DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2018–0071; FF09E21000 FXES11110900000 201]

RIN 1018–BC34

Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Wright's Marsh Thistle (Cirsium wrightii) With a 4(d) Rule and Designation of Critical Habitat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the Wright's marsh thistle (*Cirsium wrightii*), a plant species from New Mexico, as a threatened species and designate critical habitat under the Endangered Species Act of 1973, as amended (Act). After a review of the best available scientific and commercial information, we find that listing the species is warranted. Accordingly, we propose to list the Wright's marsh thistle as a threatened species with a rule issued under section 4(d) of the Act (''4(d) rule''). If we finalize this rule as proposed, it would add this species to the List of Endangered and Threatened Plants and extend the Act's protections to the species. We also propose to designate critical habitat for Wright's marsh thistle under the Act. The proposed critical habitat totals approximately 64.3 hectares (ha) (159 acres (ac)) in Chaves, Eddy, Guadalupe, Otero, and Socorro Counties, New Mexico. We also announce the availability of a draft economic analysis of the proposed designation of critical habitat for Wright's marsh thistle.

DATES: We will accept comments received or postmarked on or before November 30, 2020. 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 public hearings, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by November 13, 2020.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Search box, enter FWS–R2–ES–2018–0071, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment Now!''

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R2–ES–2018–0071; U.S. Fish and Wildlife Service, MS: JAO/1N, 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 *http://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: For the critical habitat designation, the coordinates or plot points or both from which the maps are generated are included in the administrative record and are available at the New Mexico Ecological Services website *https://www.fws.gov/southwest/es/NewMexico/index.cfm and* at *http://www.regulations.gov* under Docket No. FWS–R2–ES–2018–0071. Any additional tools or supporting information that we may develop for the critical habitat designation will also be available at the Service website set out above, and may also be included in the preamble and/or at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Shawn Sartorius, Field Supervisor, New Mexico Ecological Services Field Office, 2105 Osuna Rd. NE, Albuquerque, NM 87113; telephone 505–346–2525; facsimile 505–346–2542. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, if a species is determined to be an endangered or threatened species throughout all or a significant portion of its range, we are required to promptly publish a proposal in the **Federal Register** and make a determination on our proposal within 1 year. Critical habitat shall be designated, to the maximum extent prudent and determinable, for any species determined to be an endangered or threatened species under the Act. Listing a species as an endangered or threatened species and designations and revisions of critical habitat can only be completed by issuing a rule.

What this document does.

- Proposes to list Wright's marsh thistle as a threatened species. Wright's marsh thistle is a candidate species for which we have on file sufficient information on biological vulnerability and threats to support preparation of a listing proposal, but for which development of a listing rule has been precluded by other higher priority listing activities. This proposed rule reassesses all available information regarding the status of and threats to this species.
- Proposes a rule issued under section 4(d) of the Act (''4(d) rule'') that would make it unlawful to remove and reduce to possession the species from areas under Federal jurisdiction; maliciously damage or destroy the species on areas under Federal jurisdiction; or remove, cut, dig up, or damage or destroy the species on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law. Nothing in the proposed 4(d) rule affects in any way other provisions of the Act, such as the designation of critical habitat under section 4, the recovery planning provisions of section 4(f), and the consultation requirements under section 7.
- Proposes to designate critical habitat for the species on approximately 64.3 ha (159 ac) in Chaves, Eddy, Guadalupe, Otero, and Socorro Counties, New Mexico.

The basis for our action. Under the Act, we can determine that a species is an endangered or threatened species based on 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 stressors related to Factors A and E are causing Wright's marsh thistle to be threatened.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary) to designate critical habitat concurrent with listing to the maximum extent prudent and determinable. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas

within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Peer review. 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 sought the expert opinions of three appropriate and independent specialists during the analysis of the status of the species and the creation of the SSA report (USFWS 2017). The purpose of peer review was to ensure that our listing determination and critical habitat designation are based on scientifically sound data, assumptions, and analyses. The peer reviewers have expertise in Wright's marsh thistle's biology, life history, habitat, and range, and in the physical or biological features of its habitat. One of three peer reviewers provided comments on the species status assessment, which were integrated into the SSA report; these comments will be available along with other public comments in the docket for this proposed rule (see *http://www.regulations.gov,* Docket No. FWS–R2–ES–2018–0071).

Because we will consider all comments and information we receive during the comment period on this proposed rule, our final determinations may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that the species is endangered instead of threatened, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species. Such final decisions would be a logical outgrowth of this proposal, as long as we: (1) Base the decisions on the best scientific and commercial data available after considering all of the relevant factors; (2) do not rely on factors Congress has not intended us to consider; and (3) articulate a rational connection between the facts found and the conclusions made, including why we changed our conclusion.

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 concerned governmental agencies, Native American tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) Wright's marsh thistle's biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for all life cycle stages, seed production and dispersal, and seed germination and growth;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns;

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

(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) Factors that may affect the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors.

(3) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

(4) Additional information concerning the historical and current status, range, distribution, and population size of this species, including the locations of any additional populations of this species.

(5) Information on regulations that are necessary and advisable to provide for the conservation of the Wright's marsh thistle and that the Service can consider in developing a 4(d) rule for the species. In particular, information concerning the extent to which we should include any of the section 9 prohibitions in the 4(d) rule or whether any other forms of take should be excepted from the prohibitions in the 4(d) rule.

(6) The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including information to inform the following factors such that a designation of critical habitat may be determined to be not prudent:

(a) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;

(b) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(c) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(d) No areas meet the definition of critical habitat.

(7) Specific information on:

(a) The amount and distribution of Wright's marsh thistle habitat;

(b) What areas, that were occupied at the time of listing and that contain the physical or biological features essential to the conservation of the species, should be included in the critical habitat designation and why;

(c) Special management considerations or protections that may be needed in the critical habitat areas we are proposing, including managing for the potential effects of climate change; and

(d) What areas not occupied at the time of listing that are essential for the conservation of the species. We particularly seek comments:

(i) Regarding whether occupied areas are inadequate for the conservation of the species; and,

(ii) Providing specific information that supports the determination that unoccupied areas will, with reasonable certainty, contribute to the conservation of the species and, contain at least one physical or biological feature essential to the conservation of the species.

(8) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(9) Any probable economic, national security, or other relevant impacts of designating any area as critical habitat that may be included in the final designation, and the related benefits of including or excluding areas.

(10) Information on the extent to which the description of probable economic impacts in the draft economic analysis is a reasonable estimate of the likely economic impacts.

(11) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act.

(12) Whether we could improve or modify our approach to designating critical habitat in any way to provide for

greater public participation and understanding, or to better accommodate public concerns and comments.

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, will not be considered in making a determination, as 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.''

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 *http://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 *http://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 *http://www.regulations.gov.*

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. For the immediate future, we will provide these public hearings using webinars that will be announced on the Service's website, in addition to the **Federal Register**. The use of these virtual public hearings is consistent with our regulation at 50 CFR 424.16(c)(3).

Previous Federal Actions

On October 15, 2008, we received a petition from WildEarth Guardians requesting that we list Wright's marsh thistle as an endangered or threatened species under the Act. Additionally, the petitioner requested that critical habitat be designated concurrent with the listing of Wright's marsh thistle (thistle). On September 10, 2009, we published a 90-day finding in the **Federal Register** (74 FR 46542) that the petition presented substantial information that listing Wright's marsh thistle may be warranted. The 90-day finding stated that the petition provided substantial information indicating that listing Wright's marsh thistle may be warranted. At that time, we initiated a status review of the species.

On February 11, 2010, WildEarth Guardians filed suit against the Service for failure to issue a 12-month finding on the petition (*WildEarth Guardians* v. *Salazar,* No. 10–cv–00122 BRB–DJS (D.N.M.)). Under a stipulated settlement agreement, the 12-month finding was due to the **Federal Register** by October 31, 2010. On November 4, 2010, after review of all available scientific and commercial information, we published a 12-month petition finding (75 FR 67925), in which we found that listing Wright's marsh thistle as endangered or threatened throughout its range is warranted, but that listing of the thistle was precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants. As a result of the 12-month finding, we added Wright's marsh thistle to our candidate species list, with a listing priority number of 8, indicating that the thistle faced imminent threats that were of moderate magnitude. Thereafter, we reassessed the status of the species annually and determined that listing the thistle remained warranted but was precluded by higher priority activities under the Act (see 77 FR 69994, November 21, 2012; 78 FR 70104, November 22, 2013; 79 FR 72450, December 5, 2014; 80 FR 80584, December 24, 2015; 81 FR 87246, December 2, 2016).

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for the Wright's marsh thistle. 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. The Service sent the SSA report to 3 independent peer reviewers and received 1 response.

I. Proposed Listing Determination

Background

Species Description

Wright's marsh thistle (Gray 1853, p. 101), a member of the Asteraceae (sunflower) family, produces a 0.9- to 2.4-meter (m) (3- to 8-foot (ft)) single stalk covered with succulent leaves. There are two regional varieties of this species. The more eastern populations in the Pecos River valley of New Mexico have pink flowers and dark green foliage with higher plant height, while the more western and southern populations in New Mexico (and the previous populations in Arizona and Mexico) have white or pale pink flowers and pale green foliage (Sivinski 2011, pp. 27–28). The differences serve as evidence of ecological adaptability within the species, and we believe these differences represent genetic diversity between the eastern and western populations.

Life History

Depending on local environmental conditions, Wright's marsh thistle can display life-history traits of a biennial (a plant completing development in 2 years, flowering in its second year) or a weak monocarpic perennial (a plant that flowers, sets seed, and then dies). Cross pollination is achieved by insect pollinators, primarily bees. Like other species in the genus *Cirsium,* Wright's marsh thistle produces numerous seeds per flowering plant. After germination, seedlings develop into an intermediate rosette form for most of a year or longer before bolting (producing a stem) and growing into the mature, flowering plant. It does not reproduce vegetatively (asexually from parent plant). In order to progress through its life cycle, the thistle requires adequate soil alkalinity, water availability for permanent root saturation, and access to full sunlight. Specifically, seeds require water-saturated soils and access to fairly direct sunlight for germination. Rosettes also require water-saturated soils and access to fairly direct sunlight in order to grow into a mature plant. Mature plants must also maintain permanent root saturation via water-saturated soils and tend to thrive better in full sunlight. For more details of the biology and life history of Wright's marsh thistle, please refer to chapter 2 of the SSA report (USFWS 2017).

Habitat and Distribution

Wright's marsh thistle is a rare wetland species that grows in marshy habitats with year-round, water-saturated soils, at elevations between 1,150 and 2,390 m (3,450 and 7,850 ft) in elevation (Sivinski 1996, p. 1; 2005, pp. 3–4). Wright's marsh thistle is an obligate of seeps, springs, and wetlands that have saturated soils with surface or subsurface water flow (Sivinski 1996, p. 1; USFWS 1998, p. 2; Worthington 2002, p. 2; NMRPTC 2009, p. 1). Within those spring and seep areas, it is usually associated with alkaline soils (Sivinski 2005, p. 3).

Historical Range

Wright's marsh thistle was historically known to occur in Arizona and New Mexico in the United States, and Chihuahua and Sonora in Mexico (Sivinski 2012, p. 2). The single location in Arizona was a historical 1851 collection from San Bernardino Cienega, which straddles the international border with Mexico, and no longer has suitable wetland habitat on the Arizona side of the border (Baker 2011, p. 7). There were 10 historical occurrences in New Mexico; however, in a recent search effort at one of the sites (Lake County), the thistle was not found (Sivinski 2011, p. 40), and another of the 10 records (Rattlesnake Springs, Eddy County) is now thought to be a hybrid between Wright's marsh thistle and the Texas thistle (*C. texanum*) (NMRPTC 2009, p. 2). Reports of Wright's marsh thistle from Texas were common (Keil 2006, p. 131; Sivinski 1996, pp. 2–4), but in subsequent examinations of Texas specimens purporting to be Wright's marsh thistle, the specimens were found to be Texas thistle or other *Cirsium* species (75 FR 67928; November 4, 2010).

The status of the Wright's marsh thistle in Mexico is presumed extirpated. There have been few verified historical collections, and the most recent site visit to Fronteras, Mexico, and Cerro Angostura, Mexico, indicated that the habitat had been mostly dried out and is no longer suitable (Sivinski 2017, entire).

Therefore, Wright's marsh thistle has been extirpated from all previously known locations in Arizona, two historical locations in New Mexico, and all known locations in Mexico, and it was misidentified and likely not ever present in Texas.

