetle.

Icebox Cave has a long history of human visitation, and the cave has been heavily disturbed as evidenced by extensive graffiti on cave walls and several altered (broken) formations. Despite this disturbance, recent surveys by Lewis and Lewis demonstrate the Icebox Cave beetle continues to occur in Icebox Cave, the species has persisted within the cave for over 50 years, and it continues to be present at levels similar to (or perhaps greater than) those observed previously (1963 and 1979). The species' persistence over the past five decades suggests that the level of physical disturbance and vandalism observed within the cave has not risen to the level that would threaten the species' continued existence or alter its population levels within the cave. There is also recent evidence that human disturbance within Icebox Cave has all but ceased. Lewis and Lewis observed no evidence of recent human visitation or entry, no fresh garbage, and no recent graffiti.

We also have no evidence that small population size represents a threat to the Icebox Cave beetle. Only a total of four individuals have been observed in Icebox Cave since 1963, but recent observations by Lewis and Lewis demonstrate the species continues to occur in Icebox Cave and in numbers similar to those reported by previous investigators. The small number of beetles reported from Icebox Cave is not unusual; other *Pseudanophthalmus* species have been reported in low densities. We believe it is reasonable to assume that some *Pseudanophthalmus* species have always occurred in low but stable numbers and this is a normal aspect of their life history.

Finding

Based on our review of the best available scientific and commercial information

pertaining to the five threat factors, we find that the stressors acting on these species and their habitats, either singly or in combination, are not of sufficient imminence, intensity, or magnitude to indicate the Clifton Cave beetle or Icebox Cave beetle are in danger of extinction (an endangered species), or likely to become endangered within the foreseeable future (a threatened species), throughout all of their respective ranges.

We evaluated the current ranges of the Clifton Cave beetle and Icebox Cave beetle to determine if there is any apparent geographic concentration of potential threats for these species. Both species have a relatively small range that is limited to one or two cave systems. We examined potential stressors including human visitation, agricultural activities (livestock grazing, row crops), commercial and residential development, resource extraction (logging), disease, predation, sources of water quality impairment, and small population size. We found no concentration of stressors that suggests that either of these cave beetles may be in danger of extinction in a portion of their respective ranges. Therefore, we find that listing the Clifton Cave beetle and Icebox Cave beetle as an endangered or threatened species under the Act throughout all or a significant portion of their respective ranges is not warranted at this time, and consequently we are removing both species from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This

document satisfies the requirements of that settlement agreement for the Clifton Cave beetle and Icebox Cave beetle, and constitutes the Service's 12-month finding on the May 11, 2004, petition to list the Clifton Cave beetle and Icebox Cave beetle as endangered or threatened species. A detailed discussion of the basis for this finding can be found in the Clifton Cave beetle's and Icebox Cave beetle's species-specific assessment forms and other supporting documents (see **ADDRESSES**, above).

Artemisia campestris var. wormskioldii* (Northern Wormwood*)

Previous Federal Actions

In this and previous Federal actions we refer to northern wormwood as *Artemisia borealis* var. *wormskioldii*. However, northern wormwood is currently recognized by regional botanical authorities as *Artemisia campestris* L. var. *wormskioldii* (Besser) Cronquist.

Artemisia campestris var. *wormskioldii* was first recognized as a Category 2 candidate species in the September 27, 1985, review of plant taxa for listing as endangered or threatened species (50 FR 39526). In the February 21, 1990, CNOR, we changed *A. campestris* var. *wormskioldii* 's candidate status to Category 1, a species for which substantial information on biological vulnerability and threat(s) was available to support proposals for listing as endangered or threatened species, but issuance of the proposed rule was precluded by other higher priority listing actions (55 FR 6184). In the February 28, 1996, CNOR, we discontinued the use of categories and removed *A. campestris* var. *wormskioldii* from candidate status (61 FR 7596).

In the October 25, 1999, CNOR, we added *Artemisia campestris* var. *wormskioldii* back to the candidate list (64 FR 57534). At that time, this species was

assigned a listing priority number of 3 (threat facing the subspecies was of high magnitude and imminent) as outlined in our Listing and Recovery Priority Guidelines (48 FR 43098; September 21, 1983). We were petitioned to list this species by the Center for Biological Diversity and others on May 11, 2004. *A. campestris* var. *wormskioldii* retained the same status in our CNORs published since 2001 (66 FR 54808, October 30, 2001; 67 FR 40657, June 13, 2002; 69 FR 24876, May 4, 2004; 70 FR 24870, May 11, 2005; 71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November 10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015).

Background

Artemisia campestris var. *wormskioldii* is a perennial plant in the family Asteraceae (asters or sunflowers). It is generally low-growing, reaching 15 to 30 centimeters (6 to 12 inches) average height, and has a taproot. Historically, northern wormwood was found on exposed basalt, cobbly-sandy terraces, and sandy habitat in riparian areas along the banks of the Columbia River at elevations above mean sea level ranging from 50 to 150 meters (160 to 500 feet).

