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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2023–0095; FF09E21000 FXES1111090FEDR 234]

RIN 1018–BF06

Endangered and Threatened Wildlife and Plants: Threatened Status with Section 4(d) Rule for the Northern and Southern Distinct Population Segments of the Western Spadefoot

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the northern distinct population segment (DPS) of the western spadefoot (*Spea hammondii*), an amphibian occurring in central and northern California, and the southern DPS of the western spadefoot, occurring in southern California and northwestern Mexico, as threatened DPSs under the Endangered Species Act of 1973 (Act), as amended. This determination serves as our 12-month finding on a petition to list the western spadefoot range-wide. After a review of the best scientific and commercial information available, we find that listing the northern and southern DPSs of the western spadefoot as threatened is warranted. Accordingly, we propose to list the northern and southern DPSs of the western spadefoot as threatened DPSs with a rule issued under section 4(d) of the Act ("4(d) rule"). If we finalize this rule as proposed, it would add the northern DPS and southern DPS of the western spadefoot to the List of Endangered and Threatened Wildlife and extend the Act's protections to the two DPSs. Due to the current lack of data sufficient to perform required analyses, we conclude that the designation of

critical habitat for the northern DPS and southern DPS of the western spadefoot is not determinable at this time.

DATES: We will accept comments received or postmarked on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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

(1) *Electronically*: Go to the Federal eRulemaking Portal: *https://www.regulations.gov*. enter FWS-R8-ES-2023-0095, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment."

(2) *By hard copy*: Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R8–ES–2023–0095, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

We request that you send comments only by the methods described above. We will post all comments on *https://www.regulations.gov*. This generally means that we will post any personal information you provide us (see **Information Requested**, below, for more information).

Availability of supporting materials: Supporting materials, such as the species status assessment report, are available at *https://www.regulations.gov* at Docket No. FWS-R8-ES-2023-0095.

FOR FURTHER INFORMATION CONTACT: Michael Fris, Field Supervisor, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Sacramento, CA 95825; telephone 916–414–6700. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States. Please see Docket No. FWS-R8-ES-2023-0095 on *https://www.regulations.gov* for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. The Act defines a "species" as any subspecies of fish or wildlife or plants, and any distinct population segment (DPS) of any species of vertebrate fish or wildlife which interbreeds when mature. Any reference to the term "species" in this document pertains to either the northern or southern DPS, unless otherwise noted. Under the Act, a DPS warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range). If we determine that a DPS warrants listing, we must list the DPS promptly and designate the DPS's critical habitat to the maximum extent prudent and determinable. We have determined that the western spadefoot occurring in the Central Valley and foothill regions in the Sierra Nevada Mountains and along the northern Coast Ranges to Santa Barbara County in California, and the western spadefoot in southern California from Los Angeles County and Transverse Range south to northwestern Baja California, Mexico are valid DPSs as described in our 1996 policy (61 FR 4722) and meet the definition of threatened species;

therefore, we are proposing to list them as such. Listing a species as an endangered or threatened species can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 et seq.).

What this document does. We have determined that the western spadefoot is comprised of two DPSs, the northern DPS and the southern DPS. We are proposing to list the northern DPS and southern DPS of the western spadefoot as threatened species with a rule under section 4(d) of the Act (a "4(d) rule") for both species.

The basis for our action. Under the Act, we may determine that a DPS is an endangered or threatened species because of any of 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 have determined that the northern DPS and southern DPS of the western spadefoot are threatened due to the following threats: habitat loss, fragmentation, and degradation largely attributable to development, urbanization, and agricultural land conversion (factor A); chemical contaminants (factor E); nonnative predators (factor C); wildfire (factor A); noise disturbance (factor E); and the effects associated with climate change (most notably drought) (factor E). Of these threats, we identified habitat loss and degradation from land conversion (factor A) and the effects of climate change (factor E) mostly associated with severe drought as the major influences driving the current condition of the northern DPS and southern DPS of the western spadefoot.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary), to the maximum extent prudent and determinable, to designate critical habitat concurrent with listing. We have not yet been able to obtain the necessary economic information needed to develop proposed critical habitat designations for the two DPSs, although we are in the

process of obtaining this information. At this time, we find that designation of critical habitat for the northern DPS and southern DPS of the western spadefoot is not determinable.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The two DPS's biology, range, and population trends, including:

(a) Biological or ecological requirements of the two DPSs, including habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns and the locations of any additional populations of these two DPSs;

(d) Historical and current population levels, and current and projected trends;

(e) Past and ongoing conservation measures for these two DPSs, their habitat, or both; and

(f) Tribal use or cultural significance of the two species, including traditional ecological knowledge (TEK) on the two DPSs.

(2) Threats and conservation actions affecting the two DPSs, including:

(a) Factors that may be affecting the continued existence of the two DPSs, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors.

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to these two DPSs.

(c) Existing regulations or conservation actions that may be addressing threats to these two DPSs.

(3) Additional information concerning the historical and current status of these two DPSs.

(4) Information on regulations that may be necessary and advisable to provide for the conservation of the northern DPS and southern DPS of the western spadefoot and that we can consider in developing a 4(d) rule for these two DPSs. In particular, we seek information concerning the extent to which we should include any of the section 9 prohibitions in the 4(d) rule or whether we should consider any additional exceptions from the prohibitions in the 4(d) rule.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available, and section 4(b)(2) of the Act directs that the Secretary shall designate critical habitat on the basis of the best scientific data available.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via *https://www.regulations.gov*, your entire

submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *https://www.regulations.gov*.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *https://www.regulations.gov*.

Our final determination may differ from this proposal because we will consider all comments that we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive (and, if relevant, any comments on that new information), we may conclude that either DPS is endangered instead of threatened, or we may conclude that either DPS does not warrant listing as an endangered species or a threatened species. In addition, we may change the parameters of the prohibitions or the exceptions to those prohibitions in the proposed 4(d) rule if we conclude it is appropriate to do so in light of comments and new information received. For example, we may expand the prohibitions to include prohibiting additional activities if we conclude that those additional activities are not compatible with conservation of either DPS. Conversely, we may establish additional exceptions to the prohibitions in the final rule if we conclude that the activities would facilitate or are compatible with the conservation and recovery of either DPS. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests

must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the *Federal Register* and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the *Federal Register*. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

In 2005, although the western spadefoot was not listed as an endangered or threatened species under the Act, we included the species within our final Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Service 2005, entire). The recovery plan outlines conservation and management actions to be taken to help conserve vernal pool, swale, and ephemeral habitats, which include the habitat of the western spadefoot. On July 11, 2012, we received a petition from the Center for Biological Diversity (CBD) to list the western spadefoot (CBD 2012, pp. 1–86 and 197–203). On July 1, 2015, we published our 90-day finding in the *Federal Register* that found the petition to list the western spadefoot presented substantial information to indicate that listing may be warranted (80 FR 37568). We then added the western spadefoot to our national workplan to complete our 12-month finding for the species. This document serves as our 12-month finding and proposed listing rule for the species.

Peer Review

A species status assessment (SSA) team prepared an SSA report for the western spadefoot (Service 2023, entire). The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial)

affecting the species.

In accordance with our joint policy on peer review published in the *Federal Register* on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the western spadefoot SSA report. We sent the draft SSA report (Service 2020a, entire) to six independent peer reviewers and received two responses. Both peer reviewers noted significant concerns with our analysis, including how we characterized suitable terrestrial habitat, how we described habitat loss now and in the future, how we used or did not use data, and how we provided conclusions that were not justified. Because of this response, we held a meeting on July 8 and 9, 2020, with known species experts to receive information and guidance on ways to appropriately analyze the species throughout both the northern and southern clades. The western spadefoot is composed of two genetically distinct, allopatric clades that show no evidence of interbreeding, separated by the Transverse Mountain Range in California. In our SSA report, we refer to them as the northern western spadefoot clade, and the southern western spadefoot clade and assess their status separately.

The July 2020 expert meeting resulted in revisions to the condition category tables we used in the SSA report to assess the species' status and, therefore, also resulted in changing the results of our analysis. After revising the SSA report, we solicited another independent scientific review of the analysis. We sent the updated SSA report (Service 2020b, entire) to the same two peer reviewers who responded during the previous peer review and received responses from both. Results of this structured peer review process can be found at *https://regulations.gov*. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the current SSA report (Service 2023, entire), which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed in **Peer Review** above, we received comments from two peer reviewers on the updated SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the contents of the SSA report. The peer reviewers generally provided additional references, clarifications, and wording suggestions. We revised the updated SSA report based on the peer reviewers' comments, including changing our condition categories for the current and future analyses, clarifying specific points where appropriate, and adding details and suggested references where needed. Peer reviewer comments are addressed in the following summary and were incorporated into the current SSA report (Service 2023, entire) as appropriate.

Comment 1: One peer reviewer stated that our assertion that there are no differences in habitat characteristics between the northern and southern clades of the western spadefoot was not accurate, as indicated by habitat models (Neal et al. 2018, entire) that showed southern locality characteristics cannot predict the northern range and vice versa.

Our response: We acknowledge that habitat characteristics in the northern and southern range are different and clarified our discussion of habitat for both DPSs as indicated by habitat modeling (Neal et al. 2018, entire) as appropriate in the current SSA report and included additional references that found western spadefoot occurrences in the northern clade are associated with grassland habitat whereas occurrences in the southern clade are associated with grassland and shrub/scrub habitat (Rose et al. 2020, p. 6; Rose et al. 2022, p. 2). The current version of the SSA report reflects these differences (Service 2023, pp. 10–11).

Comment 2: One peer reviewer felt our characterization and use of precipitation data, which were used to determine current condition, were not adequate. They stated that

our approach was too narrow, using only the most recent 6 years of average rainfall data, and that we should conduct a more thorough analysis using the last 100 years to fully capture the variance in precipitation across the range of both clades and therefore provide a more accurate current condition.

Our response: The approach we took looking at the most recent 6 years of data was similar to an analysis completed by other researchers (Fisher et al. 2018, pp. 6124–6132), which looked at recent drought implications on the longevity and age structure of the arroyo toad (*Anaxyrus californicus*), a federally endangered species that occurs in portions of the western spadefoot's range. Using the more recent data allowed us to gain insight into the magnitude, extent, and frequency of the current threats facing the species. In addition, although additional precipitation data are available, they are not available rangewide. As a result, we determined that the past 6 years of precipitation data constitute the best scientific information available for our analysis.

Comment 3: The peer reviewers questioned the assumption in the SSA report that occurrence information from the California Natural Diversity Database (CNDDB) can be used as proxies for breeding ponds. They stated that many of these occurrences are likely incidental records of adults near or crossing roads and are not indicative of a breeding pond. They also questioned assumptions made for the abundance analysis, including whether multiple overlapping records indicate one breeding pond or multiple breeding ponds, the timeframe for the occurrence data used, and how varying sampling efforts among populations may influence abundance estimates in the SSA report.

Our response: We recognize that there are limitations with the occurrence data we used; however, because no rangewide surveys or assessments have occurred of ponded habitat used by western spadefoots and the species uses ephemeral aquatic habitat for breeding (including habitat not characterized as ponds), we determined that the CNDDB data constitutes the best scientific information available for the rangewide status

assessment on habitat use and abundance estimates. In the revised updated SSA report, we included additional detail on how the occurrence data were used for the abundance assessment and clarified our methods, such as providing additional detail on our method for assessing abundance and estimating the effective number of breeders within local populations.

Comment 4: One peer reviewer stated our approach to estimating the effective number of breeders within a local population likely inflates the estimates.

Our response: We acknowledge that our estimate of the effective number of breeders within a local population is likely an overestimation. The overestimation stems from our use and extrapolation of a single study (Neal 2019, entire), which was not rangewide or over an extended timeframe. Implementing additional surveys over a longer period would most likely give a more accurate number of effective breeders at occupied locations for the species. To assist in determining if our estimates were consistent and provided meaningful information, we compared our estimates to another amphibian species (black toad (*Bufo exsul*)) that uses similar habitats and found that our estimates for the two clades (although not exact) are similarly low and our breeding number estimates are consistent with the other species (Wang 2009, pp. 3852–3853). Lastly, our use and estimate of the effective number of breeders is only one component of determining the species' current and future resiliency in which we also considered habitat quantity, distribution, and quality as well as various precipitation variables. As a result, we have determined that our estimates are based on the best scientific information available and are appropriate to use in this assessment.

Comment 5: One peer reviewer was concerned about the current condition analysis for regions that have no data on the estimated effective number of breeders. They suggested using the average of the estimated effective number of breeders from surrounding regions or using the estimated effective number of breeders from the nearest

region.

Our response: We updated our analysis to include an abundance category for those regions lacking data and used the estimated effective number of breeders from the nearest region to complete our analysis.

I. Proposed Listing Determination

Background

Below, we briefly describe information about the western spadefoot and its habitat and range. A thorough description and other information including life history and ecology of the western spadefoot is presented in the SSA report (Service 2023, pp. 4–22).

Species and Habitat Information

The western spadefoot is a small amphibian often referred to as a toad but is typical in shape to most fossorial (burrowing) frogs. Individuals of the species vary in size from 1.5 to 2.5 inches (in) (3.8 to 6.3 centimeters (cm)) in length. Western spadefoots have a wedge-shaped, glossy black hardened "spade" on each hind foot that is used for digging burrows in the ground to avoid desiccation during the dry season, from late spring to early fall, or for sheltering during the active season (early fall to late spring).

The western spadefoot is primarily terrestrial and uses nearby aquatic habitat only for breeding and rearing (Dimmitt and Ruibal 1980, p. 21). The species requires a variety of both terrestrial and aquatic habitat components in close proximity and accessible to each other in order to meet all of their life history requirements (Halstead et al. 2021, 1377–1393). The terrestrial (upland) habitat is primarily open grasslands, scrub, or mixed woodland and grassland on flat or gently rolling topography and provides areas for sheltering and foraging (Stebbins and McGinnis 2012, p. 157). The aquatic habitat required for breeding, egg laying, and tadpole and juvenile development is most often associated with vernal pool or other ephemeral wetland areas. Vernal pools are seasonal

shallow ephemeral aquatic features that pond in depressions that are underlain by a subsurface that limits drainage (Keeler-Wolf et al. 1998, p. 8). Vernal pools require the appropriate amount and timing of precipitation to fill each year. Some years with intermittent rainfall or during periods of drought, vernal pools may not provide habitat sufficient for successful breeding and rearing of the species. However, the species is highly adaptable and uses many other types of ponded water features for breeding and rearing including any water feature such as ponded features within intermittent streams, artificially created pools or ponds (i.e., mitigation pools and livestock or agricultural ponds), drainage ditches, roadside pools or ruts, and other locations where water pools or ponds after rain events and provides sufficient time for reproduction and metamorphosis (Morey 1998, pp. 86–90; Morey 2005, p. 515; Service 2023, p. 13).