Current Range

In New Mexico, eight general confirmed locations of Wright's marsh thistle cover an area of approximately 43 ha (106 ac): Santa Rosa, in Guadalupe County; Bitter Lake National Wildlife Refuge (NWR), in Chaves County; Blue Spring, in Eddy County; La Luz Canyon, Karr/Haynes Canyon, Silver Springs, and Tularosa Creek, in Otero County; and Alamosa Creek, in Socorro County (Bridge 2001, p. 1; Sivinski and Bleakly 2004, p. 2; NMRPTC 2009, p. 1; Sivinski 1994, p. 1; Sivinski 1996, p. 2; Sivinski 2005, p. 1, 3–5; Sivinski 2009; USFWS 1998, p. 1; Worthington 2002, p. 1–3). In Otero County, the Sacramento Mountains have four unique populations of the species clustered within about 16 kilometers (km) (10 miles (mi)) of each other on the west slope of the mountains. The remaining four localities are widely disjunct, separated from the Sacramento localities by about 120 to 225 km (75 to 140 mi) and from each other by about 120 to 345 km (75 to 215 mi). In the Sacramento Mountains, two of these four localities occur on the Lincoln National Forest, one locality is on private land, and the remaining locality is on the Mescalero Apache Reservation. In the Pecos River Valley, one locality is on public lands on Bitter Lake NWR; one is on private land near Blue Springs and the Black River; and one is in the vicinity of Santa Rosa on private, municipal, and State lands. The remaining locality is on private land on Alamosa Creek, Socorro County. Localities vary in relative population size from fewer than 20 individuals covering only about 0.02 ha (0.03 ac) at the Silver Springs locality (Sivinski 2012, p. 21), to several thousand individuals on Bitter Lake NWR, covering almost 9.3 ha (23 ac).

Regulatory and Analytical Framework

Regulatory Framework

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 is an ''endangered species'' or a ''threatened species.'' 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 expected response by the species, 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 the Services 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 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 for Wright's marsh thistle (USFWS 2017) documents the results of our comprehensive biological status review for the species, including an assessment of the potential threats to the species. The SSA report does not represent a decision by the Service on whether the species should be proposed for listing as an endangered or threatened species under the Act. It does, however, provide the scientific basis that informs our regulatory decisions, which involves the further application of standards within the Act and its implementing regulations and policies.

To assess Wright's marsh thistle viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency supports the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years), redundancy supports the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation supports the ability of the species to adapt over time to long-term changes in the environment (for example, climate changes). In general, the more resilient and redundant a species is and the more representation it has, the more likely it is to sustain populations over time, even under changing environmental conditions. Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species' viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species' life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. This process used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decision.

Summary of Biological Status and Threats

In this discussion, we review the biological condition of the species and its resources, and the threats that influence the species' current and future condition, in order to assess the species' overall viability and the risks to that viability.

To determine the species' current condition, we ranked each population based on six factors relating to population and habitat variables including habitat quantity, number of patches, abundance, reproduction, permanent root saturation, and full sun. For each of these six factors, we defined criteria for low, moderate, and high conditions, which are outlined in table 3.3 in chapter 3 of the SSA report. These criteria were used to determine an overall condition for each of the eight extant populations (USFWS 2017). The overall condition of a population refers to the likelihood of persistence over time. We expect a population in high overall condition to have a greater than 90 percent likelihood of persistence over the foreseeable future (in other words a 10 percent or less likelihood of extirpation). For a population in moderate condition, we estimate that the likelihood of persistence over the foreseeable future would be approximately 66 to 90 percent (10 to 33 percent likelihood of extirpation). For a population in low condition, we estimated a likelihood of persistence of approximately 25 to 66 percent over the foreseeable future (33 to 75 percent likelihood of extirpation) and a population in very low condition to have a likelihood of persistence of approximately 0 to 25 percent over the foreseeable future (75 to 100 percent likelihood of extirpation).

For Wright's marsh thistle to maintain viability, its populations or some portion thereof must be able to withstand stochastic disturbance. Resource needs that influence the resiliency of populations include constant soil saturation, alkaline soils, abundance of insect pollinators, and availability of direct sunlight. Additionally, secondary resource needs include agents of seed dispersal (wind, water, mammals, and birds), and water availability for seed germination. For more details on these resource needs and their impact on species viability, refer to chapter 2 of the SSA report (USFWS 2017). Factors that influence those resource needs will determine whether Wright's marsh thistle populations are able to sustain adequate numbers within habitat patches of adequate area and quality to maintain survival and reproduction in spite of disturbance, thereby increasing the resiliency of populations.

Maintaining representation in the form of genetic or environmental diversity is important to maintain Wright's marsh thistle's capacity to adapt to future environmental changes. A healthy community of insect pollinators, particularly bees and butterflies, leads to genetic diversity by the process of cross pollination between patches within a population. The differences in flower color (and perhaps differences in mature plant maximum growth height) represent differences in ecological adaptability between the eastern and western populations of the thistle, which may also represent a form of genetic diversity. There is a need to maintain the genetic and environmental diversity between the eastern and western groups, as their potential genetic and life-history attributes may buffer the thistle's response to environmental changes over time. Wright's marsh thistle has likely lost genetic and environmental diversity as populations have been reduced or extirpated. As such, maintaining the remaining representation in the form of genetic and environmental diversity may be important to the capacity of Wright's marsh thistle to adapt to future environmental change.

Wright's marsh thistle needs to have multiple resilient populations distributed throughout its range to provide for redundancy. The more populations, and the wider the distribution of those populations, the more redundancy the species will exhibit. In addition, populations of the

species can exhibit internal redundancy through the presence of multiple patches within the population. For example, the eastern populations of Wright's marsh thistle have multiple patches of occupied habitat within each population location, while the western populations typically have only one patch. The presence of multiple patches contributes to the ability of the population to maintain resiliency when faced with various risk factors. Redundancy reduces the risk that a large portion of the species' range will be negatively affected by a catastrophic natural or anthropogenic event at a given point in time. Species that are well-distributed across their historical range are considered less susceptible to extinction and have higher viability than species confined to a small portion of their range (Carroll *et al.* 2010, entire; Redford *et al.* 2011, entire).

Current Condition of Wright's Marsh Thistle

As stated above, the best available information indicates that Wright's marsh thistle is currently only found in eight localities in New Mexico. We believe the plant has been extirpated in Arizona, Mexico, and two locations in New Mexico, and never occurred in Texas. According to our current condition rankings outlined in chapter 3 of the SSA report, of the eight extant populations in New Mexico, three have been determined to have moderate resiliency, two have low resiliency, and three have very low resiliency and are at risk of extirpation. We consider the thistle to have representation in the form of genetic and environmental diversity resulting in two distinct phenotypes in the eastern and western populations, as described above. Within the two representation areas (east and west), three populations are extant in the east, and five populations are extant in the west. While there is greater redundancy in terms of number of populations in the western phenotype, the five extant populations in the western representation are much smaller in both the area occupied and population size. Therefore, the western populations are less resilient. This circumstance impacts the overall viability of the species by reducing the overall resiliency of the thistle to stochastic events.

Influence Factors for Wright's Marsh Thistle

The largest threats to the future viability of Wright's marsh thistle relate to habitat degradation from various stressors influencing the availability of the thistle's resource needs (*e.g.,* water availability). A brief summary of these primary stressors is presented below, followed by a table identifying the particular stressors, and the magnitude of those stressors, affecting each of the eight populations (Table 1). We also include a discussion of current conservation measures for the thistle and any existing regulatory mechanisms that may ameliorate or reduce the impact of the stressors. For a full description of these stressors, refer to chapter 4 of the SSA report (USFWS 2017).

Decreased Water Availability

The drying of Wright's marsh thistle habitat over approximately the last 25 years has led to shrinking population boundaries, a reduction in the numbers of plants, and, in some cases, a loss of all individuals at several localities (Sivinski 1996; Sivinski 2005, pp. 3–4; Sivinski 2012). Because the thistle occurs only in areas that are water-saturated, populations have a high potential for extirpation when the habitat dries up. Loss of water from Wright's marsh thistle habitat occurs through changing precipitation patterns or drought, or as a result of human impacts from groundwater pumping (withdrawal) or diversion of surface water, which can lead to the degradation and extirpation of the species' habitat (Sivinski 1996, p. 5; Sivinski 2005, p. 1; USFS 2008, p. 19). In addition to experiencing periods of drought, much of the habitat of Wright's marsh thistle has been and continues to be severely altered and degraded because of past and present land and water management practices that have led to ground and surface water depletion. For specific examples for each population, please refer to chapter 4, section 1 of the SSA report (USFWS 2017). All of the extant localities may be affected by long-term drought, whereas four of the largest localities at Blue Spring, Bitter Lake NWR, Santa Rosa, and Alamosa Creek have the potential to be further modified by ongoing and future water management practices. Drought, along with ground and surface water depletion, serve to decrease the amount of water available in Wright's marsh thistle habitat, which impacts the species' need for permanent root saturation. Reductions in precipitation and temperature are predicted, which suggests that these impacts will increase in the future, leading to further impacts to the thistle (NOAA 2017).

Decreased Water Availability: Drought

According to the United States Drought Monitor (2017), large portions (over 30 percent) of New Mexico, including Wright's marsh thistle habitat, experienced drought from approximately April 2011 until mid-2014. Within New Mexico, monsoonal summer precipitation can be very patchy, with some areas receiving considerably less rainfall than others. Newton *et al.* (2012) provides information on drought conditions in the range of the species, specifically in the Pecos River valley and Sacramento Mountains. The three eastern populations of Wright's marsh thistle in the Pecos River valley have not been affected by drought to the same extent as the western populations, because the Pecos River valley's marshy habitats are maintained by large regional aquifers. The western populations often rely on wet periods during summer months to recharge the ground water. In the Sacramento Mountains, because these wet periods are extremely rare events (Newton *et al.* 2012, p. 66), drought has notably impacted the area's groundwater tables (USFS 2008, p. 22). For this reason, the seasonal distribution of yearly precipitation can result in temporary drought conditions and reduced water availability for some Wright's marsh thistle localities within this mountain range.

Wright's marsh thistle is vulnerable to reduced water availability because the species occupies relatively small areas of spring or seep habitat in an arid region that is plagued by drought and ongoing aquifer withdrawals (*e.g.,* in the Roswell Basin). If future episodes of drought increase in frequency, duration, or intensity, additional dewatering and decrease of the thistle's habitat are likely to occur. Projected increases in temperature and increased variability in precipitation in locations where Wright's marsh thistle is currently located demonstrate the vulnerability of the habitat to reductions in water availability. The vulnerability of the habitat to increased drought depends, in large part, on the sources of their water supply. Habitats that are sustained mainly by precipitation in the Sacramento Mountains (five populations) are the most likely to be affected by increased drought, making drought a significant stressor to these populations. Alternatively, localities that are supplied primarily by groundwater in the Pecos River Basin (three populations) will likely have the greatest resistance to increased drought due to water stored in aquifers, making drought a slightly less significant stressor to the populations (*e.g.,* see Poff *et al.* 2002, pp. 18–19).

Decreased Water Availability: Ground and Surface Water Depletion

Wright's marsh thistle is a wetland plant that can be extirpated when its habitat dries out. The effects of ongoing and past maintenance and operation of existing water diversions can also limit the size of thistle populations (USACE 2007, p. 29). Sivinski (1994, pp. 1–2; 1996, p. 4; 2005, p. 1; 2006, p. 4) reported loss and degradation of habitat from water diversion or draining of wetlands that historically supported Wright's marsh thistle in Chaves, Otero, and Sierra Counties, New Mexico. The extent of ongoing and future water diversions is related to the extent of urban and agricultural development within a given area. Thus, the significance of the impacts of this stressor to each population can be correlated to the number of water diversions within the area for both urban and agricultural purposes. Specific details on impacts to each population can be found in chapter 4 of the SSA report (USFWS 2017). The alteration and loss of habitat that currently supports Wright's marsh thistle, due to groundwater and surface water depletion, will continue and likely increase in the foreseeable future. This projection is based on current and future development plans in areas surrounding each population; specific details are located in chapter 4 of the SSA report (USFWS 2017).

Decreased Water Availability: Effects of Climate Change

Because Wright's marsh thistle occupies relatively small areas of spring or seep habitat in an arid region plagued by drought and ongoing aquifer withdrawals (*e.g.,* in the Roswell Basin), it is expected to be vulnerable to changes in climate that decrease the availability of water to suitable habitat. Springs and wet valleys have been affected by drought in at least three canyons of the Sacramento Mountains, New Mexico, resulting in reduced population sizes. Similar water loss may occur within other Wright's marsh thistle localities (USFWS 2017). If changes in climate lead to future drought, additional dewatering and reduction of habitat for the thistle may occur.