The available information indicates that *Artemisia campestris* var. *wormskioldii* is a narrow endemic that may always have existed in only a few, small populations at any one time. Currently, *A. campestris* var. *wormskioldii* is known to exist naturally at two sites, Beverly and Miller Island, located respectively in Grant and Klickitat Counties, Washington. Northern wormwood has been planted at five additional locations with the

aim of creating new populations within its historical range. Introduction sites in Oregon include Squally Point and Rock Creek Park in Wasco County, and Rufus Island in Sherman County. Introduction sites in Washington include Johnson Island in Benton County and Island 18 in Franklin County. With the exception of Rock Creek Park (owned by the City of Mosier, Oregon), and Squally Point (part of Mayer State Park, Oregon), all of the locations where northern wormwood is found are located on Federal land.

Summary of Status Review

A supporting document entitled "Species Assessment and Listing Priority Assignment Form" (assessment form) provides a summary of the literature and information regarding *Artemisia campestris* var. *wormskioldii*'s distribution, habitat requirements, life history, and stressors, as well as a detailed analysis of the stressors to the species. This evaluation includes information from all sources, including Federal, State, tribal, academic, and private entities and the public. We consider this supporting document the best available scientific and commercial information.

We previously identified potential stressors (natural or human-induced negative pressures affecting individuals or subpopulations of a species) on *Artemisia campestris* var. *wormskioldi*, to include: (1) Altered hydrology; (2) erosion; (3) trampling; (4) nonnative, invasive plants; (5) herbivory; (6) climate change; (7) fire; and (8) genetic and other small-population issues. Dam construction, associated changes in flow and sediment regimes, deep pool formation behind the dams, and related shoreline development (such as roads, railroads, and riprap) likely caused the loss of historical habitat of northern wormwood, and as a result of these changes, little suitable habitat may remain within the plant's documented historical range. The habitat within the known

historical range, as well as some other areas of suitable habitat, have been surveyed by knowledgeable biologists for additional populations of *A. campestris* var. *wormskioldii* since 2002, and the likelihood is low that undiscovered populations exist in these areas. The current hydrology in the Columbia River may have some effect on individual *A. campestris* var. *wormskioldii* plants and on their habitat; high flows in some years have caused mortality of recently transplanted individuals) and also have been correlated with large flushes of seedlings. However, the best available scientific and commercial information does not indicate that current flow regimes or past development have current or ongoing population-level effects on the abundance and distribution of *A. campestris* var. *wormskioldii*.

Natural erosion by wind and water of the sandy substrate has been observed at Miller Island and Squally Point and has caused mortality of individual *Artemisia campestris* var. *wormskioldii* plants and decreased seedling survival. Deposition of sand has buried plants on Miller Island, and an inverse relationship evidently exists between sand deposition and the number of *A. campestris* var. *wormskioldii* plants on the island in a given year. Since 2010, the number of mature plants has increased annually on Miller Island, and percent sand cover in *A. campestris* var. *wormskioldii* monitoring plots varied and decreased overall over the same period. This phenomenon has not been observed at the Beverly site or the other introduced sites.

In the past, both natural populations of *Artemisia campestris* var. *wormskioldii* suffered from trampling by people (Beverly and Miller Island) and trampling and herbivory by grazing cattle (Miller Island only). People using these sites for recreation inadvertently trampled plants, and on Miller Island, cattle reportedly uprooted individual

plants growing in loose, sandy substrate and may also have acted as a vector for nonnative plant species. However, grazing was eliminated from Miller Island in 1988, and cattle are not present there today or at any other site occupied by *A. campestris* var. *wormskioldii*. Foot traffic and boat launching were curtailed at Beverly with the construction of a fence to protect the *A. campestris* var. *wormskioldii* population. Trampling by people and cattle and herbivory by cattle, therefore, are unlikely to be population-level stressors to *A. campestris* var. *wormskioldii* today or in the foreseeable future. The extent of herbivory by native animals is largely unknown, but based on available information, it is likely to be minor and have no population-level impacts on *A. campestris* var. *wormskioldii*.

Nonnative, invasive plants occur at most of the sites where *Artemisia campestris* var. *wormskioldii* occurs. Dalmatian toadflax (*Linaria dalmatica*) and diffuse knapweed (*Centaurea diffusa*) are present in the *A. campestris* var. *wormskioldii* population at Beverly, where monitoring and regular treatment keep them under control. At Miller Island, diffuse knapweed and cheatgrass (*Bromus tectorum*) are present but in low density. Among the sites where *A. campestris* var. *wormskioldii* has been introduced, indigo bush (*Amorpha fruticosa*) occurs on Rufus Island, and indigo bush, diffuse knapweed, and rush skeletonweed (*Chondrilla juncea*) plants occur at Squally Point. Although initial treatment of nonnative plants occurred at both of these sites, follow up treatments have not yet occurred. Without regular intervention, these nonnative plants can spread into new areas, including into patches of *A. campestris* var. *wormskioldii*, and they are likely to compete with *A. campestris* var. *wormskioldii* for resources. Although the impacts of nonnative, invasive plant species on ecosystems generally are well known,

there is no prior documentation or current, direct evidence of a negative response in *A. campestris* var. *wormskioldii* to the presence of nonnative, invasive plant species. Thus, we can only speculate about potential effects on *A. campestris* var. *wormskioldii* and about the imminence and severity of those effects if they occur. The species of nonnative, invasive plants and efforts to control them (current and anticipated) are not uniformly distributed across the sites where *A. campestris* var. *wormskioldii* occurs. Therefore, if invasive plants have negative impacts to *A. campestris* var. *wormskioldii*, those potential impacts, and whether and when they might be expressed, are likely to be different at different sites. We do anticipate, however, that ongoing treatment of nonnative, invasive plants will occur as needed at *A. campestris* var. *wormskioldii* sites, especially given the current investment in establishing new populations of *A. campestris* var. *wormskioldii* and the long-term, ongoing interest and involvement of our State and other partners in the conservation of this rare plant.