Western spadefoots are uniquely adapted to dry conditions and have several behavioral and physiological adaptations to facilitate moisture retention and lessen the impacts associated with dry conditions (Service 2005, pp. II-228–II-229). One of these adaptations is its construction of burrows to allow for its long underground dry-season dormancy (Ruibal et al. 1969, pp. 573–577; Morey 2005, p. 516). To prevent water loss in the burrows, western spadefoots secrete a semipermeable membrane that thickens their skins making them highly resistant to dehydration and they are able to lose over half of their body weight due to evaporation (Duellman and Trueb 1994, pp. 197–203). While in their burrows western spadefoots are also able to absorb moisture from the soil by maintaining higher osmotic body fluid pressure that exceeds that of the soil moisture tension (Ruibal et al. 1969, pp. 578–581; Shoemaker et al. 1969, pp. 585–590).

Range and Distribution

The historical range of western spadefoot as a whole is from the vicinity of Redding in Shasta County, California, southward to northwestern Baja California, Mexico (Stebbins and McGinnis 2012, p. 157). In California, the western spadefoot is

found throughout portions of the foothills of the Sierra Nevada Mountains up to 4,500 ft (1,385 m), the Central Valley, and in the Coast Range from Santa Clara and Santa Cruz Counties to San Diego County (Service 2023, figure 2, p. 7). In Mexico, western spadefoots are known to occur from the U.S. international border south to approximately El Rosario near Mesa de San Carlos in Baja California, Mexico (Grismer 2002, pp. 84–85; Amphibian and Reptile Atlas 2023, entire).

Currently, the species is patchily distributed throughout its historical range (Service 2023, p. 7). A species distribution model for the northern portion of the western spadefoot's range (north of Santa Barbara, California) found the areas predicted to have suitable habitat are patchily distributed north in the Coast Range, along the foothills surrounding both sides of the Central Valley, and in remnant habitat within the Central Valley (Rose et al. 2020, entire; Service 2023, pp. 33–34). The species in southern California, based on survey efforts from researchers and regional HCP monitoring and survey efforts on Department of Defense (DOD) facilities, is also patchily distributed with occupied areas associated with the large, urbanized areas of Los Angeles and San Diego being mostly extirpated. The species in Baja California, Mexico is distributed in small populations dispersed throughout its historical range in Mexico.

Taxonomy

The western spadefoot (*Spea hammondii*) was first described and named by Spencer F. Baird in 1859, from a specimen collected by Dr. J. F. Hammond near Redding, California (Baird 1859, p. 12). Until the late 1960s, the species was regarded as having a broad geographic range from California to western Texas and Oklahoma with a distributional gap in the Mojave Desert of California (Storer 1925, p. 148). In the late 1960s, researchers identified morphological, vocalization, and reproductive differences between eastern (Arizona eastward) and western (California and Baja California) populations, justifying species recognition for each entity (Brown 1967, p. 759). The

study identified populations west of the Sierra Nevada Mountains and southward into Baja, Mexico, as retaining the name *Spea hammondii* (with a common name of western spadefoot), while the remainder of the populations were designated as *S. multiplicata* (Mexican spadefoot) or *S. intermontana* (Great Basin spadefoot).

Genetic Information

Genetic analysis of nuclear and mitochondrial DNA data from populations throughout the range of the western spadefoot identified two genetically distinct, allopatric (separate) clades that show no evidence of interbreeding, and researchers agree the two clades make up two separate entities (Neal et al. 2018, pp. 937–938; Neal 2019, p. 114).

Distinct Population Segment Evaluation

Under the Act, the term species includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature (16 U.S.C. 1532(16)). To guide the implementation of the distinct population segment (DPS) provisions of the Act, we, and the National Marine Fisheries Service (National Oceanic and Atmospheric Administration—Fisheries), published the Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act (DPS Policy) in the *Federal Register* on February 7, 1996 (61 FR 4722). Under our DPS Policy, we use two elements to assess whether a population segment under consideration for listing may be recognized as a DPS: (1) The population segment's discreteness from the remainder of the species to which it belongs, and (2) the significance of the population segment to the species to which it belongs. If we determine that a population segment being considered for listing is a DPS, then the population segment's conservation status is evaluated based on the five listing factors established by the Act to determine if listing it as either endangered or threatened is warranted.

Under the Act, we have the authority to consider for listing any species, subspecies, or, for vertebrates, any DPS of these taxa if there is sufficient information to indicate that such action may be warranted. Based on the information available regarding potential discreteness and significance for the western spadefoot, we have determined it is appropriate to review the status of the species by first conducting a DPS analysis.

Discreteness

Under our DPS Policy, a population segment of a vertebrate taxon may be considered discrete if it satisfies either of the following conditions: (1) it is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors (Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation); or (2) it is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

For the western spadefoot, we examined recent genetic information, the distribution of the species' populations, and a review of any potential barriers for dispersal as our means of determining discreteness for potential DPSs.

As discussed briefly above and in the SSA report (Service 2023, section 3.2, p. 5), there is substantial genetic evidence that the western spadefoot is biogeographically divided into two clades (a group of organisms having the same ancestral lineage) with no gene flow between the clades. Past genetic work on mitochondrial DNA analysis (Garcia-Paris et al. 2003, pp. 16–20) hinted at such separation but the sample size was limited. However, more recent genetic research (Neal et al. 2018, entire; Neal 2019, entire) looking at both nuclear and mitochondrial DNA with a larger sample size (45 sites for the northern clade and 20 sites for the southern clade) representing the distribution of the western spadefoot in California strongly suggests separation of the species into two

entities. The results of the most recent genetic research identified that individuals of the southern clade of *Spea hammondii* share more genetic characteristics with *S. intermontana* that occur in eastern California than they do with members of the western spadefoot clade in the north. In addition, the genetic information did not identify any mitochondrial haplotypes of the southern clade within the northern clade of the western spadefoot, signifying no apparent mixture of the two clades. These results confirmed that the northern and southern distributions of the western spadefoot are two genetically distinct, allopatric clades that show no evidence of interbreeding and are separate (Neal et al. 2018, p. 941; Neal 2019, pp. 107–114).

To further evaluate whether the northern and southern clades of western spadefoots are separate populations based on habitat associations, the same researchers (Neal et al. 2018, pp. 940–944; Neal 2019, pp. 1–30) used environmental niche modeling (ENM), that included numerous bioclimatic variables and slope information, to assess and quantify ecological differentiation that would be consistent with functional (physical) or physiological separation between the northern and southern populations. The results of the ENM further corroborated the genetic analysis results discussed above, with the western spadefoot inhabiting unique climatic niches between the northern and southern populations of western spadefoot indicating ecological differentiation. The genetic research and ENM identified the Transverse Range in northern Los Angeles and southern Santa Barbara counties as an area of unsuitable or unused habitat for the species that serves as a barrier to dispersal between the two populations. As a result, we have determined that the western spadefoot comprises two separately located discrete entities (northern and southern populations) that meet the condition of discreteness under our DPS Policy.

Significance

Under our DPS Policy, once we have determined that a population segment is discrete, we consider its biological and ecological significance to the larger taxon to which it belongs. This consideration may include, but is not limited to: (1) evidence of the persistence of the discrete population segment in an ecological setting that is unusual or unique for the taxon, (2) evidence that loss of the population segment would result in a significant gap in the range of the taxon, (3) evidence that the population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historical range, or (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

We evaluated each discrete population segment to see if it meets the conditions of significance under our DPS Policy, and we have determined that the two entities are significant to the western spadefoot.

The support for significance of the two DPSs is based, in part, on evidence that loss of either of these two population segments would result in a significant gap in the range of the taxon. The loss of either the northern or southern DPS would result in a substantial change in the overall range and distribution of the taxon. The loss of either the northern or southern DPS would shift the taxon's range by nearly half, resulting in a loss of range of approximately 450 miles (mi) (725 kilometers (km)) either north or south respectively. As a result, we have determined that the loss of the northern or southern DPS would result in a significant gap in the range of the taxon.

The support for significance of the two DPSs is also based on evidence that the two DPSs differ markedly in their genetic characteristics, such that the loss of the northern or southern DPS would result in the loss of a discrete genetic clade. As discussed above, the two DPSs have been found to be genetically divergent and thus most likely contribute to the adaptive capacity of the taxon. This in turn may assist each DPS

to adapt to both near-term and long-term changes in its physical and biological environment, thereby maintaining its representation. As a result, we have determined that the loss of the northern or southern DPS would be significant in that they differ markedly in their genetic characteristics, which satisfies the criteria for significance under our DPS Policy.

Distinct Population Segment Conclusion

Our DPS Policy directs us to evaluate whether populations of a species are separate from each other to the degree that they qualify as discrete segments and whether those segments are significant to the remainder of the species to which they belong. Based on an analysis of the best available scientific and commercial data, we conclude that the northern and southern populations (clades) of the western spadefoot are discrete from each other due to their marked genetic and physical separation. Furthermore, we conclude that the two discrete population segments are significant, based on evidence that a loss of either population segment would result in a significant gap in the range of the taxon and on evidence that the discrete population segments differ markedly from each other in their genetic characteristics. Therefore, we conclude that the two populations (northern and southern) of western spadefoot are both discrete and significant under our DPS Policy and, therefore, qualify as DPSs, which are uniquely listable entities under the Act.

Based on our DPS Policy, if a population segment of a vertebrate species is both discrete and significant relative to the taxon as a whole (i.e., it is a distinct population segment), its evaluation for endangered or threatened status will be based on the Act's definition of those terms and a review of the factors enumerated in section 4(a) of the Act. Having found that the two populations (clades) of the western spadefoot meet the definition of being DPSs, we then evaluate the status of the two populations of western spadefoot to determine whether either one meets the definition of an endangered or

threatened species under the Act. The extent of the areas occupied by the two DPSs are within the historical range of the western spadefoot (Figure 1).

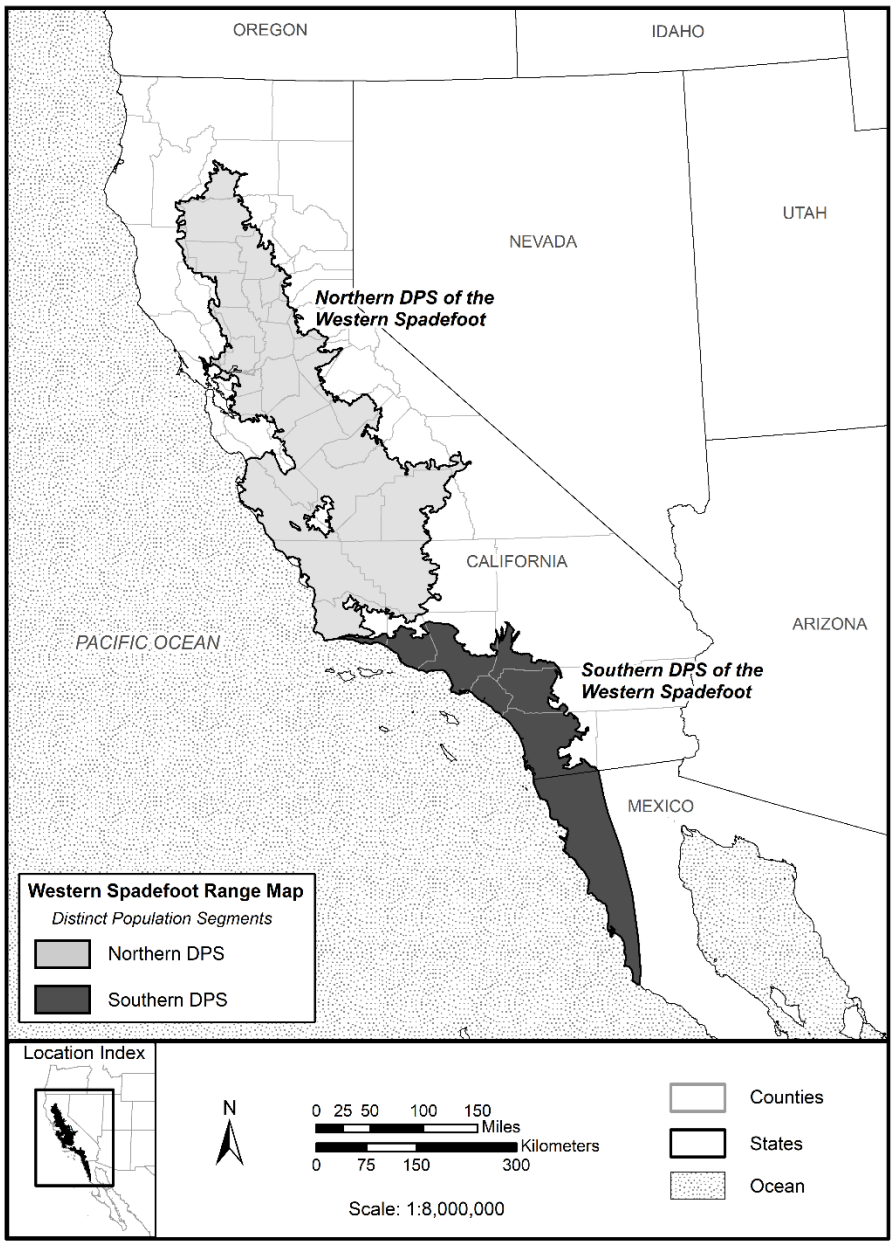


Figure 1: Distinct Population Segments of the Western Spadefoot

Description of Western Spadefoot Distinct Population Segments

Below is a general description of the occupied extent of the northern DPS and southern DPS of the western spadefoot.

Northern DPS of the Western Spadefoot: The range of the northern DPS of the western spadefoot is entirely in California and includes the area of the Sacramento and

San Joaquin Valleys from Shasta to Kern Counties including the lower elevation foothill areas of the Sierra Nevada Mountains and low-elevation and valley areas in the northern Coast Range from Tehama County south to Santa Clara County. In the southwest portion of the northern DPS's range, the occupied area extends from southern Santa Cruz County to southern Santa Barbara County of the Coast Range and is contiguous with the Central Valley portion of the DPS's range.