Downscaled projections as of 2018 were available for our analysis of Wright's marsh thistle from the Climate Explorer program in the U.S. Climate Resilience Toolkit (NOAA 2017). The Climate Explorer is based on 32 models and produces a mean which can be used to predict changes in air temperature and precipitation for counties, cities or specific zip codes in the contiguous United States and portions of Canada and Mexico. Scenario RCP 4.5 is a moderate emissions scenario for atmospheric concentrations of greenhouse gases. Based on climate change projections for emissions at RCP 4.5, all locations where Wright's marsh thistle is currently located show increases in mean daily maximum temperature over the next 50 years by approximately 1.7 degrees Celsius (°C) (3 degrees Fahrenheit (°F)). For example, in Chaves County, New Mexico, mean daily maximum temperature is expected to rise from approximately 24.7 °C (76.5 °F) in 2010, to approximately 26.9 °C (80.5 °F) in 2060. Climate change scenario RCP 8.5 projects climate conditions based on higher CO_2 emissions. This scenario results in a projected change of approximately 3 °C (5.5 °F) over the next 50 years in Chaves County, New Mexico leading to a mean daily maximum of 28.2 °C (82.7 °F).

While mean daily precipitation is not expected to vary drastically over the next 50 years, the variability in precipitation throughout the year will increase. For example, in Otero County, mean daily average precipitation is projected to decrease during certain times of the year and increase during other times of the year relative to current conditions. In addition, the timing of maximum precipitation events may occur during different months than experienced in the past. This variability in precipitation will contribute to more periods of extreme drought and severe flooding events, which may impact the availability of water during times critical to life-history traits of Wright's marsh thistle (NOAA 2017).

Specific details on the effects of climate change are located in chapter 4 of the SSA report (USFWS 2017). Projected increases in temperature and increased variability in precipitation in locations where Wright's marsh thistle is currently located demonstrate the vulnerability of the species' habitat to changes in climate that will exacerbate the impact of existing stressors relating to availability of water and the extent of current and ongoing water withdrawals.

Decreased Water Availability: Summary

In summary, ground and surface water withdrawal and potential future increases in the frequency, duration, or intensity of drought, individually and in combination, pose a threat to Wright's marsh thistle and its habitat in the future. In addition, as Wright's marsh thistle has small, isolated populations, we expect the stressor of decreased water availability to further impact the species' overall viability. Thus, we expect that this threat will likely remain a significant stressor to the thistle and will likely intensify in the foreseeable future.

Livestock Grazing

In the semi-arid southwestern United States, wet marshes and other habitat of Wright's marsh thistle attract ungulates (*e.g.,* livestock, elk, and deer) because of the availability of water and high-quality forage (Hendrickson and Minckley 1984, p. 134). Livestock grazing is present at localities in the Sacramento Mountains, Santa Rosa, Blue Springs, and Alamosa Springs. At the Santa Rosa locality, photographs indicate that the growth of Wright's marsh thistle and the integrity of its habitat have been negatively affected by livestock herbivory and trampling (Sivinski 2012 pp. 33–53). Dry periods likely increase the effects of livestock trampling and herbivory on Wright's marsh thistle when other water and forage plants are not available (75 FR 67925). Grazing may be more concentrated within habitats similar to those occupied by Wright's marsh thistle during drought years, when livestock are prone to congregate in wetland habitats or where forage production is greater than in adjacent dry uplands (USFS 2003, entire). Livestock may trample individual plants and eat the thistle when other green forage is scarce, and when the seedlings or rosettes are developing and abundant. Further, livestock may eat mature plant inflorescences (the complete flower head), which could reduce seed production. For example, the threatened Sacramento Mountains thistle (*C. vinaceum*) (52 FR 22933), which is also found in New Mexico and associated with habitats similar to those occupied by Wright's marsh thistle, is eaten by livestock and appears to be the preferred forage at some times of the year. It may provide some of the only green forage during droughts (NMRPTC 2009, p. 2). Also, it is possible that livestock grazing within and adjacent to spring ecosystems could alter or remove habitat or limit the distribution of the thistle (USFWS 2017).

Effects of grazing on Wright's marsh thistle depend on timing; winter grazing (after seed dispersal and before seedling growth in spring) probably has a low effect on survival and reproduction, although there could be some trampling of rosettes. On the other hand, spring and early summer grazing probably reduces growth, survival, and reproduction. Late summer and early fall grazing is most severe, as flowering plants typically set seed at this time;

therefore, grazing during this period would inhibit reproduction. Finally, if a patch of Wright's marsh thistle was heavily grazed during the time of bolting or flowering over 2 or more consecutive years, the seed bank and long-term population trend in the affected patch could be negatively impacted. For example, observations of the impacts of grazing at some of the Wright's marsh thistle localities show that fewer thistles mature into flowering adults when the population experiences grazing pressure (Sivinski 2012 pp. 33–53). Livestock activities are considered a widespread stressor at the current time; localized impacts have been observed and there is a high potential for effects to populations. Increased use of wet springs and marshes by livestock during drought conditions constitutes a significant stressor in the future.

In summary, we find that livestock grazing poses a current and future threat to Wright's marsh thistle and its habitat through direct mortality and habitat degradation, and we expect that this threat will likely intensify at some localities (Sacramento Mountains, Santa Rosa, Blue Spring, Alamosa Springs) due to projected increases in drought periods that cause livestock to concentrate around Wright's marsh thistle localities. Because the thistle only occurs in small, isolated populations, the impacts of grazing could be a significant stressor to the species.

Native and Nonnative Plants

Some native and nonnative plants pose a threat to Wright's marsh thistle and its habitat through habitat encroachment and competition for resources at most localities. The native plants include cattails (*Typha* spp.); nonnative species include the common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), Russian olive (*Elaeagnus angustifolia*), saltcedar (*Tamarix* spp.), and Russian thistle (*Salsola* spp.) (Sivinski 1996, p. 6). These particular native and nonnative species all have the same effect on Wright's marsh thistle by functioning as invasive species with respect to the thistle's habitat. Though cattails and Wright's marsh thistle may have evolved in the same area, decreased water availability has altered habitat conditions such that cattails have a competitive advantage in Wright's marsh thistle habitat. These plants present unique challenges and potential threats to the habitat, including shade effects on Wright's marsh thistle seedlings and rosettes.

For example, the common reed, a nonnative invasive plant introduced from Europe and Asia, increases the potential for wildfire and is increasing in density at some locations in New Mexico. The dense plant growth blocks sunlight to other plants growing in the immediate area and occupies all available habitat (PCA 2005, p. 1). The increase of the common reed in Wright's marsh thistle habitat is a current threat to the species through increased wildfire risk, competition, and changes in hydrology (impacts on degree of soil saturation), especially when habitat is disturbed through burning or drying. The impacts vary based on location, with the greatest impacts occurring at Santa Rosa, Bitter Lake NWR, Blue Spring, and Tularosa Creek.

We expect that the threats caused by native and nonnative plant competition and habitat loss will likely continue and possibly intensify, due to lack of vegetation management practices at several locations (Santa Rosa, Blue Spring, Tularosa Creek) and the pervasiveness of native and nonnative plants despite ongoing efforts for habitat restoration at other locations (Bitter Lake NWR). As this species is comprised of small, isolated populations, the impacts of native and nonnative plants could pose a significant stressor to the thistle. Attempts to manage native and nonnative plants through herbicide use and mowing may also exacerbate effects to Wright's marsh thistle as these techniques are difficult to preferentially apply to only the native and nonnative plant species when habitat is shared. In addition, we expect increases in drought periods to exacerbate the effects of this stressor.

Oil and Gas Development and Mining

Oil and gas development occurs within and adjacent (*i.e.,* within 10 miles) of some areas occupied by Wright's marsh thistle including Santa Rosa, Bitter Lake NWR, and Blue Spring (New Mexico State Lands Office, 2017; NMDGF 2007, pp. 18–19; NMDGF 2005, p. 35). There are also mining activities adjacent (*i.e.,* within 5 miles) to other areas such as a potential beryllium mine at Alamosa Springs, and subsurface drilling and exploration of the mineral bertrandite on Sullivan Ranch near Alamosa Springs (New Mexico Mining and Minerals Division 2010; New Mexico State Lands Office, 2017; Sivinski 2012, p. 9). As of February 2020, the Service has no information on any new actions towards developing the potential beryllium mine at Alamosa Springs. The main impacts from oil and gas development and mining include the potential for contamination. Contamination from oil and gas development has been observed within close proximity (*i.e.,* within 16 km (10 mi) of some Wright's marsh thistle localities (New Mexico State Lands Office, 2017). While laws and regulations related to water quality have reduced the risk of contamination in and near occupied locations from oil and gas production, the likelihood that a spill could impact these habitats is still present based on the high volume of oil and gas leases near these areas.

Potential contamination from both oil and gas development and mining could have several impacts on plants (such as Wright's marsh thistle), including the following: increased available nutrients, which may favor competitive or nonnative plant growth; altered soil pH (either higher or lower), which can kill plants; absorption of chemicals, which can poison plants or cause poor growth or dead spots on leaves; and plant mortality. In addition, oil and other contaminants from development and drilling activities throughout these areas could enter the aquifer supplying the springs and seeps inhabited by Wright's marsh thistle when the limestone layers are pierced by drilling activities. An accidental oil spill or groundwater contamination has the potential to pollute water sources that support Wright's marsh thistle, and mining activities could alter or destroy habitat.

The largest occupied habitat area is less than 16 ha (40 ac), and more than half the known populations are less than 2 ha (5 ac) in size. Even a small, localized spill has the potential to contaminate and destroy a population. The loss of even one of the eight populations would result in loss of representation and redundancy to the species as a whole. Because this species is comprised of small, isolated populations, these stressors could potentially negatively affect the thistle, but it is unclear whether these impacts would be localized or widespread stressors as the interaction between contaminant spills and groundwater and surface water hydrology is poorly understood. Therefore, we have determined that oil and gas development and mining functions as a stressor to the future viability of the species via impacts to water sources that provide habitat for Wright's marsh thistle.

TABLE 1—STRESSORS IMPACTING EACH OF THE EIGHT POPULATIONS OF WRIGHT'S MARSH THISTLE

[USFWS 2017, chapter 4]

Population	Stressors to population					
	Decreased water availability			Livestock grazing	Native and nonnative plants	Oil and gas development
	Drought	Groundwater and surface water depletion	Effects of climate change			
Eastern Populations						
Santa Rosa Basin	XX	XX	XX	XXX	XX	X
Bitter Lake NWR	XX	XX	XX	.....	XX	XX
Blue Spring	XX	XXX	XX	XX	X	XX
Western Populations						
Alamosa Springs	XXX	XX	XX	X	.....	X
Tularosa Creek	XXX	XX	XX	.....	X	.....
Silver Springs	XXX	XXX	XX	X	.....	.....
La Luz Canyon	XXX	XXX	XX	X	.....	.....
Karr/Haynes Canyon	XXX	XXX	XX	X	X	.....

Note: XXX indicates a significant stressor to the population, XX indicates a moderate stressor to the population, and X indicates a mild stressor to the population.

Conservation Measures and Regulatory Mechanisms

Minimal conservation of Wright's marsh thistle is occurring on the Federal level. The Bitter Lake NWR manages invasive reeds in their moist soil/wetland units where the species is located. This management helps increase sunlight availability and decrease competition with nonnative species. The NWR also recently received a grant to complete seed collection efforts for Wright's marsh thistle. The Lincoln National Forest does not have active conservation for the thistle, but implements a 61-m (200-ft) buffer around occupied sites when projects occur within or near occupied areas.

At the State level, Wright's marsh thistle is listed as endangered, under the authority of the New Mexico Statutes Annotated 1978, at title 19 of the New Mexico Administrative Code at chapter 21, part 2, section 9 (19 NMAC 21.2.9). The provisions in New Mexico state law prohibit the taking of endangered plants on all lands of New Mexico (except tribal lands), except under valid permit issued by the State, and encourage conservation by State government agencies. In this instance, ''taking'' means the removal, with the intent to possess, transport, export, sell, or offer for sale. Further, if Wright's marsh thistle is listed under the Act, the State may enter into agreements with Federal agencies to administer and manage any area required for the conservation, management, enhancement, or protection of listed species. Funds for these activities could be made available under section 6 of the Act (Cooperation with the States). Thus, the Federal protection afforded to this plant by listing it as an endangered or threatened species would be reinforced and supplemented by protection under State law. In addition to the state endangered listing for Wright's marsh thistle, some protection is offered to the species through Title 19 of the New Mexico Administrative Code at chapter 15, part 2 (19 NMAC 15.2) which outlines general environmental provisions for water and wildlife relating to oil and gas operations including information on methods to reduce risk of contamination to the surrounding habitat. While this reduces the risks associated with oil and gas production to nearby occupied locations of the thistle, the high volume of oil and gas leases near these sites means the risk of impacts from a spill still persist.