With only two known naturally occurring populations and two of five introduction sites with documented natural recruitment, *A. campestris* var. *wormskioldii* has a limited capacity to withstand stochastic events such as harsh winter conditions, prolonged droughts, and fire. For example, a steep decline in the number of adult *A. campestris* var. *wormskioldii* plants at the Beverly site in 2009 may have been caused in part by the previous winter having been unusually cold and long. However, whether the harsher than average winter was related to climate change is not known.

Climate model projections for the Pacific Northwest Region indicate a continued increase in temperature, with changes in annual mean maximum temperature projected to be largest in the summer months). Precipitation in this region is projected to remain close

to current levels, but mean runoff is expected to peak earlier in the year. The projected effects of climate change in the Pacific Northwest, including effects on water management in the Columbia River basin, may exacerbate the effects of drought, invasive species, and fire on *Artemisia campestris* var. *wormskioldii* and its habitat. Although *A. campestris* var. *wormskioldii* populations may experience reduced reproduction and increased mortality as a result of climate fluctuations today and the effects of climate change in the future, the available information does not point to current impacts of these stressors on the species or allow us to reasonably predict the imminence or severity of the cumulative effects of climate change on *A. campestris* var. *wormskioldii* or its habitat.

To date, fire has not been a limiting factor for *Artemisia campestris* var. *wormskioldii* at Beverly or Miller Island. Because bio-fuel accumulation (from native and nonnative plants) is generally low in the sand, gravel, and cobble bars where this species occurs, fire has not influenced the status of northern wormwood individuals or populations. Although *A. campestris* var. *wormskioldii* may be top-killed by fire, the likelihood of an entire population succumbing to or being able to recover from a fire is unknown). Related subspecies have been shown to persist on repeatedly burned sites.

The two naturally occurring populations of *Artemisia campestris* var. *wormskioldii* are separated by a large distance, more than 200 miles (320 kilometers), likely negating the possibility of gene exchange. Loss of genetic variability can affect disease resistance, adaptive capacity, and reproductively compatible gene combinations (genotypes) in the affected species. Small populations are more susceptible to inbreeding, which can reduce the fitness of offspring. However, the historical rate of genetic

exchange among *A. campestris* var. *wormskioldii* populations is unknown, and the best available scientific and commercial information does not indicate that *A. campestris* var. *wormskioldii* has lost, or is losing, genetic variability or experiencing inbreeding depression as a result. In addition, plantings to augment natural populations and establish new populations were begun in 2006 and are ongoing.

To date, *Artemisia campestris* var. *wormskioldii* has been introduced to five sites within the historical range to expand the number of populations, increase distribution and abundance, decrease isolation, and buffer potential risks faced by small populations. Seeds collected from the two natural populations were used to propagate plants for these introductions, and plantings have been done experimentally to determine microsite conditions where plants are most likely to survive and become established. Modest natural recruitment has been documented at the two oldest sites, initially planted in 2008 and 2011. We anticipate that the genetic diversity in the two natural populations of *A. campestris* var. *wormskioldii* will continue to be represented at existing and future introduction sites.

Regulatory mechanisms, such as designation by Bureau of Land Management and U.S. Forest Service as a sensitive species through the Interagency Special Status/Sensitive Species Program, the species conservation plan under the Federal Energy Regulatory Commission licensing agreement for the Priest Rapids Hydroelectric Project, and current State-level protections in Oregon and Washington, have resulted in some increased protection of the natural populations of *Artemisia campestris* var. *wormskioldii*, some control of invasive plant species in some sites where *A. campestris* var. *wormskioldii* occurs, and amelioration of stressors such as trampling by livestock and by

people (e.g., at the Beverly and Miller Island sites). Conservation measures undertaken for the species have shown variable results at the five introduction sites, including two nascent populations that improve *A. campestris* var. *wormskioldii*'s abundance and distribution.

Our review of the best available scientific and commercial information does not indicate that the potential stressors currently have, or are anticipated to have, population-level effects on *Artemisia campestris* var. *wormskioldii*. Some stressors cause or could cause individual mortality, including erosion, inundation, and possibly herbivory by native animals, but the available information does not indicate that any of, or the cumulative impact of all, these stressors has a population- or species-level impact now or that they are likely to have such impacts in the foreseeable future. Although numbers of mature, flowering individuals at some populations have decreased in recent years, numbers have increased at others. While questions remain regarding limiting factors, demography, age structure, and population trends, the plant's ability to persist appears greater than previously understood.

Future impacts of climate change may exacerbate stressors to *A. campestris* var. *wormskioldii* and its habitat, but we cannot reasonably project the timing, imminence, or severity of the effects of climate change into the foreseeable future. Further, the uncertainty about how *A. campestris* var. *wormskioldii* will respond to climate change, combined with the uncertainty about how potential changes in plant species composition would affect site suitability, make projecting possible synergistic effects of climate change highly speculative at this time.