Southern DPS of the Western Spadefoot: The range of the southern DPS of the western spadefoot includes areas in southern California and northwestern Baja California, Mexico. In the United States, this includes valleys and low-lying areas of portions of the Coast Range from extreme southeastern Santa Barbara County south to Ventura, Los Angeles, San Bernardino, Orange, Riverside, and San Diego Counties. In Baja California, Mexico, this includes areas in the municipalities (municipio) of Tijuana and Playas de Rosarito, and portions of the municipalities of Tecate and Ensenada.

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species. In 2019, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR parts 424 regarding how we add, remove, and reclassify endangered and threatened species and the criteria for designating listed species' critical habitat (84 FR 45020; August 27, 2019). On the same day, the Service also issued final regulations that, for species listed as threatened species after September 26, 2019, eliminated the Service's general protective regulations automatically applying

to threatened species the prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

The Act defines an "endangered species" as a species that is in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether any species is an endangered species or a threatened species because of any of the following 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.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term "threat" to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term "threat" includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term "threat" may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an "endangered species" or a "threatened species" only after conducting this cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

The Act does not define the term "foreseeable future," which appears in the statutory definition of "threatened species." Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term "foreseeable future" extends only so far into the future as we can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. "Reliable" does not mean "certain"; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

It is not always possible or necessary to define the foreseeable future as a particular number of years. Analysis of the foreseeable future uses the best scientific and commercial data available and should consider the timeframes applicable to the relevant threats and to the species' likely responses to those threats in view of its life-history

characteristics. Data that are typically relevant to assessing the species' biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the species, including an assessment of the potential threats to the species. The SSA report does not represent our decision on whether the species should be proposed for listing as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies.

To assess the viability of the northern and southern DPSs of the western spadefoot, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of a species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy is the ability of a species to withstand catastrophic events (for example, droughts, large pollution events), and representation is the ability of a species to adapt over time to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, a species' viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the western spadefoot's ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the two DPSs' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated each DPS's life-history needs. The next stage involved an assessment

of the historical and current condition of each DPS's demographics and habitat characteristics, including an explanation of how each DPS arrived at its current condition. The final stage of the SSA involved making predictions about each DPS's responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of each DPS to sustain populations in the wild over time which we then used to inform our regulatory decision.

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on the two DPSs. To assess the current and future condition of each DPS, we evaluate the effects of all the relevant factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative-effects analysis.

The following is a summary of the key results and conclusions from the SSA report for the western spadefoot. Our review of information in the SSA report reflects the acknowledgement of the separation between the northern and southern clades of the western spadefoot and provides information regarding each clade's (DPS's) current and future condition individually. The full SSA report can be found at Docket FWS-R8-ES-2023-0095 on *https://www.regulations.gov* and from the Sacramento Fish and Wildlife Office, see **FOR FURTHER INFORMATION CONTACT**.

Summary of Biological Status and Threats

In the discussion below, we provide information on the species needs at the individual, population, and species level, the threats that are influencing the western spadefoot, and each DPS's current and future condition at the individual, population, and

DPS level as a result of the threats, to assess the overall viability and the risks to viability for both the northern and southern DPSs of the western spadefoot.

To evaluate the individual and cumulative threats that influence the current and future condition and viability of the two DPSs in each of their respective analysis regions, we evaluated the habitat factors of (1) habitat quantity and distribution, (2) habitat quality, and (3) rainfall, and the demographic factor of abundance for each DPS.

In determining potential future threats facing the northern and southern DPSs of the western spadefoot, we evaluated the existing threats and their magnitude or impact on each DPS. We then further evaluated the expected response of each DPS to those threats that we considered are driving the overall status of the two DPSs based on expected changes to the habitat and demographic factors identified above.

Species Needs for the Western Spadefoot

Below we discuss a summary of the information on the western spadefoot's individual, population, and species needs. For additional information on the species' needs see the SSA report (Service 2023, Chapter 7, pp. 12–22).

Individual Needs

The western spadefoot requires seasonal rains, aquatic breeding pools, appropriate terrestrial habitat, and food resources to fulfill its life history. The aquatic breeding pools and terrestrial habitat must be within dispersal distance of each other. The aquatic habitat includes water features such as vernal pools, ponds, ditches or other ponded surface waters with the appropriate temperature and hydroperiod for breeding and rearing young. The water features used by the species typically support inundation during the late fall to early spring depending on when precipitation events occur and hold water for a minimum of 3 consecutive weeks. The appropriate water temperature for allowing development of eggs and tadpoles is between 9 and 30 °C (between 48 and 86 °F). In addition, the western spadefoot requires the presence of upland habitat adjacent and accessible to the

water features it uses for breeding and rearing. The dispersal distance required between upland refugia and aquatic habitat ranges and may be up to approximately 600 m (1,968 ft) with a mean dispersal distance of 40 m (131 ft) to 137 m (450 ft). The upland component is mostly associated with grassland or grassland/scrub vegetation on gently sloped landscapes with the appropriate soil makeup to allow for the species to create burrows and refugia during its active and inactive periods to avoid desiccation and provide cover. Other habitat or biological factors considered most significant for the western spadefoot include small invertebrate prey, and seasonal precipitation to fill aquatic habitat (November-May) (Service 2023, pp. 12–17).

Population Needs

At the population level, we used the best available information to assess the resources and circumstances that most influence the resiliency of western spadefoot populations. The population needs that we evaluate for this species are abundance, reproduction, and dispersal.

Because information on the exact make-up of populations for the western spadefoot is lacking, we looked to the western spadefoot's association with vernal pool habitat and the characteristics of vernal pools across the species' range as a proxy for determining population information. As a result, we divided the range of the two DPSs of western spadefoot into several regions based on the habitat characteristics of vernal pools. These regions are based partly on the recovery units in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Service 2005, pp. I-9–I-12), which were developed using the California Department of Fish and Wildlife's California Vernal Pool Assessment Preliminary Report (Keeler-Wolf et al. 1998, pp. 12–15). The vernal pool regions are separated largely on the basis of endemic species, with soils and geomorphology as secondary elements, but with some overlap of these features among vernal pool regions. The regions in the southern DPS's range were further refined by

species experts to best capture the different habitat types where the western spadefoot is found across southern California and Mexico (Fisher pers. comm. 2020, entire). Although these regions do not encompass all western spadefoot occurrences, they capture the majority of the vernal pool habitat that is considered ideal for western spadefoot. In total, we identified 10 regions for the northern DPS of the western spadefoot and 10 regions for the southern DPS of the western spadefoot (six in the United States and four in Mexico) (see Service 2023, figure 8, p. 37).

Population Abundance: Population abundance estimates do not exist for the western spadefoot throughout its range. This is partly because consistent rangewide population surveying has not been completed. Additionally, life history characteristics and dry-season dormancy makes it difficult to survey for the species except when breeding ponds are available (which may not be every year) and the species is active and above ground or by surveying for egg masses in aquatic habitat. State Natural Heritage occurrence data are available for the species in California along with limited survey information for Baja California, Mexico (McPeak 2000, p. 15; Grismer 2002, pp. 84–85; iNaturalist 2020, unpaginated; Amphibian and Reptile Atlas 2023, entire; CNDDB 2023, entire); however, the occurrence information does not uniformly provide numbers of individuals or absence data. Even when the information is provided, it is variable in content and may be too broad and lacking site specifics, be opportunistic (i.e., roadside records), and not revisited.

Reproduction and Recruitment: Although reproduction and recruitment estimates are not available for the western spadefoot rangewide, we were able to obtain recent estimates on the effective number of breeders in a subset of the breeding pools throughout most but not all of the western spadefoot's range (Neal 2019, pp. 95–165). The effective number of breeders is not a count of individuals; rather, it is the number of individuals that are contributing to the population size in a single cohort. Therefore, the

effective number of breeders is a measurement of the relative reproduction and recruitment effort of the population and gives insight into habitat and resource conditions (Wang et al. 2011, p. 918) within the areas surveyed, at least in the near term. We used information from the above mentioned study (i.e., Neal 2019, entire) and extrapolated it to develop rangewide estimates for both the northern and southern DPSs of the western spadefoot. This extrapolated information indirectly informed the potential demographic condition for the two DPSs. In order to do this, we averaged occurrence information across each region, which most likely overestimated abundance for the two DPSs. This overestimation was considered in our proposed listing determination for the two DPSs. See the SSA report for additional information (Service 2023, pp. 19, 20, 34–38).

For the northern DPS of the western spadefoot, the results of survey information identified the average effective number of breeders measured in multiple breeding pools to be near 5 individuals (5.25, ranging from 2.3 to 18.3) and for the southern DPS of the western spadefoot, the average effective number of breeders was 4 individuals (ranging from 1.4 to 20.7) (Neal 2019, p. 113). The required number of effective breeders for either DPS to reach population stability is unknown and information on the effective number of breeders for other species is lacking; however, we were able to compare the western spadefoot information with the black toad, another pond-breeding amphibian. The lowest estimation for effective number of breeders for the black toad ranged from 7 to 30 individuals (Wang 2009, pp. 3852–3853). Very small effective population sizes (<50 individuals) have been observed in other amphibians (Funk et al. 1999, pp. 1633, 1637; Rowe and Beebee 2004, pp. 292–296; Wang 2009, p. 3848; Wang et al. 2011, p. 914; Wang 2012, pp. 1033–1034; Richmond et al. 2013, p. 815). It is unknown if the small effective number of breeders that were measured for the western spadefoot are due to: (1) small population size due to population reductions; (2) recent extreme drought years throughout the western spadefoot's range; or (3) that the species has always had a

low number of effective breeders per population. Our rangewide estimates for both the northern DPS and southern DPS of the western spadefoot are similarly low and consistent with the information provided in the initial study (i.e., Neal 2019, entire).

Dispersal: Populations of western spadefoot need opportunities for dispersal and interbreeding among multiple well connected breeding pools (Halstead et al. 2021, pp. 1377–1393). Dispersal between breeding pools creates metapopulations that allow for gene flow, which is vital for preventing inbreeding (Neal et al. 2020, pp. 613–627), and allows for recolonization of areas (Halstead et al. 2021, p. 1378).

Western spadefoots must disperse from their underground burrows to aquatic breeding habitat during the breeding season in order to reproduce. Seasonal precipitation is the environmental cue that initiates emergence and breeding dispersal to aquatic habitat (Dimmitt and Ruibal 1980, p. 26). The dispersal distance for the species is variable and heavily dependent on the amount and timing of precipitation in a given year (Baumberger et al. 2020, pp. 1, 7–8). The maximum dispersal distance recorded for the western spadefoot is 605 meters (m) (1,985 feet (ft)) (Baumberger 2020, pers. comm.) with mean dispersal distances being 69 m (226 ft) to 137 m (450 ft) (Baumberger et al. 2020, p. 7; Service 2023 p. 19). After the breeding season, adults and juveniles must be able to return to their terrestrial habitat and occupy or create underground burrows for shelter during the hot, dry inactive period (approximately May-October).

Species Needs

At the species level, we consider the needs of the northern DPS and southern DPS of the western spadefoot in terms of redundancy and representation. In the SSA report and this proposed rule, we evaluated the redundancy of the northern and southern DPSs of the western spadefoot by considering the number and distribution of sites occupied by each DPS within each region in relation to the scale of catastrophic events that are likely to occur. Having multiple populations that are interconnected and able to withstand

stochastic events and are distributed in multiple areas throughout each of the regions in our analysis, would allow for each DPS to withstand catastrophic events and therefore have sufficient redundancy at the species level.

Regarding representation, we consider the breadth of physical, ecological, and environmental diversity for the two DPSs based on their distribution within each geographic region. In general, these regions have broad distribution and the makeup of habitat within and between these regions encompass large physical, environmental, and climatic variability. These differences in conditions may influence temporal behaviors and may indicate genetic variability between geographic regions, which may help the two DPSs adapt to future environmental variability. Providing for each DPS of the western spadefoot with areas that represent the variation in climatic conditions and the unique biotic and abiotic features across each of the DPS's specific range would provide for representation for each DPS at the species level.

Threats Influencing the Current and Future Condition of the Western Spadefoot

Below is a summary discussion of threats and our evaluation of the response to those threats as described and analyzed in the SSA report for the western spadefoot. The specific threats associated with each DPS are identified in the status discussion for each DPS below. For additional information on the threats, see the SSA report (Service 2023, Chapters 8–10, pp. 22–82).

Our assessment of current and future threats impacting the northern and southern DPSs of the western spadefoot identified habitat loss, habitat condition (fragmentation, degradation, or alteration), nonnative predators, disease, wildfire, chemical contaminants, noise disruptions, the effects from climate change, and their cumulative impacts. We also considered existing conservation efforts and how they may be ameliorating the current threats. The threats we identified as having the most impact and potentially driving the status of the two DPSs include: the effects to habitat (loss, degradation, alteration, or

fragmentation) (Factor A) from urbanization or land conversion and the effects of climate change related to drought and increasing temperatures (Factor E). For a discussion of the threats of nonnative predators, disease, wildfire, chemical contaminants, and noise disturbance, please see the SSA report (Service 2023, pp. 22–32).

In our assessment of the future threats impacting the two DPSs, we projected the main driving threats identified above out 30–40 years to approximately mid-century (to 2060). We based this timeframe on information regarding the effects of climate change and expected human population growth. This timeframe represents estimates of mid-century climate projections and human population and development projections for California (The California Economic Forecast 2017, p. 2; Bedsworth et al. 2018, p. 23). This timeframe also represents multiple generations (5 to 6) for the species as well multiple potential periods of severe drought conditions as based on recent past climate change trends. The current and future threats and their impact to the western spadefoot are summarized below.

Habitat Loss

Both the northern DPS and southern DPS of the western spadefoot suffered dramatic habitat reductions in the mid to late 1900s when urban and agricultural development and water storage and delivery construction were rapidly destroying natural habitats in the Sacramento Valley, Central Valley, and southern California (Jennings and Hayes 1994, p. 96; Thomson et al. 2016, p. 134). This loss of habitat has been attributed as the predominant factor in the change from past abundance to the current fragmented distribution of the species (Morey 2005, p. 515). Although large-scale rapid loss of habitat has curtailed due to both a decrease in habitat conversion and implemented conservation efforts, we expect a low but persistent level of habitat loss from development and land conversion to continue to varying degrees within the range of the

two DPSs in the future, especially near large, urbanized areas throughout the two DPSs' ranges.