Future Scenarios Considered

As there are a range of possibilities regarding the intensity of stressors (*i.e.,* decreased water availability to habitat, ungulate grazing, native and nonnative plants, oil and gas development, and mining) acting on the populations, we forecast Wright's marsh thistle's resiliency, representation, and redundancy under four plausible scenarios in the SSA report. For these scenarios, we considered four different trajectories for all threats acting on the species (*i.e.,* all threats increasing at two different rates, decreasing, or remaining at the current level). We did not look at interactions between threats (*i.e.,* one threat increasing with another threat decreasing), as data were not sufficient for this type of analysis. These four scenarios incorporate the best available information on projection of threat data up to 50 years in the future. Sources of data include, but are not limited to, development (urban, agricultural, oil and gas and mining) plans for various areas and climate change models. For example, we referenced the City of Alamogordo's 50-year development plan for projections of future water withdrawals. In regards to climate change models, we used a moderate emissions climate change scenario of RCP 4.5 from the 2017 U.S. Climate Resilience Toolkit, which provides a range of projections for temperature and precipitation through 2100 (NOAA 2017). We also used the U.S. Geological Survey's Monthly Water Balance Model Futures Portal that provides projections out to the year 2095 for changes in evapotranspiration (USGS 2017, entire). Some, but not all, of the threats could be projected beyond 50 years into the future. Therefore, to develop our future scenarios, we only used projection information up to 50-years into the future, the timeframe that includes projections for all future threats and for which we could predict the expected future resiliency and overall condition for each population based on our knowledge of the species' expected response to identified threats.

First, the ''Continuing Current Conditions'' scenario projects the condition of Wright's marsh thistle populations if the current risks to population viability continue with the same trajectory as experienced currently. Decreased water availability

continues to impact the populations via continuing levels of drought, along with ground and surface water depletion. Grazing continues where it has been occurring, and the impacts will accumulate. Competition from native and nonnative plants continues, along with any current impacts from oil and gas development. For this scenario, we used the mean level of projected values in temperature (an increase in mean daily maximum temperature of approximately 0.83 °C (1.5 °F) over 50 years).

Second, the ''Optimistic'' scenario projects the condition of Wright's marsh thistle populations if conservation measures are put in place to limit the impacts of current risks to population viability, including conservation efforts to address decreased water availability, livestock grazing, and competition with native and nonnative plants. For this scenario, we used the low level of projected values in temperature (an increase in mean daily maximum temperature of approximately 0.56 °C (1.0 °F) over 50 years and increases in mean monthly potential evapotranspiration of 0 to 10 millimeters (mm) (0 to 0.4 inches (in)) over 50 years), leading to less severe effects of drought on the riparian ecosystems of which Wright's marsh thistle is a part.

Third, the ''Major Effects'' scenario projects the condition of Wright's marsh thistle if stressors on the populations are increased. We expect a decrease in water availability, along with increased negative impacts from grazing, native and nonnative plants, oil and gas development, and mining. For this scenario, we used the moderate level of projected values in temperature (an increase in mean daily maximum temperature of approximately 1.7 °C (3.0 °F) over 50 years, and increases in mean monthly potential evapotranspiration of 10 to 30 mm (0.4 to 1.2 in) over 50 years), with increased impacts of drought.

Finally, the ''Severe Effects'' scenario projects the condition of Wright's marsh thistle populations under the assumption that stressors on the populations are highly increased. Compared to the ''Major Effects'' scenario, we expect a further decrease in water availability, along with further increased negative impacts from ungulate grazing, native and nonnative plants, oil and gas development, and mining. For this scenario, we used the high level of projected values in temperature (an increase in mean daily maximum temperature of approximately 2.8 °C (5.0 °F) over 50 years and increases in mean monthly potential evapotranspiration of 30 to 80 mm (1.2 to 3.1 in) over 50 years) with increased impacts of drought.

Thus, we considered the range of potential likely scenarios that represent different possibilities for how the stressors outlined above may influence the future condition of the species. The results of this analysis for each scenario are presented below in Table 2. For specific details on how each scenario impacted the six factors (habitat quantity, number of patches, abundance, reproduction, permanent root saturation, and full sun) contributing to overall condition of each population, refer to chapter 5 of the SSA report (USFWS 2017).

TABLE 2—CONDITION RATINGS FOR EACH OF THE EIGHT POPULATIONS OF WRIGHT'S MARSH THISTLE UNDER FOUR POSSIBLE FUTURE SCENARIOS

[USFWS 2017, Chapter 5]

Population	Current condition	Scenario 1: Continuing current conditions	Scenario 2: Optimistic	Scenario 3: Major effects	Scenario 4: Severe effects
Eastern Populations					
Santa Rosa Basin	Moderate	Moderate	High	Moderate	Low.
Bitter Lake NWR	Moderate	Moderate	High	Moderate	Low.
Blue Spring	Moderate	Low	Moderate	Low	Low.
Western Populations					
Alamosa Springs	Low	Low	Low	Very Low	Extirpated.
Tularosa Creek	Very Low	Extirpated	Very Low	Extirpated	Extirpated.
Silver Springs	Very Low	Very Low	Very Low	Extirpated	Extirpated.
La Luz Canyon	Very Low	Very Low	Very Low	Extirpated	Extirpated.
Karr/Haynes Canyon	Low	Low	Low	Low	Extirpated.

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the species, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our SSA analysis when we characterize the current and future condition of the species. Our assessment of the current and future conditions encompasses and incorporates the threats individually and cumulatively. Our current and future condition assessment is iterative because it accumulates and evaluates the effects of all the 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.

Determination of the Status of Wright's Marsh Thistle

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 ''endangered species'' as a species ''in danger of extinction throughout all or a significant portion of its range,'' and ''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 ''endangered species'' or ''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.

Status Throughout All of Its Range

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats and the cumulative effect of the threats under the section 4(a)(1) factors to Wright's marsh thistle.

Wright's marsh thistle is a narrow endemic (restricted to a small range) with a historical, documented decline. The historical range of the species included 10 locations in New Mexico, 2 locations in Arizona, and 2 locations in Mexico. Wright's marsh thistle has been extirpated from all previously known locations in Arizona and Mexico, as well as two locations in New Mexico. In addition, the currently extant populations have declined in population numbers over time based on comparisons between 1995 and 2012 surveys (Sivinski 1996 entire, 2012 entire). As a result, the remaining extant area of the eight populations has contracted in recent years, and is currently approximately only 43 ha (106 ac). Of the remaining eight extant populations, three have moderate resiliency, two have low resiliency, and three have very low resiliency and are likely at risk of extirpation (USFWS 2017). The species historically had representation in the form of two morphologically distinct and geographically separate forms; the species continues to maintain representation currently in these forms, although population sizes have decreased.

Wright's marsh thistle faces threats from habitat degradation due to decreased water availability, livestock grazing, native and nonnative plants, and oil and gas development and mining (Factor A). These threats, which are expected to be exacerbated by continued drought and the effects of climate change (Factor E), were important factors in our assessment of the future viability of Wright's marsh thistle. In addition, small, isolated populations and lack of connectivity contribute to the thistle's low resiliency to stochastic events (Factor E). We expect a further decrease in water availability, along with increased negative impacts from grazing, native and nonnative plants, oil and gas development, and mining. Given current and anticipated future decreases in resiliency, populations would become more vulnerable to extirpation from stochastic events, in turn, resulting in concurrent losses in representation and redundancy. The range of plausible future scenarios of the species' habitat conditions and population factors suggest possible extirpation in as many as five of eight currently extant populations. The most optimistic model predicted that while no populations were likely to become extirpated, three of the eight populations were expected to have very low resiliency.

As assessed in the SSA report and displayed above in Table 2, the current condition rankings for the eight extant populations show that three populations are in moderate condition, two population are in low condition, and three populations are in very low condition. Wright's marsh thistle also exhibits representation across two morphologically distinct and geographically separate forms. While threats are currently acting on the thistle throughout its range, the three eastern populations (Santa Rosa, Bitter Lake, and Blue Springs) were found to have high or moderate resiliency for their current condition. Therefore, we did not find that the thistle is currently in danger of extinction throughout all of its range, based on the current condition of the species; thus, an endangered status is not appropriate.

Wright's marsh thistle meets the definition of a threatened species because it is facing threats across its range that have led to reduced resiliency, redundancy, and representation. According to our assessment of plausible future scenarios, the species is likely to become an endangered species within the foreseeable future throughout all of its range. For the purposes of this determination, the foreseeable future is considered approximately 25 years into the future. This timeframe was arrived at by looking at the various future projections associated with data from the Intergovernmental Panel on Climate Change (IPCC), U.S. Climate Resilience Toolkit, future development plans from the City of Alamogordo and Santa Rosa, and grazing management information from the U.S. Forest Service. These data sources covered a variety of time frames, but all covered a span of at least 50 years. We therefore looked at the projections from these sources in each of our future scenarios out to three time steps: 10 years, 25 years, and 50 years. We found that as the projections for the various stressors went past 25 years in the scenarios, the uncertainties associated with some of those projections, particularly water use and depletion, increased. Thus, for the purposes of this determination, we were most confident in setting the foreseeable future at 25 years.

Our analysis of the species' current and future conditions show that the population and habitat factors used to determine the resiliency, representation, and redundancy for Wright's marsh thistle are likely to continue to decline to the degree that the thistle is likely to become in danger of extinction within the foreseeable future throughout all or a significant portion of its range. While the ''Optimistic'' scenario resulted in two of the populations with moderate current condition improving to high condition due to increased conservation measures, the other three scenarios all resulted in decreased resiliency for some if not most populations. The ''Continuing Condition'' scenario resulted in one of the current eight extant populations becoming extirpated, the ''Major Effects'' scenario resulted in three of the current eight extant populations becoming extirpated, and the ''Severe Effects'' scenario resulted in five of the current eight extant populations becoming extirpated. Based on our understanding of the increasing trends in threats as analyzed into the foreseeable future (*i.e.,* 25 years), the likelihood of occurrence of the ''Major Effects'' and ''Severe Effects'' scenarios increases as time progresses. The decreased resiliency of populations projected in three of the four scenarios would lead to subsequent losses in redundancy and representation, and an overall decline in species viability in the foreseeable future. Further details on the likelihood of scenarios can be found in chapter 5 of the SSA report (USFWS 2017).

Due to the continuation of threats at increasing levels, we anticipate a severe reduction in the thistle's future overall range and the extirpation of several populations. Furthermore, we anticipate that the variety of factors acting in combination on the remaining habitat and populations are likely to reduce the overall viability of the species to a dangerously low level. In addition, the conservation measures currently in place are not adequate to overcome the negative impacts from increasing threats, and future conservation measures are not considered highly plausible. The risk of extinction will be high because the remaining populations are small, are isolated, and have limited or no potential for recolonization after local population extirpations. Thus, after assessing the best available information, we determine that Wright's marsh thistle 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.

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,* 2020 WL 437289 (D.D.C. Jan. 28, 2020) (*Center for Biological Diversity*), vacated the aspect of the 2014 Significant Portion of its Range Policy that provided that the Services do not undertake an analysis of significant portions of a species' range if the species warrants listing as threatened throughout all of its range. Therefore, we proceed to evaluating whether the species is endangered in a significant portion of its range—that is, whether there is any portion of the species' range for which both (1) the portion is significant; and, (2) the species 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 species' range.

Following the court's holding in *Center for Biological Diversity,* we now consider whether there are any significant portions of the species' range where the species is in danger of extinction now (*i.e.,* endangered). In undertaking this analysis for Wright's marsh thistle, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the species and the threats that the species faces to identify any portions of the range where the species is endangered.

For Wright's marsh thistle, we considered whether the threats are geographically concentrated in any portion of the species' range at a biologically meaningful scale. In light of the species' needs (*i.e.,* permanent root saturation; alkaline soils; full, direct, or nearly full sunlight; and abundant pollinators), we examined the following threats (including cumulative threats): Habitat degradation due to decreased water availability, livestock grazing, native and non-native plants, and oil and gas development and mining; continued drought and the effects of climate change; and small, isolated populations. Each population of Wright's marsh thistle was determined to have some level of impact from each threat listed above, with variations in source and intensity. For example, habitat degradation due to decreased water availability at the Santa Rosa population location is influenced by agricultural use, while the La Luz Canyon population location is influenced primarily by municipal use. In another example, livestock grazing tends to be present with greater intensity near the Santa Rosa population location than near the La Luz Canyon population location. While there may be some variation in the source and intensity of each individual threat at each population location, we found no concentration of threats in any portion of Wright's marsh thistle's range at a biologically meaningful scale. Thus, there are no portions of the species' range where the species has a different status from its rangewide status.

Therefore, no portion of the species' range provides a basis for determining that the species is in danger of extinction in a significant portion of its range, and we determine that the species is likely to become in danger of extinction within the foreseeable future throughout all of its range. This is consistent with the courts' holdings in *Desert Survivors* v. *Department of the Interior,* No. 16–cv–01165–JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018), and *Center for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017).

Determination of Status

Our review of the best available scientific and commercial information indicates that Wright's marsh thistle meets the definition of a threatened species. Therefore, we propose to list Wright's marsh thistle 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 under the Act include recognition, 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 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. Subsection 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery. 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.