A species may occur in very low numbers without being at risk of extinction. Such species, merely by virtue of their rarity, do not merit listing under the Act. Although *Artemisia campestris* var. *wormskioldii* has persisted at low numbers and with a narrowly limited distribution, rarity in itself does not automatically imply that the species is at risk of extinction. Moreover, a species may be exposed to stress factors and lose individuals, without expressing a negative response at the population or species level such that the species meets the definition of endangered or threatened under the Act. We must evaluate the exposure of the species to stressors to determine whether the species responds to the stressors in a way that causes impacts now or is likely to cause impacts in the future. We also must determine whether impacts are or will be of an intensity or magnitude to place the species at risk. In our analysis of potential stressors to *A. campestris* var. *wormskioldii*, we have not found evidence of such responses or negative impacts.

Finding

Based on our evaluation of the best available scientific and commercial information, we find that no stressors are of sufficient imminence, intensity, or magnitude to indicate that *A. campestris* var. *wormskioldii* is in danger of extinction (endangered) or likely to become endangered within the foreseeable future (threatened) throughout all of its range. This is because we have determined that threats we identified in past CNORs are not affecting the species as we previously understood. Further, the distribution of *Artemisia campestris* var. *wormskioldii* is relatively stable across its range (and the number of populations, including sites where the plant was recently introduced, has increased since 2006) and stressors are similar throughout the species' range. Thus, we

did not find any concentration of stressors that suggests that this plant may be in danger of extinction in any portion of its range. Therefore, we find that listing *A. campestris* var. *wormskioldii* as an endangered or a threatened species is not warranted throughout all or a significant portion of its range at this time, and consequently we are removing this species from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This document satisfies the requirements of that settlement agreement for *Artemisia campestris* var. *wormskioldii*, and constitutes the Service's 12-month finding on the May 11, 2004, petition to list *A. campestris* var. *wormskioldii* as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the *A. campestris* var. *wormskioldii* 's species-specific assessment form and other supporting documents (see **ADDRESSES**, above).

Virgin Islands Coquí (*Eleutherodactylus schwartzi*)

Previous Federal Actions

On October 6, 2011, the Service received a petition dated September 28, 2011, from WildEarth Guardians, requesting that we list the Virgin Islands coquí (VI coquí), a frog species, under the Act. On January 22, 2014, we published a 90-day finding (79 FR 3559) in which we found that the petition presented substantial scientific and commercial

information indicating that listing may be warranted for the VI coquí.

Background

The VI coquí is a small frog species, of the family Eleutherodactylidae. The VI coquí was first described as *Eleutherodactylus schwartzi* based on specimens obtained on the islands of Tortola and Virgin Gorda. While similar to the Puerto Rican coquí (*Eleutherodactylus coquí*), a species native to neighboring Puerto Rico, *E. schwartzi* is distinguished by its smaller size and coloration.

The VI coquí's breeding season begins in May and lasts until August. Although members of the *Eleutherodactylus* genus do not require an aquatic environment for reproduction, they do require cool, moist habitat for rehydration and to prevent the desiccation of egg clutches. This species is a "direct development" species, meaning that it skips the tadpole stage and fully formed froglets hatch from the eggs.

The VI coquí is a tree-dwelling, terrestrial species, occurring in temperate woodlands and forests, in elevations up to 227 meters (744.7 feet). The species is typically not found outside of forested areas. However, there have been reports of the VI coquí in residential gardens, pastures, and gullies in and around Great Harbour on the island of Jost Van Dyke and in residential gardens on Frenchman's Cay. The VI coquí prefers to hide under rocks, leaf litter, and bromeliad leaves during the day to stay out of the hot sun. The species is strongly associated with the presence of terrestrial bromeliads, such as the false pineapple (*Bromelia pinguin*) and species from the genus *Tillandsia*. The males use bromeliads for perching when calling, and females lay their eggs on the leaves of the plants.

The VI coquí has a broad diet that includes small vertebrates and invertebrates.

Although there is a lack of information on the diet of this species, members of the genus *Eleutherodactylus* are known to be "nocturnal, sit-and-wait predators that prey on members of the order Hymenoptera (which includes ants, wasps, bees), Collembolan (springtails), Pseudoscorpionida (false scorpions) and Dipteran (true flies)".

The VI coquí has a relatively limited range, with its historical population occurring in the U.S. Virgin Islands (USVI) and the British Virgin Islands (BVI) in the Caribbean. Specifically, the species was found on the island of Saint John in the USVI and the islands of Tortola, Virgin Gorda, Jost Van Dyke, Great Dog, Beef Island, Frenchman's Cay, and Little Thatch in the BVI. The species has since experienced alteration of its range within the past 40 years. Surveys conducted in the 1970s found no presence of the species on St. John in the USVI, suggesting the species is extirpated there. Although some ambiguity exists in the survey due to similarity in calls between the VI coquí and the related Puerto Rican coquí, subsequent acoustic surveys confirmed the presence of the VI coquí on the other islands: Tortola, Virgin Gorda, Jost Van Dyke, Great Dog, Beef Island, and Frenchman's Cay.