Habitat Fragmentation, Degradation, or Alteration

The latent effects of habitat loss described above have led to much of the remaining occupied western spadefoot habitat becoming fragmented or isolated. Encroachment on and bifurcation of western spadefoot habitat from urbanization, agriculture, roads, canals, and other human associated features and infrastructure have reduced the extent of upland habitat, restricted dispersal opportunities, altered hydrology of aquatic habitat, and increased anthropogenic effects (i.e., increased pollution, debris, human or pet access). Such impacts have limited the size of existing habitat and most likely reduced western spadefoot population abundance and distribution within the occupied areas. Small remnant areas may contain aquatic habitat with a shortened inundation period or provide less upland habitat, thereby reducing the needs of the western spadefoot (Shedd 2016, p. 20).

In addition, the plant community within the grassland landscapes in California has dramatically changed since European settlement of the area (Burcham 1956, pp. 81–85). These changes resulted from numerous factors including the reduction of wetlands, changes to native herbivore abundance and distribution, reduction of wildfire, and changes in vegetation from mostly perennial grasslands to annual nonnative species (Barry et al. 2006, pp. 7–9). Nonnative annual vegetation or overabundance of vegetation can degrade vernal pool habitat by intrusion into the ponded areas, increasing vegetative matter, or causing shortening of the hydroperiod of the pools (Clark et al. 1998, pp. 251–252; Marty 2005, pp. 1626–1632). Over time, such degradation and alteration may cause vernal pool and other wetland habitats to be less productive or be lost as breeding habitat for the western spadefoot due to changes in environmental conditions, reduction in

upland areas, or lack of management options to maintain and conserve such areas (Marty 2005, p. 1626; Service 2005, pp. I-16–I-28, II-232–II-234; Vollmar et al. 2017, pp. 2–13).

The Effects of Climate Change

The effects of climate change impact numerous environmental conditions both directly and indirectly and include temperature, precipitation, wildfire frequency and intensity, sea-level rise, and drought conditions. In determining the effects of climate change on the western spadefoot, we looked at the impact of the effects of climate change as they relate to drought conditions and increased temperatures because these factors most likely impact the species' aquatic habitat that is required for breeding and rearing purposes.

Drought Conditions: Western spadefoots are dependent on the timing and amount of seasonal precipitation (precipitation patterns) as well as other environmental conditions for supplying both feeding and breeding resources for the species to meet its life-history requirements. Precipitation provides not only moisture for ponded habitat and prey but also cues western spadefoot to emerge from their underground burrows. In addition, the aquatic habitat must be a particular temperature and stay ponded during specific timeframes and length of time for western spadefoot reproduction to be successful (Service 2023, pp. 29–30).

California's annual and seasonal precipitation patterns are extremely variable, and dry conditions are common (California Department of Water Resources 2021, entire). As discussed above and in the SSA report, western spadefoots are adapted to dry conditions by both behavioral and physiological characteristics (see *Species and Habitat Information* above and Chapter 5 in the SSA report (Service 2023, pp. 9–10). The U.S. Drought Monitor (a partnership of several Federal agencies and programs) gathers national precipitation information and categorizes normal and dry years (drought conditions) into six categories of increasing dryness and severity that includes: normal or wet conditions

(None), abnormally dry (level D0), moderate drought (level D1), severe drought (level D2), extreme drought (level D3), and exceptional drought (level D4) (U.S. Drought Monitor 2023, entire). Within the last 15 years, portions of California within the western spadefoot's range have experienced extreme drought conditions (D3 conditions) in 2007–2009, 2012–2014, and again in 2020 and 2022 (Williams et al. 2015, pp. 6823–6824; NOAA 2021a and 2021b, entire; California Department of Water Resources 2022, pp. 2–4) and exceptional drought conditions (D4 conditions) in 2014–2016 and 2021 (NOAA 2021a and 2021b, entire). Drought decreases the quality and quantity of aquatic breeding pools available for western spadefoots. Without aquatic breeding pools available, dispersal and reproductive opportunities are limited and may ultimately reduce the abundance of a population if those conditions continue over extended periods. Such drought conditions are expected to continue into the future (Diffenbaugh et al. 2015, pp. 3931–3936; Bedsworth et al. 2018, pp. 24–27). These recent extreme drought events (such as the 2012–2014 drought) may be a contributing factor to the currently estimated low effective number of breeders in western spadefoot populations (Williams et al. 2015, pp. 6819, 6826; Neal 2019, p. 32). Although it is uncertain whether the species' effective breeding population sizes will remain low or rebound from currently low levels, the lack of precipitation and the effects from severe droughts are a major driving threat and contribute to the current and future overall condition of the northern and southern DPSs of the western spadefoot.

Increased Temperature: In California, as a result of climate change, the annual average temperatures have increased by about 0.8 degrees Celsius (°C) (1.5 degrees Fahrenheit (°F)) since 1895, with minimum temperatures rising nearly twice as fast as the maximum temperatures and the intensity, frequency, and duration of summer extreme heating events (heat waves) increasing since 1950 (Kadir et al. 2013, pp. 38, 48).

As stated in the SSA report, the aquatic habitat for western spadefoots must be within a particular temperature range and maintain inundation for egg development, tadpole growth, and metamorphosis to be successful (Storer 1925, p. 158; Burgess 1950, p. 49–51; Brown 1967, p. 746; Feaver 1971, p. 53; Morey 1998, p. 86; Service 2023, p. 13). Higher ambient temperatures can influence water temperatures and dry aquatic habitat sooner, thereby shortening the appropriate breeding season for the western spadefoot.

The future effects of climate change will likely continue to cause increased temperatures throughout the range of both western spadefoot DPSs (Bedsworth et al. 2018, p. 22). In California, statewide models project warming of an additional 2–4 °C (3.6–7.2 °F) (Representative Concentration Pathway (RCP) 4.5, medium-emissions scenario) to 4–7 °C (7.2–12.6 °F) (RCP 8.5, high-emissions scenario) by the end of the century depending on future greenhouse gas emissions (Pierce et al. 2018, pp. iv, 17–18). These mean annual changes in temperature will likely have impacts and be felt most strongly as extreme temperature events, which are predicted to increase (Pierce et al. 2018, pp. 18–19). The future impacts from increased temperatures would result in a continued negative impact on aquatic habitat, which may reduce opportunities for or result in a reduction in breeding success (by increasing water temperatures or reducing inundation periods) for the northern and southern DPSs of the western spadefoot.

Conservation Efforts and Regulatory Mechanisms

Several vernal pool species (vernal pool crustaceans and plants) that occur within the range of both the northern and southern DPSs of the western spadefoot are listed as endangered or threatened species under the Act (Service 1998, p. 3; Service 2005, Table I-1, pp. I-4–I-7). The western spadefoot is included as a covered species in the 2005 Recovery Plan for Vernal Pool Species (Service 2005, pp. II-220–II-235). In the northern DPS of the western spadefoot's range, the endangered Santa Barbara DPS (Service 2000,

entire) and the threatened Central DPS (Service 2004, entire) of the California tiger salamander (*Ambystoma californiense*), and the threatened California red-legged frog (*Rana draytonii*) (Service 1996, entire) are found. The California red-legged frog also occurs in portions of the range of the southern DPS of the western spadefoot in southern California and Baja California, Mexico (Peralta-Garcia et al. 2016, pp. 168–170; Thomson et al. 2016, pp. 103–104). The California Department of Fish and Wildlife (CDFW), on its Special Animals List, considers the western spadefoot as a priority "Species of Special Concern" with a global and State ranking as a vulnerable species (G3 and S3—at moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors) (Thomson et al. 2016, p. 103; CDFW 2019, entire).

As a result of these regulatory or recovery actions, a number of conservation efforts have been carried out directly and indirectly for the purpose of conserving and recovering listed vernal pool and amphibian species including the western spadefoot. Some of those conservation actions have included land acquisition and restoration for the purpose of protecting vernal pool and ponded habitat that is beneficial for the western spadefoot. A study of extant vernal pool habitat preserved within regions of the northern DPS of the western spadefoot found 270,329 ac (109,398 ha) out of 764,862 ac (309,529 ha) of extant vernal pool habitat (35 percent) protected in the northern DPS's range (Vollmar et al. 2017, pp. 1–14). In the southern DPS's range in California, approximately 157,554 ac (63,760 ha) of known western spadefoot habitat has been preserved out of approximately 306,782 ac (124,151 ha) (approximately 51 percent) (Service 2023, table 6). This conservation has been achieved in large part as a result of the land acquisition, protection, and restoration activities associated with Service-permitted Habitat Conservation Plans (HCPs) and State natural community conservation plans (NCCPs) (CDFW 2015, entire). The HCPs and NCCPs within the range of the two DPSs provide

mechanisms to balance wildlife conservation with development or other activities that may negatively impact sensitive species. Currently, 15 HCPs and 15 NCCPs (some are combined HCP/NCCPs) include western spadefoot as a covered species (5 HCPs are within the range of the northern DPS, and 10 HCPs are within the range of the southern DPS in California) (Service 2023, pp. 101–108, Appendix A). When looking at all the conservation efforts for the western spadefoot the number of populations occurring on managed preserves and considered conserved is 17 populations for the northern DPS and 102 populations for the southern DPS. Approximately 17 percent of the habitat available to the northern DPS is conserved, compared to approximately 50 percent for the southern DPS of the western spadefoot (Service 2023, p. 62). Conservation activities that have been included in HCPs for the western spadefoot include habitat protection, light pollution minimization, erosion control of vernal pool habitat, work windows that avoid the reproductive season when western spadefoot are dispersing, exclusion fencing, entrapment avoidance, and monitoring. Several large-scale HCPs have been implemented and are currently protecting large areas of habitat for the western spadefoot. Two examples of large-scale HCPs in the range of the southern DPS of the western spadefoot include the 2004 Western Riverside County Multi-Species HCP (MSHCP) (Dudek and Associates 2003, entire) and the 1998 South County HCP in San Diego County (San Diego County 1998, entire). These two HCPs cover areas in the western portion of the southern DPS's range and help minimize the effects of urbanization, development, and other human activities as well as assist in maintaining populations of the southern DPS by establishing connected ecosystem preserves, controlling unauthorized access, monitoring habitat conditions, and maintaining and improving aquatic and upland habitat. Together, the two HCPs have established over 425,000 ac (171,992 ha) of preserve lands in the western portion of the southern DPS's range. Although not all of the preserve land is used

by the southern DPS, the preserve land they do occupy within the two HCP areas is well connected and provides both aquatic and upland habitat of high quality.

For the northern DPS of the western spadefoot several large-scale HCPs have also been implemented including the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (San Joaquin Co. Plan) (San Joaquin County 2000, entire), the South Sacramento Habitat Conservation Plan (County of Sacramento et al. 2018, entire), and the Yolo HCP/NCCP (Yolo Habitat Conservancy 2018, entire). These plans cover areas in Central and Sacramento Valley portions of the northern DPS's range (San Joaquin, Sacramento, and Yolo Counties) and help minimize the effects of urbanization, development, and other human activities as well as assist in maintaining populations of the northern DPS by establishing connected ecosystem preserves were possible, monitor habitat conditions, and maintain and improve aquatic and upland habitat for the northern DPS of the western spadefoot. The San Joaquin Co. Plan is the longest standing plan and has assisted in conserving approximately 20,196 ac (8,173 ha) of habitat including areas of vernal pools, seasonal wetlands, vernal pool grasslands, and foothill grasslands that are used by the northern DPS of the western spadefoot. The South Sacramento Habitat Conservation Plan and Yolo HCP/NCCP are recently approved and implemented plans and the level of conservation is not to the extent of the San Joaquin Co. Plan, although some conservation within the two plan areas has been implemented and previously established preserves (outside of the planning efforts) within the plan areas do protect and conserve habitat used by the northern DPS of the western spadefoot, especially in areas occupied by other listed species such as the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardi*), and California tiger salamander.

In addition to HCPs, several Department of Defense (DOD) facilities are within the range of both the northern and southern DPSs of the western spadefoot, and these

installations have developed integrated natural resources management plans (INRMPs) that help guide management of natural resources in a manner consistent with sustainability of natural resources. Conservation measures within the INRMPs are included specifically for western spadefoot or for vernal pool habitat that western spadefoots use. The DOD facilities associated with western spadefoot in the northern DPS's range include the U.S. Army facilities of Fort Hunter Liggett in Monterey County (DOD 2022b, entire), and Camp Roberts in Monterey and San Luis Obispo County (DOD 2022a, entire) and Vandenberg Space Force Base in Santa Barbara County (DOD 2015, entire; DOD 2021, entire). The measures being implemented by these facilities are assisting to protect and conserve habitat and are assisting in providing localized connectivity of habitat and redundancy of habitat in areas under DOD jurisdiction.

The DOD facilities in the southern DPS of the western spadefoot's range include areas in San Diego County associated with Marine Corp Base Camp Pendleton in the Coastal Military Land Region. The Base occupies approximately 125,000 ac (50,586 ha) in northwestern San Diego County. Surveys conducted in 2013 detected the southern DPS at 70 locations across the Base. Conservation measures being implemented to conserve the southern DPS of the western spadefoot include: management and control of nonnative species; erosion control; education and training; habitat restoration, creation, and enhancement; off-road vehicle restrictions in sensitive areas; survey and monitoring; use adaptive management based on the best available science; and avoidance and minimization measures (MCB Camp Pendleton INRMP, DOD 2018, pp. N-69–N-70). The measures being implemented by these facilities are assisting to protect and conserve habitat and are assisting in providing localized connectivity of habitat and redundancy of habitat in areas under DOD jurisdiction.

However, conservation of habitat alone by HCPs and INRMPs or through other regulatory mechanisms would not reduce the impacts associated with increased

temperatures or drought associated with the effects of climate change on the northern DPS and southern DPS of the western spadefoot.

Current Conditions

We describe the current condition of the two DPSs of the western spadefoot by characterizing their status in terms of resiliency, redundancy, and representation by analyzing the impact of both threats and conservation efforts on each DPS's individual and population needs. Our analysis of the current condition of the two DPSs is limited to the available records of observations for the species, the habitat quantity and quality in the areas they occur, the availability of dispersal between populations, the magnitude and distribution of threats across the landscape acting on each DPS, and the number of effective breeders estimated for areas for which data were available.