Recovery planning includes the development of a recovery outline shortly after a species is listed and subsequent preparation of a draft and final recovery plan. The recovery outline guides the immediate implementation of urgent recovery actions and describes the process to be used to develop a recovery plan. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan also identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened (''downlisting'') or for removal from protected status (''delisting''), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) are often established to develop recovery plans. When completed, the recovery outline, draft recovery plan, and the final recovery plan will be available on our website (*http://www.fws.gov/endangered*).

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.

If this species is listed, funding for recovery actions will be available 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 New Mexico would be eligible for Federal funds to implement management actions that promote the protection or recovery of Wright's marsh thistle. Information on our grant programs that are available to aid species recovery can be found at: *http://www.fws.gov/grants.*

Although Wright's marsh thistle is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for this species. Additionally, we invite you to submit any new information on this species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as an endangered or threatened species and with respect to its critical habitat, if any is designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with the Service.

Federal agency actions within the species' habitat that may require conference or consultation or both as described in the preceding paragraph include management and any other landscape-altering activities on Federal lands administered by the U.S. Fish and Wildlife Service and U.S. Forest Service; issuance of section 404 Clean Water Act (33 U.S.C. 1251 *et seq.*) permits by the U.S. Army Corps of Engineers; and construction and maintenance of roads or highways by the Federal Highway Administration.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, those activities that would or would not constitute a violation of section 9 of the Act. 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. The discussion below regarding protective regulations under section 4(d) of the Act complies with our policy.

II. Proposed Rule Issued Under Section 4(d) of the Act

Background

Section 4(d) of the Act contains two sentences. The first sentence states that the ''Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation'' of species listed as threatened. The U.S. Supreme Court has noted that statutory language like ''necessary and advisable'' demonstrates a large degree of deference to the agency (see *Webster* v. *Doe,* 486 U.S. 592 (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 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 rules developed under section 4(d) as a valid exercise of agency authority where they prohibited take of threatened wildlife, or include a limited taking prohibition (see *Alsea Valley Alliance* v. *Lautenbacher,* 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); *Washington Environmental Council* v. *National Marine Fisheries Service,* 2002 U.S. Dist. Lexis 5432 (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 him with regard to the permitted activities for those species. He may, for example, permit taking, but not importation of such species, or he 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).

Exercising its authority under section 4(d), the Service has developed a proposed rule that is designed to address Wright's marsh thistle's specific threats and conservation needs. Although the statute does not require the Service to make a ''necessary and advisable'' finding with respect to the adoption of specific prohibitions under section 9, we find that this rule as a whole satisfies the requirement in section 4(d) of the Act to issue regulations deemed necessary and advisable to provide for the conservation of the Wright's marsh thistle. As discussed above under Summary of Biological Status and Threats, the Service has concluded that Wright's marsh thistle is likely to become in danger of extinction within the foreseeable future primarily due to habitat loss and modification. The provisions of this proposed 4(d) rule would promote conservation of the species by encouraging management of the landscape in ways that meet landowner's management priorities while providing for the conservation needs of Wright's marsh thistle. The provisions of this proposed rule are one of many tools that the Service would use to promote the conservation of the Wright's marsh thistle. This proposed 4(d) rule would apply only if and when the Service makes final the listing of Wright's marsh thistle as a threatened species.

Provisions of the Proposed 4(d) Rule

This proposed 4(d) rule would provide for the conservation of Wright's marsh thistle by prohibiting, except as otherwise authorized or permitted, any person subject to the jurisdiction of the United States from the following: Removing and reducing to possession the species from areas under Federal jurisdiction; maliciously damaging or destroying the species on any area under Federal jurisdiction; or removing, cutting, digging up, or damaging or

destroying the species on any area under Federal jurisdiction in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law. Almost 30 percent of occupied Wright's marsh thistle habitat is on Federal land.

As discussed in the Summary of Biological Status and Threats (above), habitat loss and modification are affecting the viability of Wright's marsh thistle. A range of activities that occur on Federal land have the potential to impact the thistle, including changes in water availability, ungulate grazing, and oil and gas development. The regulation of these activities through this 4(d) rule would help enhance the conservation of Wright's marsh thistle by preserving the species' remaining populations on Federal lands and decrease synergistic, negative effects from other stressors. As a whole, the proposed 4(d) rule would help in the efforts to recover the species.

We may issue permits to carry out otherwise prohibited activities, including those described above, involving threatened plants under certain circumstances. Regulations governing permits for threatened plants are codified at 50 CFR 17.72, which states that ''the Director may issue a permit authorizing any activity otherwise prohibited with regard to threatened species.'' That regulation also states, ''The permit shall be governed by the provisions of this section unless a special rule applicable to the plan is provided in sections 17.73 to 17.78.'' We interpret that second sentence to mean that permits for threatened species are governed by the provisions of section 17.72 unless a special rule provides otherwise. We recently promulgated revisions to section 17.71 providing that section 17.71 will no longer apply to plants listed as threatened in the future. We did not intend for those revisions to limit or alter the applicability of the permitting provisions in section 17.72, or to require that every special rule spell out any permitting provisions that apply to that species and special rule. To the contrary, we anticipate that permitting provisions would generally be similar or identical for most species, so applying the provisions of section 17.72 unless a special rule provides otherwise would likely avoid substantial duplication. Moreover, this interpretation brings section 17.72 in line with the comparable provision for wildlife at 50 CFR 17.32, in which the second sentence states, ''Such permit shall be governed by the provisions of this section unless a special rule applicable to the wildlife, appearing in sections 17.40 to 17.48, of this part provides otherwise.'' Under 50 CFR 17.12, with regard to threatened plants, a permit may be issued for the following purposes: Scientific purposes, to enhance propagation or survival, for economic hardship, for botanical or horticultural exhibition, for educational purposes, or other purposes consistent with the purposes of the Act. Additional statutory exemptions from the prohibitions are found in sections 9 and 10 of the Act.

The Service recognizes 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 the Services in implementing all aspects of the Act. In this regard, section 6 of the Act provides that the Services shall 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 which is a party to a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by his or her agency for such purposes, would be able to conduct activities designed to conserve Wright's marsh thistle that may result in otherwise prohibited activities without additional authorization.

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 the ability of the Service to enter into partnerships for the management and protection of Wright's marsh thistle. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between Federal agencies and the Service, 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 the Service could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule (see Information Requested, above).

III. Proposed Designation of Critical Habitat

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 Federal agencies 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 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 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. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the Federal agency would be required to consult with the Service under section 7(a)(2) of the Act. However, even if the Service were to conclude that the proposed activity would 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 and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features that occur in specific areas, we focus on the specific features that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.

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. When designating critical habitat, the Secretary will first evaluate areas occupied by the species. The Secretary will only consider unoccupied areas to be essential where a critical habitat designation limited to geographical areas occupied by the species would be inadequate to ensure the conservation of the species. In addition, for an unoccupied area to be considered essential, the Secretary must determine that there is a reasonable certainty both that the area will contribute to the conservation of the species and that the area contains one or more of those physical or biological features essential to 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 Act's prohibitions on certain actions that may affect the species or its habitat. 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 this 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, or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12), require that, to the maximum extent prudent and determinable, the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species. Our regulations (50 CFR 424.12(a)(1)) state that the Secretary may, but is not required to, determine that a designation would not be prudent in the following circumstances:

(i) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;

(ii) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(iii) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(iv) No areas meet the definition of critical habitat; or

(v) The Secretary otherwise determines that designation of critical habitat would not be prudent based on the best scientific data available.

As discussed earlier in this document, there is currently no imminent threat of

collection or vandalism identified under Factor B for this species, and identification and mapping of critical habitat is not expected to initiate any such threat. In our SSA and proposed listing determination for Wright's marsh thistle, we determined that the present or threatened destruction, modification, or curtailment of habitat or range is a threat to Wright's marsh thistle and that those threats in some way can be addressed by section 7(a)(2) consultation measures. The species occurs wholly in the jurisdiction of the United States, and we are able to identify areas that meet the definition of critical habitat. Therefore, because none of the circumstances enumerated in our regulations at 50 CFR 424.12(a)(1) has been met and because there are no other circumstances the Secretary has identified for which this designation of critical habitat would be not prudent, we have determined that the designation of critical habitat is prudent for Wright's marsh thistle.

Critical Habitat Determinability

Having determined that designation is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for Wright's marsh thistle is determinable. 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.''

When critical habitat is not determinable, the Act allows the Service an additional year to publish a critical habitat designation (16 U.S.C. 1533(b)(6)(C)(ii)).

We reviewed the available information pertaining to the biological needs of the species and habitat characteristics where this species is located. This and other information represent the best scientific data available and led us to conclude that the designation of critical habitat is determinable for Wright's marsh thistle.

Physical or Biological Features

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider the physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. The regulations at 50 CFR 424.02 define ''physical or biological features essential to the conservation of the species'' as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkali soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic needed to support the life history of the species.

In considering whether features are essential to the conservation of the species, the Service may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Water availability is a requirement for three of the four life stages of Wright's marsh thistle's life cycle: Seedlings, rosettes, and mature plants. Optimal habitat should include seeps, springs, cienegas, and streams spreading water normally both above and below ground, with surface or subsurface water flow. The water present in this habitat should be sufficient to allow for permanent root saturation of Wright's marsh thistle in order to provide conditions needed for successful reproduction and survival.

Alkaline soils are required by all four life stages of Wright's marsh thistle's life cycle: Seeds, seedlings, rosettes, and mature plants. These soils are typically found associated with alkaline springs and seeps ranging from low desert up to ponderosa pine forest. Often, water may be available on the landscape in a variety of riparian areas; however, without the presence of alkaline soils in conjunction with water availability, Wright's marsh thistle is unlikely to maintain viability.

Full sunlight is necessary for development of rosettes into mature plants, as well as the survival of mature plants. Optimal habitat includes areas which provide access to sufficient sunlight exposure with no obstructions of sunlight during most life stages of Wright's marsh thistle. These areas should not have dense vegetative cover, which creates competition for sunlight and can negatively impact maturation and flowering of the thistle.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Diverse native floral communities are necessary to attract pollinators in order to complete cross pollination of Wright's marsh thistle plants. These communities vary depending on location but may include bulrush (*Scirpus* spp.), beaked spikerush (*Eleocharis rostellata*), Pecos sunflower (*Helianthus paradoxus*), rush (*Juncus* spp.), cattail (*Typha* spp.), and other native flowering plants (Sivinski 1996, pp. 2–4). Many generalist pollinators may visit Wright's marsh thistle (Sivinski 2017, entire). The most common pollinators of the thistle are bees, especially bumble bees (*Bombus* spp.) (Sivinski 2017, entire). A diverse native floral community ensures sufficient pollinators to promote cross pollination within and among patches of Wright's marsh thistle.

Summary of Essential Physical or Biological Features

We derive the specific physical or biological features essential to the conservation of Wright's marsh thistle from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the SSA report (USFWS 2017,

p. 39) available on *http://www.regulations.gov* under Docket No. FWS–R2–ES–2018–0071). We have determined that the following physical or biological features are essential to the conservation of Wright's marsh thistle:

- Water-saturated soils with surface or subsurface water flow that allows permanent root saturation and seed germination;
- Alkaline soils;
- Full sunlight; and
- Diverse floral communities to attract pollinators.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection. As mentioned above, in the case of Wright's marsh thistle, these features include water-saturated soils with surface or subsurface water flow that allows permanent root saturation and seed germination, alkaline soils, full sunlight, and diverse floral communities to attract pollinators. The features may require special management considerations or protection to reduce the following threats: Ground and surface water depletion, increasing drought and changes in climate change, livestock grazing, oil and gas development and mining, and native and nonnative plants. Localized stressors may also include herbicide use and mowing. The species occupies small areas of seeps, springs, and wetland habitat in an arid region that is experiencing drought as well as ongoing and future water withdrawals. The species' highly specific requirements of saturated soils with surface or subsurface water flow make it particularly vulnerable to desiccation and loss of suitable habitat. Furthermore, the thistle's need for full sunlight makes it particularly vulnerable to native and nonnative grass planting and habitat encroachment.

Special management considerations or protections are required within critical habitat areas to address these threats. Management activities that could ameliorate these threats include, but are not limited to: (1) Conservation efforts to ensure sufficient water availability; (2) managing livestock grazing via the use of exclosures; (3) control of native and nonnative plants via controlled burning or mechanical treatments; (4) spill prevention and groundwater protection during oil and gas development and mining; (5) watershed/wetland restoration efforts; and (6) efforts to restore a diverse floral community sufficient to attract pollinators.

These management activities would protect the physical or biological features for Wright's marsh thistle by providing for surface or subsurface water flow for permanent root saturation, soil alkalinity necessary for all life stages, the availability of direct sunlight for plant development, and habitat for pollinators to complete cross pollination of the thistle. Additionally, management of critical habitat lands would help limit the impacts of current risks to population viability.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific and commercial data available to designate critical habitat. In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. We are not currently proposing to designate any areas outside the geographical area occupied by the species because we did not find any areas that were essential for the conservation of the species.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally 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; 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. In this case, we used existing occurrence data for Wright's marsh thistle and information on the habitat and ecosystems upon which the species depends. These sources of information included, but were not limited to:

(1) Data used to prepare the species status assessment and this proposed rule to list the species;

(2) Information from biological surveys;

(3) Various agency reports and databases;

(4) Information from the U.S. Forest Service and other cooperators;

(5) Information from species experts;

(6) Data and information presented in academic research theses; and

(7) Regional Geographic Information System (GIS) data (such as species occurrence data, land use, topography, aerial imagery, soil data, wetland data, and land ownership maps) for area calculations and mapping.