Summary of Status Review

A supporting document entitled "12-Month Finding on a Petition to List the Virgin Islands Coquí as an Endangered or Threatened Species" provides a summary of the current literature and information regarding the VI coquí's distribution, habitat requirements, life history, and stressors (see **ADDRESSES**, above). We reviewed the petition, information available in our files, and other available published and unpublished information, and we consulted with recognized species and habitat experts and representatives of the range countries.

We evaluated whether each of the potential stressors impact, presently or in the future, individuals or portions of suitable habitat. The potential stressors that we assessed are: (1) Habitat loss and fragmentation from urban development; (2) trade and collection; (3) predation from the small Indian mongoose and Cuban tree frog (CTF); (4) chytridiomycosis; (5) inadequacy of existing regulatory mechanism; (6) competition from CTF and Puerto Rican coquí; (7) climate change; and (8) small population size.

The Virgin Islands coquí is found on six islands in the BVI. Although we do not have survey data on the population, the species continued to persist on these islands. Continued persistence of the species on the island is due to past and present management efforts by the BVI territory government. Rate of deforestation has declined from historical high in the 20th century due to the transition in the BVI's economy from cash crop to tourism as well as the establishment of protected areas. These protected areas helped maintain and protect remaining forest habitats. Additionally, these areas have allowed deforested habitat to recover, promoting new secondary deciduous and dry forests.

To support the BVI tourism industry, development projects are being proposed or are currently in progress across the BVI with Tortola containing most of the major projects. However, most of the development projects occur in areas that already contain little to no coquí habitat; therefore we have no reason to believe that these projects would adversely affect the VI coquí. We also found no indications of trade or collection occurring with this species.

The impact of invasive species such as the small Indian mongoose and the CTF is mitigated both by ongoing management effort as well as differences in the ecology of

these species. A mongoose eradication program is currently in place on Jost Van Dyke. The small Indian mongoose's preference for drier climate gives the coquí some protection from predation, as it prefers wetter habitat. More importantly, mongoose cannot climb trees, which offers protection for arboreal species like the coquí. These factors together limit the impact the mongoose has on the VI coquí.

The impact of CTF on the VI coquí is ameliorated by differences in reproductive method and ongoing management program. CTF require freshwater habitat to lay their eggs. Meanwhile, as a direct-developing species, VI coquí can give birth to live young in bromeliads. Additionally, predation of VI coquí by CTF is limited due to CTF's preference for smaller invertebrates, with frogs making up only 3 percent of CTF's diet. CTFs may compete with VI coquís for prey, as the species' diet is similar to the coquí's. However, we have found no information indicating competition for invertebrates is affecting the coquí.

The impact of chytrid fungus on the VI coquí is limited by local conditions in the BVI. The current temperature range in the BVI is outside the optimal range of the fungus. Additionally, while cases of infection can still occur in sub-optimal area, infection may not be fatal due to unfavorable growing conditions of the fungus.

We reviewed all international and local laws, regulations, and other regulator mechanisms that may impact the VI coquí and its habitat. Despite shortages in staff and personnel, a recent survey of protected areas found many areas to be stable or experiencing light development. The stability in these protected areas seems to indicate that although these organizations are facing shortages in funds and staff, they are still able to protect fragile habitat in the BVI.

Surveys conducted on Jost Van Dyke found the Puerto Rican coquí may also compete with the VI coquí. Although the potential exists that the Puerto Rican coquí could compete with the VI coquí, sightings of the species have only recently occurred on Jost Van Dyke in 2015. The Puerto Rican coquí has not been documented on the other six islands where the VI coquí is known to occur. Thus, it is too soon to tell what impacts, if any, the Puerto Rican coquí might have on the VI coquí.

The effects of climate change on the VI coquí are unclear. While the impact from an increase in stochastic event is limited by the steep hills and mountains on the islands, the impact of climate change on plant biomes and the species' reproductive season remains unknown. As we do not have information to reasonably predict whether climate change may affect the species' breeding season or result in changes in plant composition, we cannot draw conclusions on how the VI coquí may respond to potential changes.

While we do not have information on population trends for the VI coquí, we nonetheless considered whether small population size and limited distribution in combination with other stressors might impact the species. The species has been described as rare. However, species that naturally occur in low densities are not necessarily in danger of extinction, and therefore do not necessarily warrant listing, merely by virtue of their rarity. In the absence of information identifying stressors to the species and linking those stressors to the rarity of the species or a declining status, we do not consider rarity alone to be a threat. Further, a species that has always had small population sizes or has always been rare, yet continues to survive, could be well-equipped to continue to exist into the future.

Finally, we found that the VI coquí has sufficient resiliency, redundancy and

representation to recover from periodic disturbance such as hurricanes, droughts, and other stochastic events. The VI coquí population is distributed across six of nine islands in the BVI, which contributes to the redundancy of the species. While we lack detailed information on the genetic diversity of the species, male VI coquís on different islands are characterized by variation in sizes. Additionally, the Great Dog population of VI coquí has been described as somewhat distinct. These factors suggest that there exist genetic diversity (representation) among the populations of coquí across the six islands.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, we find that the stressors acting on the species and its habitat, either singly or in combination, are not of sufficient imminence, intensity, or magnitude to indicate that the VI coquí is in danger of extinction (endangered) or likely to become endangered within the foreseeable future (threatened), throughout all or a significant portion of its range.