In our analysis of the recorded observations of the species, we reviewed those more recent records from 1980 to present to eliminate older records. In our analysis, we grouped occurrences within each of our defined geographic regions for each DPS. Regions with greater percentage of occupancy were considered to be able to better withstand any negative environmental or demographic stochastic events. Recent research has determined that habitat within a 2,000-m (6,562-ft) buffer of a spadefoot occurrence in the northern clade, and 1,000-m (3,281-ft) buffer in the southern clade, is the best predictor of habitat use for the two DPSs (Rose et al. 2020, p. 1; Rose et al. 2022, p. 9). To assess habitat quality, we reviewed the amount of grassland or shrub/scrub habitat within these predicted use areas. Because the species is dependent on seasonal precipitation patterns to fill and pond aquatic habitat for breeding and rearing, we evaluated the number of average precipitation seasons over a lifespan of an individual (approximately 6 years). By looking at this timeframe, we would be able to assess if an individual would have the opportunity to reliably breed and reproduce during its lifetime. However, as discussed above, the species is adaptable and is able to use nontraditional

habitat such as roadside ditches, waterfilled depressions, and ponded intermittent stream habitat as well as their preferred vernal pool habitat. Finally, we looked at information regarding the number of effective breeders at various locations where that information was available for the two DPSs to assist in determining abundance (see *Reproduction and Recruitment* above and Service 2023, pp. 19–20, section 7.2.3 Abundance). In areas that did not have information on the effective number of breeders, we looked to areas that were adjacent or had similar habitat and environmental conditions and qualitatively made our assessment for that region. Due to the limited information on occurrence records in Mexico, we looked to the species' occurrence information and relative degree of threats for the areas where they occur. Although the number of effective breeders required to support populations of the species at any given location is unknown, we considered those regions with higher numbers to be in better condition than those with lower numbers. To determine the overall current condition of the species in a region, we assessed the number and distribution of records of the species, habitat quantity/distribution, habitat quality, precipitation, and abundance together in our analysis.

Western Spadefoot Northern DPS—Current Condition

As discussed above, we divided the northern DPS of the western spadefoot into 10 regions. We evaluated the condition of each region individually and then determined the overall current condition of the northern DPS of the western spadefoot by combining our results for each region. Below we provide a summary of the current condition of the northern DPS of the western spadefoot.

Current Resiliency. As discussed in the SSA report (Service 2023, pp. 39–46), because we have limited information on long-term population trends for the DPS, we evaluated the northern DPS of the western spadefoot's resiliency as a function several factors including habitat quantity and distribution, habitat quality, precipitation and

whether it provides for sufficient aquatic habitat over time, and estimated abundance based on the effective number of breeders, as discussed above.

In reviewing the habitat conditions for the northern DPS of the western spadefoot, we found that, in the 10 regions we identified in our analysis, the majority (8 of 10) had large amounts of habitat that was well distributed throughout each region. The habitat quality for the regions varied geographically, with the regions associated with urbanized or fragmented habitat areas on the valley floor in low condition, and the regions located away from urbanized areas within higher elevation foothills of the Sierra Nevada Mountains or Coast Range having moderate or high quality habitat conditions. The rainfall or precipitation factor that we used in our analysis to account for the availability of aquatic habitat varied from high to moderate depending on the region's geographic distribution from north to south respectively, with those regions in the north having higher rainfall conditions. The demographic factor of abundance estimated by the effective number of breeders was found to be equally low for all regions and resulted in an overall current resiliency for the 10 regions to be either in low-moderate or low condition with 6 in low and 4 in low-moderate condition (Service 2023, pp. 32–48, table 3). However, as discussed above, the estimates for effective number of breeders is based on limited information and is considered very low when compared to other species and may either be a result of that incomplete information or that the species exhibits this life history trait and is able to maintain populations on the landscape despite low abundances. Based on the DPS's habitat factors being relatively high, all regions having recent occurrence records with evidence of breeding and recruitment, and the DPS being able to at least maintain populations throughout its historical range despite the latent impacts of habitat loss and current threats facing the DPS, we have determined that overall the populations of the northern DPS of the western spadefoot currently have sufficient resiliency to withstand population-level stochastic disturbances.

Current Redundancy. The northern DPS of the western spadefoot, despite habitat loss and fragmentation, is well distributed with approximately 160 local populations occupying areas throughout its historical range and in the regions that we identified for our analysis. Many of the areas occupied are also part of large-scale (county-wide) habitat conservation efforts or located on military installations (Camp Roberts, Fort Hunter Liggett, and Vandenberg Space Force Base), which have management plans in place to protect the DPS and its habitat. Other conserved and protected areas where the species occurs are located throughout the range of the DPS. As a result, the DPS currently has a sufficient number and distribution of populations to be able to spread the risk among multiple populations to minimize the potential loss of the DPS from catastrophic events. Therefore, we consider the northern DPS of the western spadefoot to currently have sufficient redundancy.

Current Representation. The northern DPS of the western spadefoot is distributed within the 10 regions identified in our analysis. As discussed above, we identified our analysis regions partly on the vernal pool regions identified by the California Department of Fish and Wildlife's California Vernal Pool Assessment Preliminary Report (Keeler-Wolf et al. 1998, pp. 12–15). These regions define vernal pool habitat largely on the basis of ecological characteristics, endemic species, soils, and geomorphology, and species occupying these habitats are uniquely adapted to the characteristics of the habitat where they occur. Because the DPS still maintains its distribution within all regions identified, we would expect the DPS to have sufficient ecological diversity and be able to adapt to the various environmental conditions it currently faces in the regions it occurs. Therefore, we consider the northern DPS of the western spadefoot to currently have sufficient representation.

Western Spadefoot Southern DPS—Current Condition

The current distribution of the southern DPS of the western spadefoot in California and Mexico is similar to its historically occupied range except for the areas associated with the heavily urbanized areas of the Los Angeles basin, San Diego County, Taiquana, Mexico, and other heavily developed areas along the California and Baja California coast (Service 2023, pp. 7–8). Recent occurrence information in Baja California, Mexico, has identified additional occurrence records throughout the historically occupied range of the species in Mexico (Amphibian and Reptile Atlas of Peninsular California 2023, entire). Based on this information, we consider that the DPS to have numerous well distributed populations consisting of recent (2018–2023) records (Amphibian and Reptile Atlas 2023, entire; CNDDB 2023, entire).

Current Resiliency. As discussed above, we have limited information on long-term population trends and abundance information for the species. As a result, we evaluated the southern DPS of the western spadefoot's current resiliency as a function of habitat quantity/distribution, habitat quality, precipitation, and demographic factors.

In reviewing the habitat for the southern DPS of the western spadefoot, we found that 9 of 10 regions have sufficient quantity of habitat that is well distributed throughout each region. As a result we categorized the habitat quantity and distribution to be high. The remaining region (Baja Central) is categorized as having low habitat quantity and distribution because of the limited information on the known populations in the regions and the makeup of their habitat. However, one population in Baja California is surrounded by habitat that is comprised of more than 80 percent grassland or scrub/shrub habitat (high category). As discussed above, recent information has identified additional occurrence records in the region and these records, based on our evaluation of aerial imagery, occur mostly in areas of suitable habitat type and are located away from development (Amphibian and Reptile Atlas 2023, entire).

The habitat quality in 7 of 10 regions is high with 3 in the low category. The 3 regions in low occur in Baja California, Mexico (Baja Northwest, Baja Central, and Baja South) because the percentage of grassland or scrub/shrub habitat within a recommended distance from some of the occurrence locations is below the threshold for this species—80 percent. However, although specific habitat information is not available, a review of the aerial imagery associated with the recent Baja California records identifies large portions of open grassland or shrub/scrub habitat type, but the exact type is uncertain. The rainfall or precipitation factor attributing to the likelihood of ponded habitat being available in each region was considered moderate based on precipitation patterns being relatively uniform across the 10 geographic regions.

The demographic factor of abundance estimated by the effective number of breeders was considered low for all regions except the Baja Central and Baja South Regions in Mexico, which we identified as unknown. The demographic factor of abundance estimated by the effective number of breeders was found to be equally low for all regions and resulted in an overall current resiliency for 7 of 10 regions to be low-moderate and 1 region in low condition (Service 2023, pp. 50–56, table 4). However, as discussed above, the estimates for effective number of breeders is based on limited information and is considered very low when compared to other species and may either be a result of that incomplete information or that the species exhibits this life history trait and is able to maintain populations on the landscape despite low abundances. Based on the DPS's habitat factors being relatively high, all regions having recent occurrence records with evidence of breeding and recruitment, the reduction of threats due to conservation efforts (see redundancy below), and the DPS being able to at least maintain populations throughout its historical range despite the latent impacts of habitat loss and current threats facing the DPS, we have determined that overall, the populations of the

southern DPS of the western spadefoot currently have sufficient resiliency to withstand population-level stochastic disturbances.

Current Redundancy. The southern DPS of the western spadefoot, despite habitat loss and fragmentation, is well distributed with more than 300 local populations currently extant and occupying all areas throughout its historical range. Many of the areas occupied are also part of large-scale (county wide) habitat conservation efforts (10 HCPs that identify the southern DPS as a covered species) that have conserved approximately 51 percent of available habitat for the DPS (Vollmar et al. 2017, pp. 1–14) or located on military installations (Marine Corps Base Camp Pendleton), which have management plans in place to protect the DPS and its habitat. Other conserved and protected areas where the DPS occurs are located throughout the range of the DPS. As a result, the DPS currently has a sufficient number and distribution of populations to be able to spread the risk among multiple populations to minimize the potential loss of the DPS from catastrophic events. Therefore, we consider the southern DPS of the western spadefoot to currently have sufficient redundancy.

Current Representation. The southern DPS of the western spadefoot is distributed within the 10 regions identified in our analysis. As discussed above, we identified our analysis regions partly on the vernal pool regions identified by the California Department of Fish and Wildlife's California Vernal Pool Assessment Preliminary Report (Keeler-Wolf et al. 1998, pp. 12–15) as well as species expert information. Because the DPS still maintains its distribution within all the regions identified, we would expect the DPS to have sufficient ecological diversity and be able to adapt to the various environmental conditions it currently faces based on the variable ecological regions in which it occurs and its adaptability of aquatic habitat it uses for breeding. Therefore, we consider the southern DPS of the western spadefoot to currently have sufficient representation.

The latent effects and current impacts from urbanization have resulted in a reduction and fragmentation of the southern DPS's habitat, thereby reducing connectivity between occupied areas and isolating populations. Recent severe multi-year drought conditions have impacted aquatic habitat across the DPS's range, limited breeding opportunities, and most likely contributed to the limited number of breeders being currently estimated for the DPS. However, our review of the DPS's current condition has found that the currently extant populations frequently occur in clusters of high-quality grassland and scrubland habitat that is within close proximity. Having numerous well distributed populations in high-quality aquatic and upland habitat will assist in reducing the impacts of drought. This gives the DPS the opportunity for dispersal and provides demographic connectivity. In addition, extensive habitat management in place through HCPs and INRMPs has been implemented, which assists in offsetting the effects of past habitat loss by protecting both the aquatic and upland estivation habitat as well as connectivity between such features. Because the DPS has more than 300 currently extant populations that are well distributed on the landscape and occur in high quality aquatic and upland habitat and many of these areas having substantial in-place and ongoing conservation and management to assist in protecting, conserving, and maintaining habitat availability, distribution, and quality for the DPS, we consider that the southern DPS of the western spadefoot to currently have sufficient resiliency, redundancy, and representation.

Future Conditions

Below we provide information on the future condition of the northern DPS and the southern DPS of the western spadefoot.

Western Spadefoot Northern DPS—Future Condition

As discussed in the SSA report, to assist in our analysis of the northern DPS of the western spadefoot's future condition, we developed three plausible future scenarios

based on differing emission projections and threat levels (RCP 4.5, RCP 8.5 with a continued threat level, and RCP 8.5 with increased threat levels) looking out approximately 30–40 years (Service 2023, chapter 10, pp. 57–82). This range represents estimates of mid-century climate projections and human population growth and development projections for California (The California Economic Forecast 2017, p. 2; Bedsworth et al. 2018, p. 23; California Department of Finance 2023, entire). Emission projections and their effects on climatic conditions are projected to at least the year 2100 (approximately 75 years). However, the timeframe we can reasonably predict the western spadefoot's response to these changing climate conditions is shorter due to the lifespan of the species and uncertainties associated with localized climate conditions. As a result, our foreseeable future is considered to extend to approximately the year 2060. This timeframe considers both environmental (the effects of climate impacts) and human use impacts (effects from habitat loss, fragmentation, degradation, and alteration) as we can reasonably predict the two DPS's response to these threats into the future. Scenario 1 includes an emission threshold of RCP 8.5 with increasing threats associated with development and drought. Scenario 2 includes a continuation of existing threats at their current magnitude under an RCP 8.5 emission threshold. This would result in decreases in habitat quality and increase of the effects of climate change. Scenario 3 includes threats following an RCP 4.5 emission threshold that would also cause a decrease in habitat quality and increase of the effects of climate change but at lower levels (Service 2023, pp. 61, table 5).

As stated above, the current populations of the northern DPS of the western spadefoot still occur throughout their historical range although the habitat has been fragmented and some populations are isolated and are most likely small with limited effective population sizes. In the future, drought conditions are expected to become more frequent and be of higher intensity and duration. The future condition that is consistent

across all three scenarios is increasing effects of climate change (drought, increased temperatures), with impacts only varying by degree. These impacts would most likely affect the DPS's aquatic habitat and its ability breed and reproduce and result in additional reductions in population size. Although the western spadefoot is adapted to variable environmental conditions such as drought, extended drought periods may become more frequent and may increase the timeframe between successful breeding events, which in some cases may be beyond the life expectancy of adults. This would lead to a reduction in population size and may extirpate smaller populations or those occupying degraded or fragmented habitat. Human population growth and the effects of urbanization are expected to continue in the future and would further fragment and degrade habitat, reduce population connectivity, and result in additional population declines across the approximately 160 current local populations. Potential extirpations of populations of the northern DPS of the western spadefoot from regions would result in fewer populations to maintain redundancy and thereby compromise the DPS's ability to withstand even localized catastrophic events. The loss of populations may also result in a decline of genetic diversity or occupancy in the variable ecological settings where it currently occurs thereby reducing the representation of the northern DPS of the western spadefoot.