Areas Occupied at the Time of Listing

The proposed critical habitat designation includes currently occupied sites within the species' historical range that have retained the necessary physical and biological features that will allow for the maintenance and expansion of existing populations. Wright's marsh thistle was historically known to occur in an additional site in Arizona (Sivinski 2012, p. 2). The single location in Arizona was collected in 1851 from San Bernardino Cienega, which straddles the international border with Mexico; the location no longer has suitable wetland habitat on the Arizona side of the line (Baker 2011, p. 7), and we do not consider the site essential for the conservation of the thistle because of the lack of suitable habitat and very low restoration potential. Ten historical occurrences occurred in New Mexico, but in a recent search effort at one of the sites (Lake County), the thistle was not found (Sivinski 2011, p. 40) and the habitat was found to be converted to an impervious surface. Another of the 10 records (Rattlesnake Springs, Eddy County) is now thought to be a hybrid between Wright's marsh thistle and Texas thistle (*C. texanum*) (NMRPTC 2009, p. 2), and the site where it was recorded is now a golf course. We do not consider either of these two sites in New Mexico to be essential for the conservation of the thistle, because the species is no longer present, the habitat is no longer available, or the species was misidentified. However, the remaining eight locations in New Mexico meet the definition of areas occupied by the thistle at the time of listing; they are: Santa Rosa, Guadalupe County; Bitter Lake NWR, Chaves County; Blue Spring, Eddy County; La Luz Canyon, Karr/Haynes Canyon, Silver Springs, and Tularosa Creek, Otero County; and Alamosa Creek, Socorro County.

In summary, for areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following process:

(1) We obtained point observations of all currently occupied areas;

(2) We drew minimum convex polygons around the point observations; and

(3) We expanded the polygons to include all adjacent areas containing the essential physical and biological features (specifically the wetted area/moist soil outside of highly vegetated locations) to support life-history processes essential to the conservation of the species.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for Wright's marsh thistle. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical or biological features in the adjacent critical habitat.

We propose for designation as critical habitat lands that we have determined are occupied at the time of listing and contain one or more of the physical or biological features that are essential to support life-history processes of the species. We are not proposing to designate any areas that are not currently occupied by the species.

Eight units and 13 subunits are proposed for designation based on one or more of the physical or biological features being present to support Wright's marsh thistle's life-history processes. All eight units contain all of the identified physical or biological features and support multiple life-history processes. Some subunits contain only some of the physical or biological features necessary to support Wright's marsh thistle's particular use of that habitat.

The proposed critical habitat designation is defined by the map or maps, as modified by any accompanying regulatory text, presented at the end of this document under Proposed Regulation Promulgation. We include more detailed information on the boundaries of the critical habitat designation in the preamble of this document. We will make the coordinates or plot points or both on which each map is based available to the public on *http://www.regulations.gov* at Docket No. FWS–R2–ES–2018–0071 and on the New Mexico Ecological Services' website at *https://www.fws.gov/southwest/es/NewMexico/index.cfm.*

Proposed Critical Habitat Designation

We propose to designate 64.3 ha (159 ac) in 8 units and 13 subunits as critical habitat for Wright's marsh thistle. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the species. Table 3 provides the approximate area of each proposed critical habitat unit. Table 4 breaks down the approximate percentage and size of the total critical habitat designation by ownership type. Table 5 provides currently listed species with occupied habitat on, and designated critical habitat that overlaps with, proposed critical habitat for Wright's marsh thistle. Species with existing critical habitat that overlaps with proposed critical habitat for Wright's marsh thistle include the Koster's springsnail (*Juturnia kosteri*), Noel's amphipod (*Gammarus desperatus*), Roswell springsnail (*Pyrgulopsis roswellensis*), Pecos sunflower (*Helianthus paradoxus*), and the New Mexico meadow jumping mouse (*Zapus hudsonius luteus*). Other listed species in the boundaries of proposed critical habitat include the Alamosa springsnail (*Tryonia alamosae*), Chiricahua leopard frog (*Lithobates chiricahuensis*), least tern (*Sterna antillarum*), and Pecos gambusia (*Gambusia nobilis*). Three other listed species (or their critical habitat) that are found in close proximity (<1609 m (1 mi)) to proposed critical habitat for Wright's marsh thistle include the pecos pupfish (*Cyprinodon pecosensis*), the Sacramento prickly poppy (*Argemone pinnatisecta*), and the Sacramento Mountains thistle.

TABLE 3—PROPOSED CRITICAL HABITAT UNITS FOR WRIGHT'S MARSH THISTLE

Unit No. and name	Subunit No. and name	Ownership	Area
1—Santa Rosa	1a—Blue Hole Hatchery	City of Santa Rosa	0.93 ha (2.3 ac).
	1b—Blue Hole Road South	State	0.45 ha (1.1 ac).
	1c—State Highway 91 North	State	12.2 ha (30.1 ac).
	1d—Santa Rosa Ballpark South	City of Santa Rosa	0.97 ha (2.4 ac).
	1e—State Highway 91 South	City of Santa Rosa	5.9 ha (14.6 ac).
		Private	0.78 ha (1.92 ac).
	1f—Perch Lake	City of Santa Rosa	1.9 ha (4.6 ac).
	1g—Sheehan Trust	Private	2.4 ha (6.0 ac).
	1h—Freeman Property	City of Santa Rosa	0.18 ha (0.44 ac).
		Private	0.91 ha (2.24 ac).
2—Alamosa Springs		Private	1.58 ha (3.9 ac).
3—Bitter Lake	3a—NWR Unit 5	U.S. Fish and Wildlife Service	3.16 ha (7.8 ac).
	3b—NWR Unit 6	U.S. Fish and Wildlife Service	15.9 ha (39.2 ac).
4—Tularosa Creek		Tribal	0.65 ha (1.6 ac).
5—La Luz Canyon		U.S. Forest Service	0.01 ha (0.03 ac).
6—Silver Springs		U.S. Forest Service	0.38 ha (0.95 ac).
		Tribal	0.23 ha (0.58 ac).
7—Karr/Haynes Canyon	7a—Haynes Canyon Road	Private	0.008 ha (0.02 ac).
	7b—Karr Canyon Road	Private	0.73 ha (1.8 ac).
	7c—Raven Road	Private	1.05 ha (2.6 ac).
8—Blue Springs		Private	14.04 ha (34.7 ac).

Note: Area estimates reflect all land within critical habitat unit boundaries, and estimates may not sum due to rounding.

TABLE 4—APPROXIMATE PERCENTAGE AND SIZE OF TOTAL PROPOSED CRITICAL HABITAT DESIGNATION FOR WRIGHT'S MARSH THISTLE PER OWNERSHIP TYPE

Ownership type	Percent of total designation	Size of designation
Private	33.5	21.5 ha (53.13 ac).
Federal	30	19.45 ha (48 ac).
State	19.7	12.65 ha (31.26 ac).
City	15.4	9.88 ha (24.4 ac).
Tribal	0.004	0.65 ha (1.6 ac).

TABLE 5—WRIGHT'S MARSH THISTLE PROPOSED CRITICAL HABITAT UNITS AND CO-OCCURRING LISTED SPECIES OR EXISTING CRITICAL HABITAT

Unit No. and name	Subunit No. and name	Co-occurring listed species (ha (ac) of overlapping occupied habitat)	Existing designated critical habitat for other listed species (ha (ac) of overlapping critical habitat)
1—Santa Rosa	1a—Blue Hole Hatchery	Pecos sunflower (0.42 ha (1.0 ac))	Pecos sunflower (0.93 ha (2.3 ac)).
	1b—Blue Hole Road South.	n/a	Pecos sunflower (0.45 ha (1.0 ac)).
	1c—State Highway 91 North.	Pecos sunflower (0.15 ha (0.4 ac))	Pecos sunflower (12.2 ha (30.0 ac)).
	1d—Santa Rosa Ballpark South.	n/a	n/a.
	1e—State Highway 91 South.	Pecos sunflower (0.15 ha (.04 ac))	n/a.
	1f—Perch Lake	Pecos sunflower (0.03 ha (.07 ac))	n/a.
	1g—Sheehan Trust	n/a	n/a.
	1h—Freeman Property	n/a	n/a.
2—Alamosa Springs		Alamosa springsnail (1.58 ha (3.9 ac)); Chiricahua leopard frog (1.58 ha (3.9 ac)).	n/a.
3—Bitter Lake	3a—NWR Unit 5	Least tern (0.98 ha (2.4 ac)); (Koster's springsnail,* Noel's amphipod,* Pecos gambusia,* Pecos pupfish,* Roswell springsnail*).	Pecos sunflower (3.16 ha (7.8 ac)).
	3b—NWR Unit 6	Koster's springsnail (2.4 ha (5.9 ac)); Least tern (2.8 ha (6.9 ac)); Roswell springsnail (2.4 ha 5.9 ac)); Noel's amphipod (2.4 ha (5.9 ac)); (Pecos gambusia,* Pecos pupfish*).	Koster's springsnail (2.4 ha (5.9 ac)); Pecos sunflower (15.9 ha (39.3 ac)); Roswell springsnail (2.4 ha (5.9 ac)); Noel's amphipod (2.4 ha (5.9 ac)).
4—Tularosa Creek		n/a	na.
5—La Luz Canyon		(Sacramento prickly poppy*)	n/a.
6—Silver Springs		New Mexico meadow jumping mouse (0.38 ha (0.9 ac)); (Sacramento Mountains thistle*).	New Mexico meadow jumping mouse (0.38 ha (0.9 ac)).
7—Karr/Haynes Canyon	7a—Haynes Canyon Road	n/a	n/a.
	7b—Karr Canyon Road	n/a	n/a.
	7c—Raven Road	n/a	n/a.
8—Blue Springs		Pecos gambusia (11.7 ha (28.9 ac))	n/a.

*Species and/or critical habitat found in close proximity (<1,609 m (1 mi)) critical habitat unit, but not overlapping exactly.

We present brief descriptions of all units below and reasons why they meet the definition of critical habitat for Wright's marsh thistle, below.

Unit 1: Santa Rosa

Unit 1 consists of eight subunits comprising 26.6 ha (65.7 ac) in Guadalupe County, New Mexico. This unit consists of land owned by the City of Santa Rosa, the State of New Mexico, and private landowners. This unit partially overlaps with occupied habitat and designated critical habitat for the federally threatened Pecos sunflower.

Subunit 1a: Blue Hole Hatchery

Subunit 1a consists of 11 small land parcels comprising 0.93 ha (2.3 ac) in Guadalupe County, New Mexico. This subunit lies north of Blue Hole Road on City of Santa Rosa property at the abandoned Blue Hole Hatchery. Special management considerations or protection may be required in Subunit 1a to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Subunit 1b: Blue Hole Road South

Subunit 1b consists of a small, 0.45-ha (1.1-ac) land parcel in Guadalupe County, New Mexico. This subunit lies south of Blue Hole Road and east of El Rito Creek on State of New Mexico land, which is an undeveloped portion of a wetland preserve. Special management considerations or protection may be required in Subunit 1b to address ground and surface water depletion, as well as native and nonnative invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Subunit 1c: State Highway 91 North

Subunit 1c consists of 12.2 ha (30.1 ac) in Guadalupe County, New Mexico. This subunit lies north of State Highway 91, near Subunit 1b on State of New Mexico land, which is an undeveloped portion of a wetland preserve. Special management considerations or protection may be required in Subunit 1c to address ground and surface water

depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Subunit 1d: Santa Rosa Ballpark South

Subunit 1d consists of two small land parcels comprising 0.97 ha (2.4 ac) in Guadalupe County, New Mexico. This subunit lies south of the City of Santa Rosa ballpark, on an undeveloped portion of City of Santa Rosa land. Special management considerations or protection may be required in Subunit 1d to address ground and surface water depletion, as well as native and nonnative invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. Other special management considerations or protection may be required to address localized stressors from herbicide use and mowing in recreational areas.

Subunit 1e: State Highway 91 South

Subunit 1e consists of 6.7 ha (16.5 ac) in Guadalupe County, New Mexico. This subunit lies south of State Highway 91 on City of Santa Rosa and private lands. Special management considerations or protection may be required in Subunit 1e to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Subunit 1f: Perch Lake

Subunit 1f consists of 1.9 ha (4.6 ac) in Guadalupe County, New Mexico. This subunit includes most of the shores of Perch Lake on City of Santa Rosa property, extending south into an undeveloped area. Special management considerations or protection may be required in Subunit 1f to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. Other special management considerations or protection may be required to address localized stressors from herbicide use and mowing in areas around Perch Lake, which is located inside the subunit.