We found no portions of the species' range where potential threats are significantly concentrated or substantially greater than in other portions of its range. Therefore, we find that factors affecting the species are essentially uniform throughout its range, indicating no portion of the range of the VI coquí is likely to be in danger of extinction or likely to become so within the foreseeable future. Therefore, we found that no portion warranted further consideration to determine whether the species may be endangered or threatened in a significant portion of its range.

Therefore, we find that listing the VI coquí as an endangered or threatened species under the Act is not warranted at this time. This document constitutes the 12-month

finding on the September 28, 2011, petition to list the VI coquí as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the supporting document entitled "12-Month Finding on a Petition to List the Virgin Islands Coquí as an Endangered or Threatened Species" (see **ADDRESSES**, above).

Washington Ground Squirrel (*Urocitellus washingtoni*)

Previous Federal Actions

The Washington ground squirrel was recognized as a Category 2 candidate species (as *Spermophilus washingtoni*) in 1994 (59 FR 58982; November 15, 1994). When the February 28, 1996, CNOR (61 FR 7596) discontinued recognition of categories, the Washington ground squirrel was no longer considered a candidate species. We again identified the Washington ground squirrel as a candidate for listing in 1999 (64 FR 57534; October 25, 1999) and assigned a listing priority number of 5, which reflects threats of a high magnitude that are not considered imminent.

On March 2, 2000, we received a petition from the Northwest Environmental Defense Center, Defenders of Wildlife, and the Oregon Natural Desert Association to emergency list the Oregon population of this species as a distinct population segment, or list the species over its entire range as an endangered or threatened species under the Act. Included in the petition was information regarding the species' taxonomy and ecology, historical and current distribution, present status, and actual and potential causes of decline. In 2001, based on new information, including information contained in the 2000 petition, we determined that the Washington ground squirrel faced imminent threats of a high magnitude and reassigned it an LPN of 2 (66 FR 54808; October 30, 2001). The Washington ground squirrel remained on the candidate list with an LPN of 2 from 2002

to 2004 (67 FR 40657, June 13, 2002; and 69 FR 24876, May 4, 2004). In the 2005 CNOR (70 FR 24870, May 11, 2005), we changed the LPN to 5, and since that date, the species has remained on the candidate list with an LPN of 5 (71 FR 53756, September 12, 2006; 72 FR 69034, December 6, 2007; 73 FR 75176, December 10, 2008; 74 FR 57804, November 9, 2009; 75 FR 69222, November 10, 2010; 76 FR 66370, October 26, 2011; 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; and 80 FR 80584, December 24, 2015). In our November 22, 2013, CNOR (78 FR 70104), we recognized *Urocitellus washingtoni* as the scientific name for the Washington ground squirrel.

Background

The Washington ground squirrel was formerly part of the genus *Spermophilus* (as *Spermophilus washingtoni*), but is now determined to be one of 12 species in the genus *Urocitellus* (Holarctic ground squirrels. The Washington ground squirrel is diurnal (active during the day) and semi-fossorial (e.g., partly adapted to digging and life underground). Their active, above-ground period spans anywhere between the months of January and July, with the specific timing depending on elevation and microhabitat conditions as well as availability of food sources. Washington ground squirrels typically live fewer than 5 years and produce one litter annually, with an average of five to eight pups. They eat a wide variety of foods including succulent forbs and grass stems, buds, leaves, flowers, roots, bulbs, and seeds.

The Washington ground squirrel occurs in shrub-steppe and grassland habitat in eastern Washington and north-central Oregon. In Washington, the species occurs in Adams, Douglas, Franklin, Grant, Lincoln, and Walla Walla Counties. In Oregon, it is

found in Gilliam, Morrow, and Umatilla Counties, but is centered largely on the Naval Weapon Systems Training Facility Boardman (NWSTF Boardman) and the adjacent Boardman Conservation Area (BCA). Washington ground squirrel habitat is characterized by deep, loamy soils deposited by the Missoula Floods and shrub-steppe vegetation. Historically, the species was primarily associated with sagebrush (*Artemisia* sp.) and bunchgrass habitats, but cheatgrass (*Bromus tectorum*) and rabbitbrush (*Chrysothamnus* sp.) have replaced much of the original flora on nonagricultural land. The species can be found in all these habitat types where there is sufficient forage and suitable soils, regardless of vegetation type.

Summary of Status Review

Historically, the Washington ground squirrel was a little-studied species. A 1990 survey of 179 of the 189 potential historical Washington ground squirrel locations found 80 confirmed and 7 probable colonies. In a repeat survey in 1998 of the confirmed and probable sites, clear evidence of squirrels was found at only 46 of the locations. The Washington ground squirrel received more attention and funding after it became a Federal candidate species in 1999, and the increased survey effort led to a notable expansion of the number of documented locations and distribution of the species from what was known in 1999.

As part of our assessment of the best available scientific and commercial information, we evaluated the number of Washington ground squirrel records included in the Oregon and Washington Natural Heritage Program databases. In Oregon, 2012 data showed 705 known records (any of which could constitute a single individual or a small, medium, or large colony). As of April 2013, Oregon records of Washington ground

squirrels had increased to 1,318, an 87 percent increase from the 2012 data. In Washington, 2012 data showed 567 mapped polygons (estimated areas containing squirrels) and 65 known squirrel records outside of the polygons. As of April 2013, Washington polygons had increased to 602 and records had increased to 579.