Western Spadefoot Southern DPS—Future Condition

Our method for analyzing the future condition of the southern DPS of the western spadefoot is the same as for the northern DPS. As stated above, the current populations of the southern DPS of the western spadefoot have been fragmented and are isolated and are most likely small with a limited number of expected breeders. Increasing effects of climate change in the future (drought, increased temperatures) are projected across all three future scenarios, affecting the DPS's aquatic habitat and its ability to breed and reproduce, resulting in additional reductions in population size. More frequent, extended

drought periods may be beyond the life expectancy of adults. This would lead to reductions in population sizes and may extirpate smaller populations or those occupying degraded or fragmented habitat. In the future, we would expect the impacts from largescale habitat loss due to urbanization or other land use conversion to be diminished due to conservation efforts associated with HCPs and INRMPs. However, we expect the effects of climate change associated with drought to increase. Reductions in resiliency and/or extirpation of populations of the southern DPS of the western spadefoot would result in fewer populations to maintain redundancy, compromising the DPS's ability to withstand catastrophic events. The loss of populations may also result in a decline of genetic diversity or occupancy in the variable ecological settings where it currently occurs, reducing representation of the southern DPS of the western spadefoot into the future.

Determination of Western Spadefoot Status

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act defines an "endangered species" as a species in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as a species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether a species meets the definition of an endangered species or a threatened species because of any of the following 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.

Determination of Status for the Northern DPS and Southern DPS of the Western

Spadefoot

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the northern DPS and southern DPS of the western spadefoot and its habitat. Below we summarize our assessment of the current and future status of each DPS of the western spadefoot under the Act.

Northern DPS of the Western Spadefoot: Status Throughout All of its Range

In our analysis of the northern DPS's current status, we identified threats acting on the DPS to varying degrees, including impacts from development and urbanization (factor A), agricultural land conversion (factor A), chemical contaminants (factor E), nonnative predators (factor C), wildfire (factor A), noise disturbance (factor E), and the effects associated with climate change (most notably drought) (factor E). Of these threats, we identified habitat loss and degradation from urbanization (factor A) and the effects of climate change (factor E) mostly associated with severe drought as the major influences driving the current condition of the northern DPS of the western spadefoot.

Currently, the latent effects and current impacts from urbanization and other land conversion have resulted in a reduction, fragmentation, and degradation of the northern DPS's habitat (both upland and aquatic), thereby reducing connectivity between occupied areas and isolating populations. Aquatic habitat used for breeding, reproduction, and rearing has been impacted by severe multi-year drought conditions across the DPS's range and has limited breeding opportunities, and most likely contributed to the limited number of breeders estimated for the DPS. After evaluating threats to the northern DPS of the western spadefoot and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we have determined that overall viability of the DPS has declined from historical levels.

However, we find that currently the DPS: (1) maintains populations with sufficient resiliency to be able to withstand the environmental or demographic stochastic

events currently impacting the DPS; (2) maintains sufficient redundancy to withstand the catastrophic impacts it is facing such as the effects of climate change associated with drought; and (3) maintains sufficient representation based on the breadth of its populations occurring in the variable and unique habitats where it is currently known to occur, thereby maintaining the breadth of environmental diversity within or between populations.

The current viability of the DPS is based on (1) number and distribution of populations currently extant; (2) the amount, distribution, and quality of habitat currently available and used by populations of the DPS; (3) the current ability of the DPS to maintain its populations despite the existing threats; (4) and the amount of management, protections, and conservation currently afforded to the DPS through existing HCPs and INRMPs on military lands that have identified the western spadefoot or its habitat for conservation.

Although we have concluded that impacts resulting from present-day threats are currently negatively affecting the northern DPS of the western spadefoot, the DPS still has a sufficient degree of resiliency, redundancy, and representation. As such, after assessing the best available information, we conclude that the northern DPS of the western spadefoot is not currently in danger of extinction.

The main driving threats of increased frequency, magnitude, and duration of drought and latent and cumulative impacts of habitat loss (i.e., fragmentation, isolation, degradation) are expected to negatively affect the DPS into the future. Effects of climate change (drought, increased temperatures) are projected to increase across all three future scenarios in the next 30-40 years, affecting the DPS's aquatic habitat and its ability breed and reproduce, resulting in additional reductions in population size. More frequent, extended drought periods may be beyond the life expectancy of adults. This would lead to reductions in population sizes and may extirpate smaller populations or those

occupying degraded or fragmented habitat. In the future, human population growth and the effects of urbanization are expected to continue and would further fragment and degrade habitat, reduce population connectivity, and result in additional population declines across the range of the DPS. Reductions in resiliency and extirpation of populations of the northern DPS of the western spadefoot would result in fewer populations to maintain redundancy, compromising the DPS's ability to withstand catastrophic events. The loss of individuals and populations may also result in a decline of genetic diversity or occupancy in the variable ecological settings where it currently occurs, reducing representation of the northern DPS of the western spadefoot into the future.

After evaluating threats to the northern DPS of the western spadefoot and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, as well as considering the conservation efforts currently in place, we find that populations of the northern DPS of the western spadefoot will continue to decline over the next 30–40 years such that the northern DPS is likely to become in danger of extinction throughout all of its range within the foreseeable future due to increased frequency, intensity, and duration of drought conditions and impacts from continued human development, urbanization, and land use conversion. Thus, after assessing the best information available, we determine that the northern DPS of the western spadefoot is not currently in danger of extinction but is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Northern DPS of the Western Spadefoot: Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. The court in *Center for Biological Diversity* v.

Everson, 435 F. Supp. 3d 69 (D.D.C. 2020) (*Everson*), vacated the provision of the Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" (hereafter "Final Policy"; 79 FR 37578, July 1, 2014) that provided if the Services determine that a species is threatened throughout all of its range, the Services will not analyze whether the species is endangered in a significant portion of its range.

Therefore, we proceed to evaluating whether the DPS is endangered in a significant portion of its range—that is, whether there is any portion of the DPS's range for which both (1) the portion is significant; and (2) the DPS is in danger of extinction in that portion. Depending on the case, it might be more efficient for us to address the "significance" question or the "status" question first. We can choose to address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the DPS's range.

Following the court's holding in *Everson*, we now consider whether there are any significant portions of the DPS's range where the DPS is in danger of extinction now (i.e., endangered). In undertaking this analysis for the northern DPS of the western spadefoot, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the DPS and the threats that the DPS faces to identify any portions of the range where the DPS may be endangered.

We evaluated the range of the northern DPS of the western spadefoot to determine if the DPS is in danger of extinction now in any portion of its range. The range of a DPS can theoretically be divided into portions in an infinite number of ways. We focused our analysis on portions of the DPS's range that may meet the definition of an endangered species. For the northern DPS of the western spadefoot, we considered whether the threats or their effects on the DPS are greater in any biologically meaningful

portion of the DPS's range than in other portions such that the DPS is in danger of extinction now in that portion.

We examined the following threats: habitat loss, degradation, fragmentation, and isolation; nonnative species impacts (predation and competition); and the effect associated with climate change (increased temperature and severe drought), including cumulative effects. The impacts of these threats have affected and continue to impact the northern DPS of the western spadefoot across it range. Past habitat loss due to wetland and upland losses from urbanization and land conversion for agricultural purposes has occurred uniformly throughout the range of the DPS. The remaining areas where the habitat remains and the DPS occurs are limited to isolated and disjunct fragments of a once interconnected and expansive ecosystem. Current impacts from urbanization and agricultural land conversion are still occurring but have decreased in extent and magnitude from the conversions that occurred through at least the mid-twentieth century. However, the latent effects from historical losses such as population isolation, habitat fragmentation, and loss of representation and redundancy continue to affect the DPS across its range. This situation is reflected by the DPS's current distribution and occupancy in remnant grassland areas in the Sacramento and San Joaquin Valleys and within low-elevation foothill areas of the Sierra Nevada Mountains and Central Coast Range.

In our analysis of the current resiliency of the 10 regions for the northern DPS of the western spadefoot, the Solano-Colusa Region had the lowest resiliency score and was the only region to also have a low habitat quantity/distribution score. In a review of the other 9 regions, 8 of 9 regions had high habitat quantity/distribution scores with 1 region having a moderate habitat quantity/distribution score. We determined regions with high or moderate habitat quantity/distribution scores to be able to currently provide sufficient opportunities for the DPS to meet its life history needs and therefore withstand stochastic

and catastrophic events. As a result, we further reviewed the DPS's occurrence and habitat conditions in the Solano-Colusa Region to determine if the region may have a different status than the rest of the regions.

The number of western spadefoot records in the Solano-Colusa Region is limited to 10 records (CNDDB 2023, entire) and mostly occur within natural grassland or low elevation foothills between the Coast Range and Sacramento Valley in northern Yolo and southern Colusa County west of Interstate 5 and the town of Dunnigan, California. The habitat surrounding most of the records is made up of agricultural croplands, but other records do occur surrounding the area in natural grassland habitat. The records are relatively recent (1990 to 2019) and are associated with ephemeral creeks, artificially ponded livestock ponds, and natural intermittently ponded habitat in the rolling grassland and oak woodland habitat (CNDDB 2023, entire). The California tiger salamander also co-occurs with the northern DPS in this concentrated area and records have been found in a similar timeframe (1990 to 2017) (CNDDB 2023, entire). California tiger salamanders have similar life history and habitat requirements as the northern DPS of the western spadefoot. The California tiger salamander is a covered species within the Yolo HCP/NCCP which has identified the area for conservation by protecting 2,000 ac (809 ha) of upland habitat and approximately 36 ac (15 ha) of aquatic habitat in the area. Additional conservation measures include the requirement of some State and local projects occurring in any identified conservation areas would require a biological impact assessment before implementation, mitigation of impacts from activities, restoration and management of habitat, and implementation of a survey and monitoring program (Yolo Habitat Conservancy 2018, pp. ES-21, ES-22, and 3-18, 3-19). Although the habitat requirements of the California tiger salamander and the northern DPS are not exact and threats acting on them may impact each entity differently, preservation and management

of both aquatic and upland habitat will benefit the northern DPS of the western spadefoot in the Solano-Colusa Region.

In our analysis of the current condition of populations and resiliency in the SSA report, we looked to the number of populations and their distribution and the percentage of grassland habitat surrounding each population (Service 2023, pp. 34–38). Given the low number of records, their distribution in mostly two populations, and the area mostly surrounded by agricultural lands, we identified the habitat factors for the region to be low. However, after considering the information above regarding occupancy over time and the conservation measures in place for both aquatic and upland habitat being used by the northern DPS, we have determined that the northern DPS in the Solano-Colusa Region has sufficient resiliency, redundancy, and representation to currently maintain populations in the wild.

Although within the Solano-Colusa Region, the biological condition of the DPS differs from its condition elsewhere in its range, the best scientific and commercial information available do not indicate that the threats, or the species' responses to the threats, are such that the northern DPS of the western spadefoot is currently in danger of extinction in the identified portion. Based on the discussion outlined above, we find that the Solano-Colusa portion of the northern DPS is not in danger of extinction now.

Therefore, no portion of the northern DPS of the western spadefoot's range provides a basis for determining that the DPS is in danger of extinction in a significant portion of its range, and we determine that the DPS is likely to become in danger of extinction within the foreseeable future throughout all of its range. This determination does not conflict with the courts' holdings in *Desert Survivors* v. *U.S. Department of the Interior*, 321 F. Supp. 3d 1011, 1070-74 (N.D. Cal. 2018) and *Center for Biological Diversity* v. *Jewell*, 248 F. Supp. 3d 946, 959 (D. Ariz. 2017) because, in reaching this

conclusion, we did not apply the aspects of the Final Policy, including the definition of "significant" that those court decisions held to be invalid.

Northern DPS of the Western Spadefoot: Determination of Status

Our review of the best scientific and commercial information available indicates that the northern DPS of the western spadefoot meets the definition of a threatened species. Therefore, we propose to list the northern DPS of the western spadefoot as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

Southern DPS of the Western Spadefoot: Status Throughout All of Its Range

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to the southern DPS of the western spadefoot and its habitat. Below we summarize our assessment of the current and future status of the southern DPS of the western spadefoot under the Act.

As stated above, some populations of the southern DPS of the western spadefoot have been fragmented and are isolated and are most likely small with a limited number of effective breeders. However, our analysis of the current condition of the southern DPS of the western spadefoot, as assessed in the SSA report, shows that populations of the DPS are well distributed with multiple populations across all the ecological settings within the DPS's range. While threats are currently acting on the DPS at the individual level and many of those threats are expected to continue into the future, the main driving threats of habitat loss and the effects of climate change are not currently impacting the DPS as a whole across its range to the level to cause the DPS to not be able to sustain populations in the wild in the near term. The quality and distribution of occupied habitat for the southern DPS of the western spadefoot is considered high and we have determined that it will be able to support populations and withstand habitat loss impacts due to large areas being protected through HCPs and INRMPs and environmental impacts, including impacts from drought at least in the near term. This is reflected by the DPS's current

distribution and occupancy across more than 300 local populations despite previous long term and severe drought conditions. As a result, we do not find that the southern DPS of the western spadefoot is currently in danger of extinction throughout all of its range.

In the future, we would expect the latent impacts of habitat loss to continue and the effects of climate change associated with drought to increase. Effects of climate change in the future (drought, increased temperatures) are projected to increase across all three future scenarios in the next 30-40 years, affecting the DPS's aquatic habitat and its ability breed and reproduce, resulting in additional reductions in population size. More frequent, extended drought periods may be beyond the life expectancy of adults. This would lead to reductions in population sizes and may extirpate smaller populations or those occupying degraded or fragmented habitat. In the future, we would expect the impacts from largescale habitat loss due to urbanization or other land use conversion to be diminished due to conservation efforts associated with HCPs and INRMPs. However, we expect the effects of climate change associated with drought to increase. Reductions in resiliency and/or extirpation of populations of the southern DPS of the western spadefoot would result in fewer populations to maintain redundancy, compromising the DPS's ability to withstand catastrophic events. The loss of populations may also result in a decline of genetic diversity or occupancy in the variable ecological settings where it currently occurs, reducing representation of the southern DPS of the western spadefoot into the future.

After evaluating threats to the southern DPS of the western spadefoot and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, as well as considering the conservation efforts currently in place, we find that populations of the southern DPS of the western spadefoot will continue to decline over the next 30–40 years such that the southern DPS is likely to become in danger of extinction throughout all of its range within the foreseeable future due to increased frequency, intensity, and

duration of drought conditions and impacts from the past effects of development, urbanization, and land use conversion. Thus, after assessing the best information available, we determine that the southern DPS of the western spadefoot is not currently in danger of extinction but is likely to become in danger of extinction within the foreseeable future throughout all of its range.