Subunit 1g: Sheehan Trust

Subunit 1g consists of 2.4 ha (6.0 ac) in Guadalupe County, New Mexico. This subunit lies east of River Road and the Pecos River on privately owned lands, which are currently held in a land trust. Special management considerations or protection may be required in Subunit 1g to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property was formerly grazed and may be grazed again in the future, special management or protection may be required to address impacts of livestock grazing as appropriate.

Subunit 1h: Freeman Property

Subunit 1h consists of five small parcels of land comprising 1.09 ha (2.68 ac) in Guadalupe County, New Mexico. This subunit lies west of Subunit 1g on City of Santa Rosa property and privately owned lands. Special management considerations or protection may be required in Subunit 1h to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Unit 2: Alamosa Springs

Unit 2 consists of 1.58 ha (3.9 ac) in Socorro County, New Mexico. This unit lies mostly north of Forest Road 140 along Alamosa Creek, on privately owned land. This unit entirely overlaps with occupied habitat for the federally endangered Alamosa springsnail and federally threatened Chiricahua leopard frog. Special management considerations or protection may be required in this unit to address ground and surface water depletion, water quality, soil alkalinity, and native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, to protect ground water and soil from contaminants during mining activities, and to decrease competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Unit 3: Bitter Lake

Unit 3 consists of two subunits comprising 19.0 ha (47 ac) in Chaves County, New Mexico, on Bitter Lake National Wildlife Refuge (NWR). Unit 3 is entirely managed by the U.S. Fish and Wildlife Service. This unit overlaps with occupied habitat for the federally endangered Koster's springsnail, Noel's amphipod, Roswell springsnail, and least tern. The unit also overlaps with designated critical habitat for the Koster's springsnail, Noel's amphipod, Roswell springsnail, and Pecos sunflower.

Subunit 3a: NWR Unit 5

Subunit 3a consists of 3.16 ha (7.8 ac) in Chaves County, New Mexico, within Wetland Management Unit 5 on Bitter Lake NWR. Special management considerations or protection may be required in Subunit 3a to address ground and surface water depletion, water quality, soil alkalinity, and native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, spill prevention and groundwater protection during oil and gas development, and decreasing competition with native and nonnative plants via prescribed burning and mechanical and herbicide treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Subunit 3b: NWR Unit 6

Subunit 3b consists of 15.9 ha (39.2 ac) in Chaves County, New Mexico, within Wetland Management Unit 6 on Bitter Lake NWR. Special management considerations or protection may be required in Subunit 3b to address

ground and surface water depletion, water quality, soil alkalinity, and native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, spill prevention and groundwater protection during oil and gas development, and decreasing competition with native and nonnative plants via prescribed burning and mechanical and herbicide treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Unit 4: Tularosa Creek

Unit 4 consists of 0.65 ha (1.6 ac) in Otero County, New Mexico. This unit lies along Indian Service Route 10, north of Tularosa Creek, on land owned by the Mescalero Apache Tribe. Special management considerations or protection may be required in this unit to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Unit 5: La Luz Canyon

Unit 5 consists of 0.01 ha (0.03 ac) in Otero County, New Mexico, on the Lincoln National Forest. This unit lies north of La Luz Canyon Road, along La Luz Creek, on lands managed by the U.S. Forest Service. Special management considerations or protection may be required in this unit to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property has the potential to be grazed, special management or protection may be required to address impacts of livestock grazing as appropriate.

Unit 6: Silver Springs

Unit 6 consists of 0.62 ha (1.53 ac) in Otero County, New Mexico. This unit lies east of State Highway 224, along Silver Springs Creek. This unit contains land on the Lincoln National Forest, which is managed by the U.S. Forest Service, and land owned by the Mescalero Apache Tribe. This unit overlaps with occupied habitat and critical habitat for the federally endangered New Mexico meadow jumping mouse. Special management considerations or protection may be required in this unit to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property has the potential to be grazed, special management or protection may be required to address impacts of livestock grazing as appropriate.

Unit 7: Karr/Haynes Canyon

Unit 7 consists of three subunits that comprise 1.79 ha (4.42 ac) in Otero County, New Mexico. This unit consists of privately owned lands.

Subunit 7a: Haynes Canyon Road

Subunit 7a consists of 0.008 ha (0.02 ac) in Otero County, New Mexico. This subunit lies south of Haynes Canyon Road on privately owned lands. Special management considerations or protection may be required in Subunit 7a to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property has the potential to be grazed, special management or protection may be required to address impacts of livestock grazing as appropriate.

Subunit 7b: Karr Canyon Road

Subunit 7b consists of two small parcels comprising 0.73 ha (1.8 ac) in Otero County, New Mexico. This subunit lies along either side of Karr Canyon Road on privately owned lands. Special management considerations or protection may be required in Subunit 7b to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property has the potential to be grazed, special management or protection may be required to address impacts of livestock grazing as appropriate.

Subunit 7c: Raven Road

Subunit 7c consists of two small parcels comprising 1.05 ha (2.6 ac) in Otero County, New Mexico. This subunit lies along either side of Raven Road on privately owned lands. Special management considerations or protection may be required in Subunit 7c to address ground and surface water depletion, as well as native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, along with decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts. As this property has the potential to be grazed, special management or protection may be required to address impacts of livestock grazing as appropriate.

Unit 8: Blue Springs

Unit 8 consists of 14.04 ha (34.7 ac) in Eddy County, New Mexico. This unit lies along a small tributary north of the Black River on privately owned land. This unit overlaps with occupied habitat for the federally endangered Pecos gambusia. Special management considerations or protection may be required in this unit to address ground and surface water depletion, water quality, soil alkalinity, and native and nonnative plant invasion. Such special management or protection may include conservation efforts to ensure water availability, spill prevention and groundwater protection during oil and gas development, and decreasing competition with native and nonnative plants via prescribed burning and mechanical treatments, if necessary. Special management or protection may also include watershed/wetland restoration efforts.

Effects of Critical Habitat Designation

Section 7 Consultation

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, 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 proposed critical habitat.

We published a final regulation with a revised definition of destruction or adverse modification on August 27, 2019 (84 FR 44976). Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are 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.

Compliance with the requirements of section 7(a)(2) is documented through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Service Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate formal consultation on previously reviewed actions. These requirements apply when the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law) and, subsequent to the previous consultation, we have listed a new species or designated critical habitat that may be affected by the Federal action, or the action has been modified in a manner that affects the species or critical habitat in a way not considered in the previous consultation. In such situations, Federal agencies sometimes may need to request reinitiation of consultation with us, but the regulations also specify some exceptions to the requirement to reinitiate consultation on specific land management plans after subsequently listing a new species or designating new critical habitat. See the regulations for a description of those exceptions.

Application of the ''Adverse Modification'' Standard

The key factor related to the destruction or adverse modification determination is whether implementation of the proposed Federal action directly or indirectly alters the designated critical habitat in a way that appreciably diminishes the value of the critical habitat as a whole for the conservation of the listed species. As discussed above, the role of critical habitat is to support physical or biological features essential to the conservation of a listed species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate 7(a)(2) of the Act by destroying or adversely modifying such designation.

Activities that the Services may, during a consultation under section 7(a)(2) of the Act, find are likely to destroy or adversely modify critical habitat include, but are not limited to:

(1) Actions that would diminish permanent root saturation. Such activities could include, but are not limited to, water diversions and water withdrawals for agricultural, mineral mining, or urban purposes. These activities could reduce Wright's marsh thistle's water availability, and increase its competition for water resources, thereby depleting a resource necessary for the plant's normal growth and survival.

(2) Actions that would alter the alkalinity of the soil. Such activities could include, but are not limited to, oil and gas development and mining. These activities could result in significant ground disturbance that could alter the chemical and physical properties of the soil.

(3) Actions that would diminish the availability of full sunlight. Such activities could include, but are not limited to, vegetation management that encourages growth of competing native and nonnative species. These activities could lead to habitat encroachment resulting in a decreased availability of sunlight.

(4) Actions that would decrease the diversity and abundance of floral resources and pollinators. Such activities could include, but are not limited to, the use of pesticides and herbicides, livestock grazing, and oil and gas development and mining. These activities could lead to direct mortality of pollinators and diminish the floral resources available to pollinators.

Exemptions

Application of Section 4(a)(3) of the Act

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an integrated natural resources management plan (INRMP) prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.'' There are no DoD lands with a

completed INRMP within the proposed critical habitat designation.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

The first sentence in section 4(b)(2) of the Act requires that we take into consideration the economic, national security, or other relevant impacts of designating any particular area as critical habitat. We describe below the process that we undertook for taking into consideration each category of impacts and our analyses of the relevant impacts.

Consideration of Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. To assess the probable economic impacts of a designation, we must first evaluate specific land uses or activities and projects that may occur in the area of the critical habitat. We then must evaluate the impacts that a specific critical habitat designation may have on restricting or modifying specific land uses or activities for the benefit of the species and its habitat within the areas proposed. We then identify which conservation efforts may be the result of the species being listed under the Act versus those attributed solely to the designation of critical habitat for this particular species. The probable economic impact of a proposed critical habitat designation is analyzed by comparing scenarios both ''with critical habitat'' and ''without critical habitat.''

The ''without critical habitat'' scenario represents the baseline for the analysis, which includes the existing regulatory and socio-economic burden imposed on landowners, managers, or other resource users potentially affected by the designation of critical habitat (*e.g.,* under the Federal listing as well as other Federal, State, and local regulations). The baseline, therefore, represents the costs of all efforts attributable to the listing of the species under the Act (*i.e.,* conservation of the species and its habitat incurred regardless of whether critical habitat is designated). The ''with critical habitat'' scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts would not be expected without the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat, above and beyond the baseline costs. These are the costs we use when evaluating the benefits of inclusion and exclusion of particular areas from the final designation of critical habitat should we choose to conduct a discretionary 4(b)(2) exclusion analysis.

For this particular designation, we developed an incremental effects memorandum (IEM) considering the probable incremental economic impacts that may result from this proposed designation of critical habitat. The information contained in our IEM, along with the SSA, was then used to develop a screening analysis of the probable effects of the designation of critical habitat for Wright's marsh thistle (Industrial Economics, Inc. 2018). We began by conducting a screening analysis of the proposed designation of critical habitat in order to focus our analysis on the key factors that are likely to result in incremental economic impacts. The purpose of the screening analysis is to filter out the geographic areas in which the critical habitat designation is unlikely to result in probable incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.,* absent critical habitat designation) and includes probable economic impacts where land and water use may be subject to conservation plans, land management plans, best management practices, or regulations that would protect the habitat area as a result of the Federal listing status of the species. The screening analysis filters out particular areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. Ultimately, the screening analysis allows us to focus our analysis on evaluating the specific areas or sectors that may incur probable incremental economic impacts as a result of the designation. The screening analysis also assesses whether units are unoccupied by the species and may require additional management or conservation efforts as a result of the critical habitat designation for the species, which may incur incremental economic impacts. This screening analysis, combined with the information contained in our IEM, is what we consider our draft economic analysis of the proposed critical habitat designation for Wright's marsh thistle and is summarized in the narrative below.

Executive Orders (E.O.s) 12866 and 13563 direct Federal agencies to assess the costs and benefits of available regulatory alternatives in quantitative (to the extent feasible) and qualitative terms. Consistent with the E.O. regulatory analysis requirements, our effects analysis under the Act may take into consideration impacts to both directly and indirectly affected entities, where practicable and reasonable. If sufficient data are available, we assess to the extent practicable the probable impacts to both directly and indirectly affected entities. As part of our screening analysis, we considered the types of economic activities that are likely to occur within the areas likely affected by the critical habitat designation.

In our evaluation of the probable incremental economic impacts that may result from the proposed designation of critical habitat for Wright's marsh thistle, first we identified, in the IEM dated March 2, 2018, probable incremental economic impacts associated with the following categories of activities: (1) Water quantity/supply, (2) oil and gas development and mining, and (3) livestock grazing. We considered each industry or category individually. Additionally, we considered whether their activities have any Federal involvement. Critical habitat designation generally will not affect activities that do not have any Federal involvement; under the Act, designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies. If we finalize the listing of Wright's marsh thistle, in areas where the species is present, Federal agencies would already be required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the thistle. If we finalize this proposed critical habitat designation, consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process.