These updated Washington ground squirrel records, along with new information on dispersal distances and habitat quality, led us to evaluate potential connectivity between squirrel detections. We analyzed new data regarding linkages between areas of high-quality habitat, and dispersal distances from known sites to potential habitat, and found that there is some connectivity between these areas of high-quality habitat, and connectivity between known sites and potential habitat. The majority of known Washington ground squirrel sites are on public lands, within the BCA, or are newer sites documented from increased survey efforts on private lands. The analysis indicated that many squirrel sites are within dispersal distance of one another, and potential squirrel habitat exists within the interstitial space between clusters providing connectivity between the sites. This indicates that Washington ground squirrel populations are not as isolated from one another as we had previously thought, and potential opportunities for genetic exchange exist in most of the range, as many sites are likely functioning within a metapopulation framework.

Furthermore, based on the Washington Wildlife Habitat Connectivity Working Group habitat quality layer for Washington ground squirrel and recent squirrel surveys in Oregon and Washington, we estimated that there are at least 0.74 million hectares (ha) (1.84 million acres (ac)) of potential occupied habitat within the current range. Although our finding does not rely on the presumed presence of squirrels in potential habitat, this

estimate of potential habitat, along with the fact that new sites are consistently documented when suitable habitat is surveyed, supports the assumption that additional Washington ground squirrels are likely to be found with further survey effort in large areas of at least moderate-quality potential habitat. This adds confidence to our independent conclusion that, based on the best scientific data currently available to us, the Washington ground squirrel is more widespread and numerous than we had previously understood.

Candidate status was based on habitat loss, fragmentation, or modification due to fire and invasive plants, agriculture, intensive grazing, proposed and ongoing military activities, energy development and transmission, and urban development; predation; recreational shooting; disease; potential effects of pesticides; and potential effects of drought on forage quality and quantity. Habitat loss was considered the main reason the squirrel's range is smaller than it was historically, particularly through agricultural conversion of shrub-steppe habitat, and more recently the invasion of nonnative annual grasses and forbs, especially cheatgrass.

There are current management actions, policies, and protections in place that have substantially reduced or eliminated stressors to the Washington ground squirrel and will continue to do so in the future. The 25-year Threemile Canyon Farms Multi-Species Candidate Conservation Agreement with Assurances (MSCCAA), signed in 2004, included the implementation of habitat management, operational modifications, and conservation measures for four unlisted species, including the Washington ground squirrel, on approximately 37,636 ha (93,000 ac) of habitat. This dramatically reduced agricultural development in Washington ground squirrel habitat and was part of an

overall decline in the conversion of shrub-steppe to agricultural use in recent years; harvested cropland accounted for only 1 percent of all land available to the squirrel within its range during the 1978 to 2007 time period. There are no known large-scale agricultural projects planned that are likely to impact Washington ground squirrels by conversion to agricultural uses, and we are unaware of any planned U.S. Department of Agriculture programs that could significantly change the current rate of conversion in counties containing Washington ground squirrels in the future. Furthermore, as a State-endangered species in Oregon, activities detrimental to squirrels are prohibited on State-owned or leased land and easements in Oregon. The Oregon Energy Facility Siting Council and Gilliam, Morrow, and Umatilla Counties have adopted the State's guidelines on 100 percent of wind projects sited in Oregon, and these guidelines include conservation measures for Washington ground squirrels. Urban development, while it continues, is mostly concentrated in urban growth areas, which represent a very small portion of the range. Finally, the Service and Foster Creek Conservation District (FCCD) signed the Douglas County Multiple Species General Conservation Plan (MSGCP) on September 17, 2015. The MSGCP is a programmatic habitat conservation plan that private landowners in Douglas County, Washington, can voluntarily opt into; the plan includes best management practices (BMPs) specific to supporting the conservation of Washington ground squirrels. Though this habitat conservation plan is anticipated to provide conservation benefits to Washington ground squirrel, it is a voluntary program and we do not know how many landowners will enroll, so we cannot rely on the certainty of these benefits in our finding determination.

We also evaluated a future conservation effort in connection with military readiness activities at NWSTF Boardman following the Service's *Policy for Evaluation of Conservation Efforts When Making Listing Decisions* (PECE); 68 FR 15100, March 28, 2003). The final environmental impact statement (FEIS) completed in December 2015, and record of decision (ROD) signed on March 31, 2016, confirm the Navy's commitment to implement conservation efforts that eliminate or reduce threats to Washington ground squirrels from military readiness activities on the 19,020 ha (47,000 ac) of NWSTF Boardman through a combination of BMPs, mitigation, monitoring, and adaptive management. In order to determine whether we should consider these conservation measures in this decision, we completed an analysis of the certainty of implementation and effectiveness of these future actions pursuant to PECE (68 FR 15100; March 28, 2003). Based on the history of the Navy's collaboration with us; the combined application of BMPs, mitigation, monitoring, and adaptive management; and their formal commitment to fully implement the actions they agreed to, we have a high level of certainty that the conservation efforts will be implemented and effective, and therefore considered them in this determination for the Washington ground squirrel. Military readiness activities at NWSTF Boardman will negatively impact only a small percentage (less than 1 percent) of the Washington ground squirrel habitat on the facility. Additionally, the majority of impacts associated with projectiles striking the ground, potential training-caused wildfires, and spread of invasive plants would occur in a small area (less than 324 ha (800 ac)). The Navy has committed to implementing all of the BMPs, mitigation measures, and the adaptive management strategy outlined in their FEIS in order to ameliorate any impacts to the species due to current and future military

readiness activities. Therefore, we consider the former threat posed to Washington ground squirrels from military readiness activities to have been ameliorated.