Southern DPS of the Western Spadefoot: Status Throughout a Significant Portion of Its Range

Having determined that the southern DPS of the western spadefoot is not currently in danger of extinction but likely to become so in the foreseeable future throughout all of its range, we now consider whether any significant portion of the southern DPSs range may be in danger of extinction—that is, whether there is any portion of the DPS's range for which it is true that both (1) the portion is significant; and (2) the DPS is in danger of extinction now in that portion. Depending on the case, it might be more efficient for us to address the "significance" question or the "status" question first. We can choose to address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the DPS's range.

In undertaking this analysis for the southern DPS of the western spadefoot, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the DPS and the threats that the DPS faces to identify any portions of the range where the DPS may be endangered.

We evaluated the range of the southern DPS of the western spadefoot to determine if the DPS is in danger of extinction now in any portion of its range. The range of a DPS can theoretically be divided into portions in an infinite number of ways. We focused our analysis on portions of the DPS's range that may meet the definition of an

endangered species. For the southern DPS of the western spadefoot, we considered whether the threats or their effects on the DPS are greater in any biologically meaningful portion of the DPS's range than in other portions such that the DPS is in danger of extinction now in that portion.

For the southern DPS of the western spadefoot, we examined the following threats: habitat loss, degradation, fragmentation, and isolation; nonnative species impacts (predation and competition); and the effect associated with climate change (increased temperature and severe drought), including cumulative effects. The impacts of these threats have and continue to impact the southern DPS of the western spadefoot across its range. Past habitat loss due to wetland and upland losses from urbanization and land conversion for agricultural purposes has occurred uniformly throughout the range of the DPS. The remaining areas where habitat remains and the DPS occurs are smaller in size and distribution, but still well distributed and often in clusters within dispersal distance of the DPS.

In our analysis, we identified 7 regions having low-moderate and 1 region having low, and 2 regions within unknown overall resiliency. The two regions with unknown resiliency (Baja Central and Baja South) as well as the region with low resiliency (Baja Northwest) occur in Baja California, Mexico. Information on the exact population distribution and habitat for these areas is mostly lacking and our assessment of the southern DPS in these areas is mostly limited to occurrence information and a review of the areas they are found. Recent survey information has identified numerous occurrence records that are well distributed throughout the DPS's range in Baja California and the limited review of habitat conditions associated with these records shows that the majority of records are in areas associated with grassland or shrub/scrub habitat. Based on the best available information, we find that the habitat quantity and distribution within the Baja Northwest Region is high. Considering this and the recent occurrence records bolstering

our knowledge of the distribution and occupancy of the DPS in these 3 regions, we do not consider the biological condition of the DPS to differ from its condition elsewhere in its range. As a result, the best scientific and commercial information available do not indicate that the threats, or the DPS's response to the threats, are such that the southern DPS of the western spadefoot is currently in danger of extinction in the identified portions. Based on the discussion outlined above, we find that the DPS is not in danger of extinction now in the 3 identified regions.

Despite historical and current threats to the southern DPS of the western spadefoot, the southern DPS continues to maintain its distribution and extent throughout its range in the various ecological settings known for the DPS. In addition, many of these areas currently have substantial in-place and ongoing conservation and management to assist in protecting, conserving, and maintaining habitat availability, distribution, and quality for the southern DPS.

As a result, we found no biologically meaningful portion of the southern DPS of the western spadefoot's range where threats are impacting individuals differently from how they are affecting the DPS elsewhere in its range, or where the biological condition of the DPS differs from its current condition elsewhere in its range such that the status of the DPS in that portion differs from any other portion of the DPS's range.

Therefore, we find that the species is not in danger of extinction now in any significant portion of its range. This does not conflict with the courts' holdings in *Desert Survivors* v. *U.S. Department of the Interior*, 321 F. Supp. 3d 1011, 1070-74 (N.D. Cal. 2018) and *Center for Biological Diversity* v. *Jewell*, 248 F. Supp. 3d 946, 959 (D. Ariz. 2017) because, in reaching this conclusion, we did not apply the aspects of the Final Policy, including the definition of "significant" that those court decisions held to be invalid.

Southern DPS of the Western Spadefoot: Determination of Status

Our review of the best scientific and commercial information available indicates that the southern DPS of the western spadefoot meets the definition of a threatened species. Therefore, we propose to list the southern DPS of the western spadefoot as a threatened species in accordance with sections 3(20) and 4(a)(1) of the Act.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition as a listed species, planning and implementation of recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, Tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies, including the Service, and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process consists of preparing draft and final recovery plans, beginning with the development of a recovery outline. However, because the western spadefoot has already been included in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Service 2005, entire), providing an outline and planning and drafting a plan is not necessary. The recovery plan uses an

ecosystem approach on protecting and conserving vernal pool ecosystems and identifies goals, objectives, strategies, and criteria for conserving vernal pool species and their habitat and prioritizes certain tasks or measures in core areas and areas outside of those areas. The specific criteria for western spadefoot to be considered conserved is when 80 percent of the occurrences of the species are protected and 85 percent of the habitat within 11 of 15 vernal pool regions where it occurs is also protected. In reviewing the criteria for western spadefoot conservation in the recovery plan (Service 2005, pp. III-87–III-112), we have determined that these criteria have not been met to date. The final recovery plan is available on our website (*http://www.fws.gov/endangered*), or from our Sacramento Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

As stated above, the western spadefoot has already been included in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Service 2005, entire) and conservation measures have been identified for the species and its habitat. As a result, funding for conservation actions will continue to be available for both the northern DPS and southern DPS of the western spadefoot from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition,

pursuant to section 6 of the Act, the State of California would be eligible for Federal funds to implement survey and monitoring actions for the western spadefoot and implement conservation actions identified in the State's Wildlife Action Plan funded through State Wildlife Grants for the western spadefoot as the species is considered a species of greatest conservation need by the State. Information on our grant programs that are available to aid species recovery can be found at: *https://www.fws.gov/grants*.

We invite you to submit any new information on the northern DPS or southern DPS of the western spadefoot whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7 of the Act is titled Interagency Cooperation and mandates all Federal action agencies to use their existing authorities to further the conservation purposes of the Act and to ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. Regulations implementing section 7 are codified at 50 CFR part 402.

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal consultation is required (50 CFR 402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

In contrast, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action which *is likely* to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. Although the conference procedures are required only when an action is likely to result in jeopardy or adverse modification, action agencies may voluntarily confer with the Service on actions that may affect species proposed for listing or critical habitat proposed to be designated. In the event that the subject species is listed or the relevant critical habitat is designated, a conference opinion may be adopted as a biological opinion and serve as compliance with section 7(a)(2).

Examples of actions that may be subject to the conference and consultation procedures under section 7 processes are land management or other landscape-altering activities on Federal lands administered by the Bureau of Land Management, Department of Defense, U.S. Fish and Wildlife Service, U.S. Forest Service, and National Park Service as well as actions on State, Tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 et seq.) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat—and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation. Federal agencies should coordinate with the local Service Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on section 7 consultation and conference requirements.

It is the policy of the Services, as published in the *Federal Register* on July 1, 1994 (59 FR 34272), to identify to the extent known at the time a species is listed, specific activities that will not be considered likely to result in violation of section 9 of the Act. To the extent possible, activities that will be considered likely to result in violation will also be identified in as specific a manner as possible. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing. Although most of the prohibitions in section 9 of the Act apply to endangered species, sections 9(a)(1)(G) and 9(a)(2)(E) of the Act prohibit the violation of any regulation under section 4(d) pertaining to any threatened species of fish or wildlife, or threatened species of plant, respectively. Section 4(d) of the Act directs the Secretary to promulgate protective regulations that are necessary and advisable for the conservation of threatened species. As a result, we interpret our policy to mean that, when we list a species as a threatened species, to the extent possible, we identify activities that will or will not be considered likely to result in violation of the protective regulations under section 4(d) for that species.

At this time, we are unable to identify specific activities that will or will not be considered likely to result in violation of section 9 of the Act beyond what is already clear from the descriptions of prohibitions and exceptions established by protective regulation under section 4(d) of the Act.

Questions regarding whether specific activities would constitute violation of section 9 of the Act should be directed to the Sacramento Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

II. Proposed Rule Issued Under Section 4(d) of the Act for the Northern DPS and Southern DPS of the Western Spadefoot

Background

Section 4(d) of the Act contains two sentences. The first sentence states that the Secretary shall issue such regulations as she deems necessary and advisable to provide for the conservation of species listed as threatened species. The U.S. Supreme Court has noted that statutory language similar to the language in section 4(d) of the Act authorizing the Secretary to take action that she "deems necessary and advisable" affords a large degree of deference to the agency (see *Webster* v. *Doe*, 486 U.S. 592, 600 (1988)). Conservation is defined in the Act to mean the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Additionally, the second sentence of section 4(d) of the Act states that the Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or section 9(a)(2), in the case of plants. Thus, the combination of the two sentences of section 4(d) provides the Secretary with wide latitude of discretion to select and promulgate appropriate regulations tailored to the specific conservation needs of the threatened species. The second sentence grants particularly broad discretion to the Service when adopting one or more of the prohibitions under section 9.

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, courts have upheld, as a valid exercise of agency authority, rules developed under section 4(d) that included limited prohibitions against takings (see *Alsea Valley Alliance* v. *Lautenbacher*, 2007 WL 2344927 (D. Or. 2007); *Washington Environmental Council* v. *National Marine Fisheries Service*, 2002 WL 511479 (W.D. Wash. 2002)). Courts have also upheld 4(d) rules that do not address all of the threats a species faces (see *State of Louisiana* v. *Verity*, 853 F.2d 322 (5th Cir. 1988)). As noted in the legislative history when the Act was initially enacted, "once an animal is on the

threatened list, the Secretary has an almost infinite number of options available to [her] with regard to the permitted activities for those species. [She] may, for example, permit taking, but not importation of such species, or [she] may choose to forbid both taking and importation but allow the transportation of such species" (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

The provisions of this proposed 4(d) rule would promote conservation of the northern DPS and southern DPS of the western spadefoot by encouraging management of the habitat for the DPSs in ways that would facilitate their conservation. The provisions of this proposed rule are one of many tools that we would use to promote the conservation of the northern DPS and southern DPS of the western spadefoot. This proposed 4(d) rule would apply only if and when we make final the listing of the northern DPS and southern DPS of the western spadefoot as threatened DPSs.

As mentioned previously in **Available Conservation Measures**, section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, even before the listing of any species or the designation of its critical habitat is finalized, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of critical habitat proposed to be designated for such species.

These requirements are the same for a threatened species with a species-specific 4(d) rule. For example, as with an endangered species, if a Federal agency determines that an action is "not likely to adversely affect" a threatened species, it will require the Service's written concurrence (50 CFR 402.13(c)). Similarly, if a Federal agency

determinates that an action is "likely to adversely affect" a threatened species, the action will require formal consultation with the Service and the formulation of a biological opinion (50 CFR 402.14(a)).

Provisions of the Proposed 4(d) Rule for the Northern DPS and Southern DPS of the Western Spadefoot

Exercising the Secretary's authority under section 4(d) of the Act, we have developed a proposed rule that is designed to address the northern DPS and southern DPS of the western spadefoot's conservation needs. As discussed previously in **Summary of Biological Status and Threats**, we have concluded that the two DPSs are likely to become in danger of extinction within the foreseeable future primarily due to impacts to habitat and the effects of climate change. Section 4(d) requires the Secretary to issue such regulations as she deems necessary and advisable to provide for the conservation of each threatened species and authorizes the Secretary to include among those protective regulations any of the prohibitions that section 9(a)(1) of the Act prescribes for endangered species. We find that, if finalized, the protections, prohibitions, and exceptions in this proposed rule as a whole satisfy the requirement in section 4(d) of the Act to issue regulations deemed necessary and advisable to provide for the conservation of the northern DPS and southern DPS of the western spadefoot.

The protective regulations we are proposing for the northern DPS and southern DPS of the western spadefoot incorporate prohibitions from section 9(a)(1) of the Act to address the threats to the two DPSs. Section 9(a)(1) prohibits the following activities for endangered wildlife: importing or exporting; take; possession and other acts with unlawfully taken specimens; delivering, receiving, carrying, transporting, or shipping in interstate or foreign commerce in the course of commercial activity; or selling or offering for sale in interstate or foreign commerce. This protective regulation includes all these prohibitions because the northern DPS and southern DPS of the western spadefoot are at

risk of extinction in the foreseeable future and putting these prohibitions in place will help to prevent further declines, preserve the two DPS's remaining populations, slow their rate of decline, and decrease the cumulative negative effects from other ongoing or future threats.

In particular, this proposed 4(d) rule would provide for the conservation of the northern DPS and southern DPS of the western spadefoot by prohibiting the following activities, unless they fall within specific exceptions or are otherwise authorized or permitted: importing or exporting; take; possession and other acts with unlawfully taken specimens; delivering, receiving, carrying, transporting, or shipping in interstate or foreign commerce in the course of commercial activity; or selling or offering for sale in interstate or foreign commerce.

Under the Act, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Some of these provisions have been further defined in regulations at 50 CFR 17.3. Take can result knowingly or otherwise, by direct and indirect impacts, intentionally or incidentally. Regulating take would help preserve the DPS's remaining populations, slow their rate of decline, and decrease cumulative effects from other ongoing or future threats. Therefore, we propose to prohibit take of the northern DPS and southern DPS of the western spadefoot, except for take resulting from those actions and activities specifically excepted by the 4(d) rule.

Exceptions to the prohibition on take would include all the general exceptions to the prohibition on take of endangered wildlife as set forth in 50 CFR 17.21 and additional exceptions, as described below.

The proposed 4(d) rule would also provide for the conservation of the northern DPS and southern DPS of the western spadefoot by allowing exceptions that incentivize conservation actions or that, while they may have some minimal level of take of the two

DPSs, are not expected to rise to the level that would have a negative impact (i.e., would have only de minimis impacts) on either of the DPS's conservation. The proposed exceptions to these prohibitions include (1) activities associated with routine livestock ranching on private lands that provide and maintain breeding and upland habitats and maintain stock ponds; (2) implementation of livestock grazing as a tool in the course of vegetation management and to benefit the northern DPS or southern DPS of the western spadefoot in vernal pool landscapes; (3) landowner actions to maintain the minimum clearance of vegetation (defensible space) requirement of 100 feet (30 meters) from any occupied dwelling, occupied structure, or to the property line, whichever is nearer, to provide reasonable fire safety and to reduce wildfire risks to breeding and upland habitats of the western spadefoot and consistent with the State of California fire codes or local fire codes/ordinances; and (4) wildfire management actions (e.g., prescribed burns, hazardous fuel reduction activities, and maintenance of fuel breaks) to maintain, protect, or enhance habitat occupied by the northern DPS or southern DPS of the western spadefoot. These exceptions as discussed below are expected to have negligible or beneficial impacts to the northern DPS and southern DPS of the western spadefoot and its habitat.