Fire and conversion of sagebrush habitat to invasive plant species are, and will continue to be, rangewide issues. However, fire and invasive species have not prevented squirrels from persisting and remaining broadly distributed in these habitats, even in areas that burn frequently (e.g., the NWSTF), and we anticipate squirrels will continue to persist in these areas. These stressors are being addressed at varying levels by landowners, local governments, organizations, and agencies. Grazing can be a compatible land use with this species, and we have no information indicating that intensive grazing is currently widespread, or anticipated to be in the future, in areas occupied by the species. Other factors such as shooting, disease, and effects from pesticide use occur on a small enough scale that they are not considered significant stressors to the species now, nor are they likely to be in the future.

Some isolated populations of the Washington ground squirrel may be vulnerable to genetic effects associated with small populations; however squirrel occurrence sites are likely not as isolated as we previously thought. The rate of habitat conversion that contributes to habitat fragmentation has dropped significantly, and there are no strong and predictive trends toward development or agricultural conversion of occupied and potential habitat. Furthermore, we have documentation that squirrels are more widely distributed than previously thought; it is very likely that additional undocumented sites exist and connectivity provides potential opportunities for genetic exchange in most of the range. We therefore conclude that small population size is not currently a stressor to the Washington ground squirrel as a whole, nor is it likely to become one in the future.

Washington ground squirrel habitat is likely to be influenced by the climate change effects of increased temperatures, changes in precipitation, increased frequency and intensity of fire, and an increase in invasive vegetation (due to fire, drought, and increased carbon dioxide concentrations). We have some information about climate-change projections for temperature and precipitation in the range of the squirrel, but we have no information to suggest that temperature will increase or precipitation decrease to levels that would affect the viability of Washington ground squirrels rangewide. Increased winter and spring precipitation could have a positive effect on squirrels by providing adequate forage during the breeding season. Although hotter and drier summers may reduce the quality and abundance of native forage available to Washington ground squirrels, the species is distributed across a range of elevations, has a diverse diet, and is able to persist in disturbed grassland. Thus, the best available scientific and commercial information at this time does not lead us to conclude that the current or future effects of climate change will impact the viability of Washington ground squirrels rangewide.

Finding

Based on our review of the best available scientific and commercial information pertaining to the five factors, and when considering all of the factors in combination with each other and the existing conservation measures that benefit the species and its habitat, we conclude that the impacts on the species and its habitat are not of such imminence, intensity, or magnitude to indicate that the Washington ground squirrel is in danger of extinction (an endangered species), or likely to become so within the foreseeable future (a threatened species), throughout all of its range. Although the types of stressors vary

across the range, we found no portion of its range where the stressors are significantly concentrated or substantially greater than in any other portion of its range. Therefore, we find that listing the Washington ground squirrel as an endangered or threatened species or maintaining the species as a candidate is not warranted throughout all or a significant portion of its range at this time, and consequently we are removing it from candidate status.

As a result of the Service's 2011 multidistrict litigation settlement with the Center for Biological Diversity and WildEarth Guardians, the Service is required to submit a proposed listing rule or a not-warranted 12-month finding to the **Federal Register** by September 30, 2016 (In re: Endangered Species Act Section 4 Deadline Litigation, No. 10–377 (EGS), MDL Docket No. 2165 (D.D.C. May 10, 2011)), for all 251 species that were included as candidate species in the Service's November 10, 2010, CNOR. This document satisfies the requirements of that settlement agreement for the Washington ground squirrel and constitutes the Service's 12-month finding on the March 2, 2000, petition to list the Washington ground squirrel as an endangered or threatened species. A detailed discussion of the basis for this finding can be found in the Washington ground squirrel's species-specific assessment form and other supporting documents (see **ADDRESSES**, above).

New Information

We request that you submit any new information concerning the taxonomy, biology, ecology, status of, or stressors to the angular dwarf crayfish, Guadalupe murrelet, Huachuca springsnail, two Kentucky cave beetles (Clifton Cave and Icebox Cave beetles), *Artemisia campestris* var. *wormskioldii*, Scripps's murrelet, Virgin Islands

coquí, and Washington ground squirrel to the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**, whenever it becomes available. New information will help us monitor these species and encourage their conservation. We encourage local agencies and stakeholders to continue cooperative monitoring and conservation efforts for these species. If an emergency situation develops for these species, we will act to provide immediate protection.

References Cited

Lists of the references cited in the petition findings are available on the Internet at *http://www.regulations.gov* and upon request from the appropriate person, as specified under **FOR FURTHER INFORMATION CONTACT**.

Authors

The primary authors of this document are the staff members of the Unified Listing Team, Ecological Services Program.

Authority

The authority for this section is section 4 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*.).

Dated: September 7, 2016

Stephen Guertin

Acting Director, U.S. Fish and Wildlife Service

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