Routine livestock ranching activities, such as those conducted in California's lower elevation foothill regions within the range of the northern DPS or southern DPS of the western spadefoot provide a substantial conservation benefit to the two DPSs. The conservation benefits provided by routine ranching activities include the establishment and maintenance of stock ponds that are often aquatic habitat for breeding and rearing of western spadefoot larvae and juveniles. The grazing of uplands by these ranching operations maintains grass and shrubland habitat from becoming overgrown and assists in adult western spadefoot's establishment of burrows, provides access to better foraging opportunities, and allows for better movement and dispersal. Grazing operations not following standard best management practices for rangeland grazing practices to avoid

overgrazing would not be part of this exception. By providing this exception, we are assisting in maintaining these ranching activities (and their benefits to the northern and southern DPSs of the western spadefoot) and avoiding potential conversion of these lands to incompatible uses such as urban development or agriculture.

Implementing livestock grazing as a management tool to reduce nonnative annual vegetation in areas associated with vernal pools assists in maintaining the aquatic habitat and provides breeding and rearing opportunities to the northern DPS and southern DPS of the western spadefoot. Nonnative annual vegetation or overabundance of vegetation can degrade vernal pool habitat by intrusion into the ponded areas or cause shortening of the hydroperiod of the pools. Small remnant vernal pool areas used by the two DPSs are usually degraded or altered and may have a shortened inundation period or provide limited upland habitat, thereby not providing for the needs of the two DPSs. Removal and maintenance of excessive vegetation may assist these smaller vernal pool areas to continue to be productive and be used as breeding habitat for the two DPSs.

In certain areas the use of fire and wildfire management such as prescribed burns, fuel reduction activities, and maintenance of fuel breaks (does not include use of heavy equipment such as bulldozers, backhoes, or tractors) may assist in protecting and maintaining habitat for the northern DPS or southern DPS of the western spadefoot. Similar to livestock grazing, prescribed fire actions and fuel reduction activities (vegetation removal), conducted outside the species' active period, remove excessive vegetation and allow for maintenance of ponded habitat and better access for the two DPSs to upland areas.

Establishing and maintaining required minimum vegetation clearance from dwellings or structures to reduce wildland fire risks to human life and property may assist in protecting and maintaining habitat for the northern DPS and southern DPS of the western spadefoot. This process includes activities necessary to maintain the minimum

clearance (defensible space) requirement from any occupied dwelling, occupied structure, or to the property line, whichever is nearer, to provide reasonable fire safety and to reduce wildfire risks consistent with the State of California fire codes or local fire codes/ordinances.

We find that the actions discussed above, taken by management entities in the range of the northern DPS and southern DPS of the western spadefoot for the purpose of reducing the risk or severity of habitat degradation and designed to maintain or restore open habitat for the species, will further the goal of reducing the likelihood of the two DPSs from becoming endangered species and will also continue to contribute to their conservation and long-term viability. We therefore establish that the prohibitions under section 4(d) of the Act for the protection of these two DPSs do not apply to such actions.

Despite these prohibitions regarding threatened species, we may under certain circumstances issue permits to carry out one or more otherwise-prohibited activities, including those described above. The regulations that govern permits for threatened wildlife state that the Director may issue a permit authorizing any activity otherwise prohibited with regard to threatened species including permits issued for scientific purposes, to enhance propagation or survival, for economic hardship, for zoological exhibition, for educational purposes, for incidental taking, or for special purposes consistent with the purposes of the Act (50 CFR 17.32). The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

We recognize the special and unique relationship with our State natural resource agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist us in implementing all aspects of the

Act. In this regard, section 6 of the Act provides that we must cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, any qualified employee or agent of a State conservation agency that is a party to a cooperative agreement with us in accordance with section 6(c) of the Act, who is designated by his or her agency for such purposes, would, without additional authorization, be able to conduct activities that are designed to conserve the northern DPS or southern DPS of the western spadefoot and that may result in otherwise prohibited take.

Nothing in this proposed 4(d) rule would change in any way the recovery planning provisions of section 4(f) of the Act, the consultation requirements under section 7 of the Act, or our ability to enter into partnerships for the management and protection of the northern DPS or southern DPS of the western spadefoot. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between us and other Federal agencies, where appropriate. We ask the public, particularly State agencies and other interested stakeholders that may be affected by the proposed 4(d) rule, to provide comments and suggestions regarding additional guidance and methods that we could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule (see **Information Requested**, above).

III. Critical Habitat for the Northern DPS and Southern DPS of the Western Spadefoot

Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (i.e., range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (e.g., migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that each Federal action agency ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation

requires that, where a landowner requests Federal agency funding or authorization for an action that may affect an area designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the Federal agency would have already been required to consult with the Service even absent the designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement "reasonable and prudent alternatives" to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat).

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the

Endangered Species Act (published in the *Federal Register* on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information from the SSA report and information developed during the listing process for the species. Additional information sources may include any generalized conservation strategy, criteria, or outline that may have been developed for the species; the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; other unpublished materials; or experts' opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or

threatened species; and (3) the prohibitions found in the proposed 4(d) rule. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

Critical Habitat Determinability

Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist:

(i) Data sufficient to perform required analyses are lacking, or

(ii) The biological needs of the species are not sufficiently well known to identify any area that meets the definition of "critical habitat."

We reviewed the available information pertaining to the biological needs of the northern DPS and southern DPS of the western spadefoot and habitat characteristics where the two DPSs are located. A careful assessment of the economic impacts that may occur due to a critical habitat designation is still ongoing, and we are in the process of working with our Federal partners, Tribes, and State and other partners in acquiring the complex information needed to perform that assessment. Therefore, due to the current lack of data sufficient to perform required analyses, we conclude that the designation of critical habitat for the northern DPS and southern DPS of the western spadefoot is not determinable at this time. The Act allows the Service an additional year to publish a critical habitat designation that is not determinable at the time of listing (16 U.S.C. 1533(b)(6)(C)(ii)).

Required Determinations

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

Regulations adopted pursuant to section 4(a) of the Act are exempt from the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.) and do not require an environmental analysis under NEPA. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244). This includes listing, delisting, and reclassification rules, as well as critical habitat designations and species-specific protective regulations promulgated concurrently with a decision to list or reclassify a species as threatened. The courts have upheld this position (*e.g.*, *Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995) (critical habitat); *Center for Biological Diversity* v. *U.S. Fish and Wildlife Service*, 2005 WL 2000928 (N.D. Cal. Aug. 19, 2005) (concurrent 4(d) rule)).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), E.O. 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes on a government-to-government basis. In accordance with Secretaries' Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal–Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We contacted all federally recognized Tribes in the range of the western spadefoot during the initiation of our SSA development process and had coordination meetings with several Tribes on the timing and opportunities for input into our listing process. We will continue to work with Tribal entities during the development of a final listing rule and for the designation of critical habitat for the northern DPS and southern DPS of the western spadefoot.

References Cited

A complete list of references cited in this rulemaking is available on the internet at *https://www.regulations.gov* and upon request from the Sacramento Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this proposed rule are the staff members of the Fish and Wildlife Service's Species Assessment Team and the Carlsbad, Sacramento, and Ventura Fish and Wildlife Offices.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Plants, Reporting and

recordkeeping requirements, Transportation, Wildlife.

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

2. In § 17.11, amend paragraph (h) by adding an entry for "Spadefoot, Western [Northern DPS]" and "Spadefoot, Western [Southern DPS]" to the List of Endangered and Threatened Wildlife in alphabetical order under AMPHIBIANS to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Common name	Scientific name	Where listed	Status	Listing citations and applicable rules
* * * * * * *				
AMPHIBIANS				
* * * * * * *				
Spadefoot, Western [Northern DPS]	*Spea hammondii*	U.S.A. (northern CA)	T	[*Federal Register* citation when published as a final rule]; 50 CFR 17.43(i);[4d]
Spadefoot, Western [Southern DPS]	*Spea hammondii*	U.S.A. (southern CA), Mexico (Baja California)	T	[*Federal Register* citation when published as a final rule]; 50 CFR 17.43(i);[4d]
* * * * * * *				

3. Amend § 17.43 by adding paragraph (i) to read as follows:

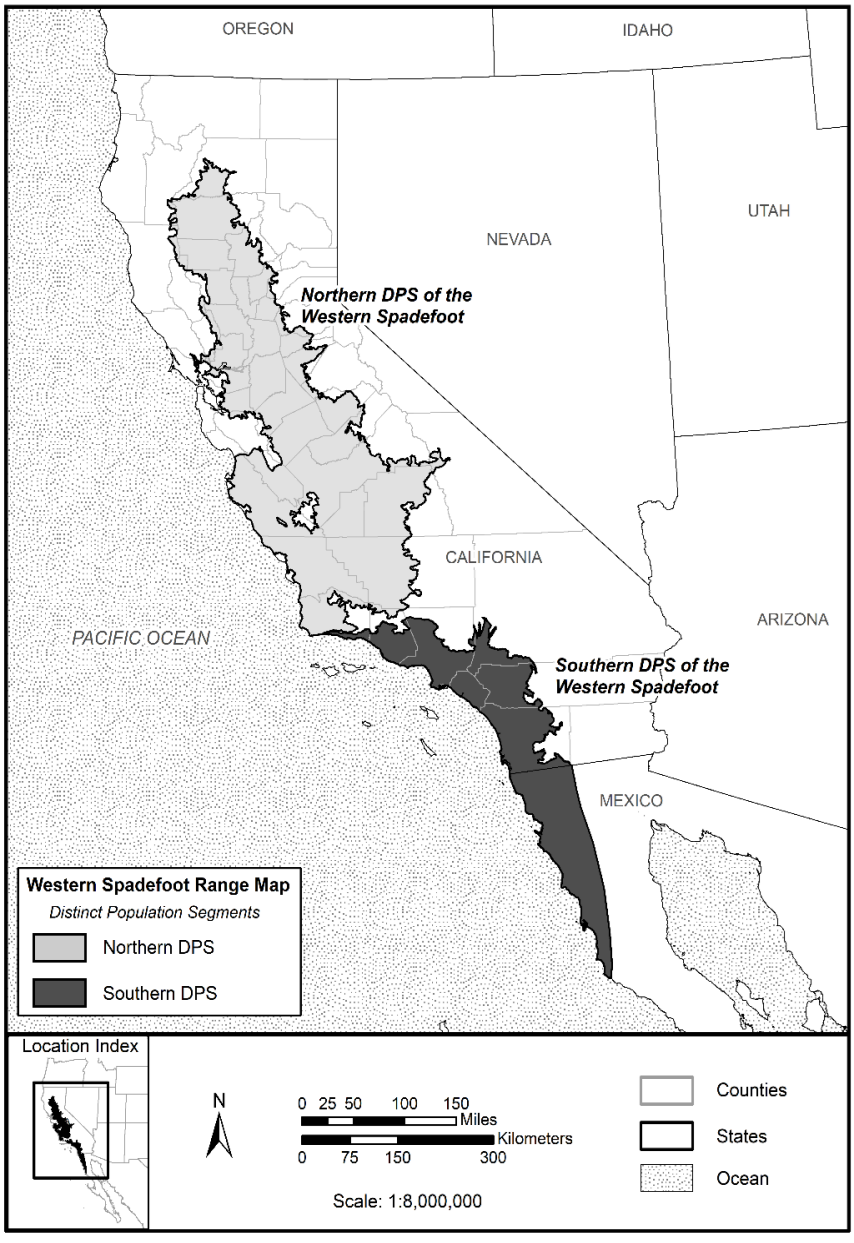
§ 17.43 Special rules—amphibians.

* * * * *

(i) Western spadefoot (*Spea hammondii*), northern distinct population segment (DPS) and Western spadefoot (Spea hammondii), southern DPS.

(1) *Location*. The northern DPS and southern DPS of the western spadefoot are shown on the map that follows:

Figure 1 to paragraph (i)(1)



(2) *Prohibitions.* The following prohibitions that apply to endangered wildlife also apply to the northern DPS of the western spadefoot and southern DPS of the western spadefoot. Except as provided under paragraph (i)(3) of this section and §§ 17.4 and 17.5, it is unlawful for any person subject to the jurisdiction of the United States to commit, to

attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to these DPSs:

(i) Import or export, as set forth at § 17.21(b) for endangered wildlife.

(ii) Take, as set forth at § 17.21(c)(1) for endangered wildlife.

(iii) Possession and other acts with unlawfully taken specimens, as set forth at § 17.21(d)(1) for endangered wildlife.

(iv) Interstate or foreign commerce in the course of a commercial activity, as set forth at § 17.21(e) for endangered wildlife.

(v) Sale or offer for sale, as set forth at § 17.21(f) for endangered wildlife.

(3) *Exception*s *from prohibitions.* In regard to this species, you may:

(i) Conduct activities as authorized by a permit under §17.32.

(ii) Take, as set forth at § 17.21(c)(2) through (4) for endangered wildlife.

(iii) Take as set forth at § 17.31(b).

(iv) Possess and engage in other acts with unlawfully taken wildlife, as set forth at § 17.21(d)(2) for endangered wildlife.

(v) Take incidental to an otherwise lawful activity caused by:

(A) Activities associated with routine livestock ranching on private lands that provide and maintain breeding and upland habitats and maintain stock ponds.

(B) Implementation of livestock grazing as a tool in the course of vegetation management and to benefit the northern DPS and southern DPS of the western spadefoot in vernal pool landscapes.

(C) Landowner actions to maintain the minimum clearance of vegetation (defensible space) requirement of 100 feet (30 meters) from any occupied dwelling, occupied structure, or to the property line, whichever is nearer, to provide reasonable fire safety and to reduce wildfire risks to breeding and upland habitats of the northern DPS

and southern DPS of the western spadefoot and consistent with the State of California fire codes or local fire codes/ordinances.

(D) Fire management actions (e.g., prescribed burns, hazardous fuel reduction activities, and maintenance of fuel breaks) to maintain, protect, or enhance habitat occupied by the northern DPS and southern DPS of the western spadefoot.

* * * * *

Martha Williams,
Director,
U.S. Fish and Wildlife Service.

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