In our IEM, we attempted to clarify the distinction between the effects that will result from the species being listed and those attributable to the critical habitat designation (*i.e.,* difference between the jeopardy and adverse modification standards) for Wright's marsh thistle's critical habitat. Because the designation of critical habitat for Wright's marsh thistle is being proposed concurrently with the listing, it has been our experience that it is more difficult to discern which conservation efforts are attributable to the species being listed and those which will result solely from the designation of critical habitat. However, the following specific circumstances in this case help to inform our evaluation: (1) The essential physical or biological features identified for critical habitat are the same features essential for the life requisites of the species and (2) any actions that would result in sufficient harm or harassment to constitute jeopardy to Wright's marsh thistle would also likely adversely affect the essential physical or biological features of critical habitat. The IEM outlines our rationale concerning this limited distinction between baseline conservation efforts and incremental impacts of the designation of critical habitat for this species. This evaluation of the incremental effects has been used as the basis to evaluate the probable incremental economic impacts of this proposed designation of critical habitat.

The Service is proposing to designate 64.3 ha (159 ac) across five New Mexico counties as critical habitat for Wright's marsh thistle. The Service has divided the proposed critical habitat into eight units, with some further divided into subunits. All eight units are considered occupied because they contain reproducing populations of the thistle. We are not proposing to designate any units of unoccupied habitat. Approximately 29 percent of the proposed designation is located on Federal lands, 20 percent is on State-owned lands, and 1 percent on land owned by the Mescalero Tribe. Fifteen percent of proposed lands are owned by the City of Santa Rosa, and 35 percent are privately owned. In these areas, any actions that may affect the species or its habitat would also affect designated critical habitat, and it is unlikely that any additional conservation efforts would be recommended to address the adverse modification standard over and above those recommended as necessary to avoid jeopardizing the continued existence of Wright's marsh thistle. Therefore, the potential incremental economic effects of the critical habitat designation are expected to be limited to administrative costs.

The entities most likely to incur incremental costs are parties to section 7 consultations, including Federal action agencies and, in some cases, third parties, most frequently State agencies or municipalities. Our analysis of economic impacts makes the following assumptions about consultation activity over the next 10 years, most of which are more likely to overstate than understate potential impacts due to the history of biological assessments and implementation of project conservation measures by the action agencies. The analysis assumes that approximately five section 7 consultations will occur annually in the designated critical habitat, across all eight units, based on the previous consultation history in the area. Most of these are anticipated to occur in areas with Federal lands, including units 3, 5, and 6, as well as the large unit 1.

This may overstate the number of consultations that will occur given available information on forecast activity. As stated above, we anticipate that conservation efforts needed to avoid adverse modification are likely to be the same as those needed to avoid impacts to the species itself. As such, costs of critical habitat designation for Wright's marsh thistle are anticipated to be limited to administrative costs. We anticipate that the incremental administrative costs of addressing adverse modification of critical habitat for the species in a section 7 consultation will be minor.

The incremental administrative burden resulting from the designation of critical habitat for Wright's marsh thistle, based on the anticipated annual number of consultations and associated consultation costs, is not expected to exceed $25,000 in most years. The designation is unlikely to trigger additional requirements under State or local regulations. Furthermore, the designation is quite small, limited to 64.3 ha (159 ac) in total, with the local government, municipal, and private lands limited to 31.33 ha (77.4 ac); therefore, the designation is not expected to have significant perceptional effects. Because the designation is not expected to result in incremental conservation efforts for the species, the designation is also unlikely to measurably increase the probability that the species will be conserved, and benefits are also unlikely to exceed $25,000 in a given year. In our DEA, we did not identify any ongoing or future actions that would warrant additional recommendations or project modifications to avoid adversely modifying critical habitat above those we would recommend for avoiding jeopardy to the species, and we anticipate minimal change in management at Bitter Lake NWR and Lincoln National Forest due to the designation of critical habitat for Wright's marsh thistle.

We are soliciting data and comments from the public on the DEA, as well as all aspects of the proposed rule and our required determinations. During the development of a final designation, we will consider any additional economic impact information we receive during the public comment period to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19. In particular, we may exclude an area from critical habitat if we determine that the benefits of excluding the area outweigh the benefits of including the area, provided the exclusion will not result in the extinction of this species.

Consideration of National Security Impacts

In preparing this proposal, we have determined that the lands within the proposed designation of critical habitat for Wright's marsh thistle are not owned, managed, or used by the DoD or Department of Homeland Security, and, therefore, we anticipate no impact on national security or homeland security. However, during the development of a final designation we will consider any additional information received through the public comment period on the impacts of the proposed designation on national security or homeland security to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Consideration of Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors including whether there are permitted conservation plans covering the species in the area such as Habitat Conservation Plans, safe harbor agreements, or candidate conservation agreements with assurances, or whether there are non-permitted conservation agreements and partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at the existence of tribal conservation

plans and partnerships and consider the government-to-government relationship of the United States with tribal entities. We also consider any social impacts that might occur because of the designation.

In preparing this proposal, we have determined that there are currently no permitted conservation plans or other management plans for Wright's marsh thistle. Only 0.88 ha (2.18 ac) of proposed critical habitat lands for Wright's marsh thistle belong to the Mescalero Apache Tribe; we have initiated coordination with the Tribe regarding the proposed critical habitat designation and will continue to offer government-to-government consultation with them throughout development of the final rulemaking. We anticipate no impact on tribal lands, partnerships, or permitted management plans from this proposed critical habitat designation. There are no adequate partnerships, Tribal partnerships, management, or protection afforded by cooperative management efforts sufficient to provide for the conservation of the species. There are no areas whose exclusion would result in conservation, or in the continuation, strengthening, or encouragement of partnerships.

Summary of Exclusions

After analyzing these potential impacts, we are not considering any exclusions at this time from the proposed designation under section 4(b)(2) of the Act based on economic impacts, national security impacts, or other relevant impacts such as partnerships, management, or protection afforded by cooperative management efforts. All areas proposed for critical habitat will benefit from additional regulation for the protection from destruction or adverse modification as a result of actions with a Federal nexus. All areas would see educational benefits of mapping essential habitat for recovery of the listed species. During the development of a final designation, we will consider any additional information received through the public comment period regarding other relevant impacts to determine whether any specific areas should be excluded from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

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.

Regulatory Planning and Review—Executive Orders 12866 and 13563

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. OIRA has waived their review regarding their significance determination of this proposed rule.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Regulatory Flexibility Act—5 U.S.C. 601 et seq.

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.,* small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service-sector businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and agricultural businesses with annual sales less than $750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term ''significant economic impact'' is meant to apply to a typical small business firm's business operations.

The Service's current understanding of the requirements under the RFA, as amended, and following recent court decisions, is that Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself and are, therefore, not required to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies will be

directly regulated by this designation. There is no requirement under RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities are directly regulated by this rulemaking, the Service certifies that, if made final, the proposed critical habitat designation will not have a significant economic impact on a substantial number of small entities.

In summary, we have considered whether the proposed designation would result in a significant economic impact on a substantial number of small entities. For the above reasons and based on currently available information, we certify that, if made final, the proposed critical habitat designation would not have a significant economic impact on a substantial number of small business entities. Therefore, an initial regulatory flexibility analysis is not required.

Reducing Regulation and Controlling Regulatory Costs—Executive Order 13771

We do not believe this proposed rule is an E.O. 13771 (''Reducing Regulation and Controlling Regulatory Costs'') (82 FR 9339, February 3, 2017) regulatory action because we believe this rule is not significant under E.O. 12866; however, the Office of Information and Regulatory Affairs has waived their review regarding their E.O. 12866 significance determination of this proposed rule.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. A significant energy action is one that promulgates, or is expected to lead to the promulgation of, a final rule that is both (1) a significant regulatory action under E.O. 12866, and (2) likely to have a significant adverse effect on the supply, distribution, or use of energy, or a final rule that is designated by the Administrator of OIRA as a significant energy action. OIRA has determined that this rule is not significant. Further, in our economic analysis, we did not find that the designation of this proposed critical habitat will have an annual effect on the economy of $100 million or more or significantly affect energy supplies, distribution, or use due to the lack of any energy supply or distribution lines within the proposed critical habitat designation. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act—2 U.S.C. 1501 et seq.

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) This rule may have a small perceptional effect on the City of Santa Rosa, New Mexico, due to the designation of critical habitat. In practice, small governments like Santa Rosa are affected by critical habitat only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. Therefore, a Small Government Agency Plan is not required. However, we did notify the City of Santa Rosa of the proposed critical habitat with the publication of this proposed rule, and we invite their comments on the proposal with regard to any potential effects.

Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for Wright's marsh thistle in a takings implications assessment. The Act does not authorize the Service to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed and concludes that, if adopted, this designation of critical habitat for Wright's marsh thistle would not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this proposed critical habitat designation with, appropriate State resource agencies in New Mexico. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule would not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical or biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of physical or biological features essential to the conservation of the species. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

Paperwork Reduction Act of 1995—44 U.S.C. 3501 et seq.

This rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) is not required. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.

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

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)). However, when the range of the species includes States within the Tenth Circuit, such as that of the Wright's marsh thistle, under the Tenth Circuit ruling in *Catron County Board of Commissioners* v. *U.S. Fish and Wildlife Service,* 75 F.3d 1429 (10th Cir. 1996), we undertake a NEPA analysis for critical habitat designation. We invite the public to comment on the extent to which this proposed regulation may have a significant impact on the human environment, or fall within one of the categorical exclusions for actions that have no individual or cumulative effect on the quality of the human environment. We will complete our analysis, in compliance with NEPA, before finalizing this proposed 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), Executive Order 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 recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial 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.

There are tribal lands included in the proposed designation of critical habitat for Wright's marsh thistle. Using the criteria described above under *Criteria Used To Identify Critical Habitat,* we have determined that some tribal lands that are occupied by the species contain the features essential for the conservation the species. Only 0.88 ha (2.18 ac) of proposed critical habitat lands belong to the Mescalero Apache Tribe. We have begun government-to-government consultation with the Tribe, and we will continue to consult with the Tribe throughout the public comment period on this proposed rule and during development of the final designation of critical habitat for the species. We will consider Tribal lands for exclusion from the final critical habitat designation to the extent consistent with the requirements of 4(b)(2) of the Act. The Mescalero Apache Tribe is the main tribe whose lands and trust resources may be affected by this proposed rule. There may be some other tribes with trust resources in the area but we have no specific documentation of this. We sent a notification letter to the Mescalero Apache Tribe on April 6, 2014, describing the exclusion process under section 4(b)(2) of the Act, and we have engaged in conversations with the Tribe about the proposal to the extent possible without disclosing predecisional information via requests for additional information in September 2016 and January 2018. We will attempt to schedule a meeting with the Tribe, as well as other interested parties, shortly after publication of this proposed rule so that we can give them as much time as possible to comment.

References Cited

A complete list of references cited in this proposed rule is available on the internet at *http://www.regulations.gov* and upon request from the New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this proposed rule are the staff members of the New Mexico Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

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. Amend § 17.12(h) by adding an entry for ''*Cirsium wrightii*'' to the List of Endangered and Threatened Plants in alphabetical order under FLOWERING PLANTS to read as set forth below:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
*	*	*	*	* * *
Cirsium wrightii	Wright's marsh thistle	Wherever found	T	[**Federal Register** citation when published as a final rule]; 50 CFR 17.73(a);[4d] 50 CFR 17.96(a).[CH]
*	*	*	*	* * *

■ 3. Add § 17.73 to read as follows:

§ 17.73 Special rules—flowering plants.

(a) *Cirsium wrightii* (Wright's marsh thistle).

(1) *Prohibitions.* The following prohibitions apply to the Wright's marsh thistle except as provided under paragraph (a)(2) of this section:

(i) Remove and reduce to possession from areas under Federal jurisdiction, as set forth at § 17.61(c)(1) for endangered plants.

(ii) Maliciously damage or destroy the species on any areas under Federal jurisdiction, or remove, cut, dig up, or damage or destroy the species on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law, as set forth at section 9(a)(2)(B) of the Act.

(2) *Exceptions from prohibitions.* The following exceptions from prohibitions apply to the Wright's marsh thistle:

(i) The prohibitions described in paragraph (a)(1) of this section do not apply to activities conducted as authorized by a permit issued in accordance with the provisions set forth at § 17.72.

(ii) Any employee or agent of the Service or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by that agency for such purposes, may, when acting in the course of official duties, remove and reduce to possession from areas under Federal jurisdiction members of the Wright's marsh thistle that are covered by an approved cooperative agreement to carry out conservation programs.

(b) [Reserved]

■ 4. In § 17.96, amend paragraph (a) by adding an entry for ''*Cirsium wrightii* (Wright's marsh thistle)'' in alphabetical order under Family Asteraceae to read as follows:

§ 17.96 Critical habitat—plants.

(a) *Flowering plants.*

* * * * *

Family Asteraceae: *Cirsium wrightii* (Wright's marsh thistle)

(1) Critical habitat units are depicted for Chavez, Eddy, Guadalupe, Otero, and Socorro Counties, New Mexico, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Wright's marsh thistle consist of the following components:

(i) Water-saturated soils with surface or subsurface water flow that allows permanent root saturation and seed germination;

(ii) Alkaline soils;

(iii) Full sunlight; and

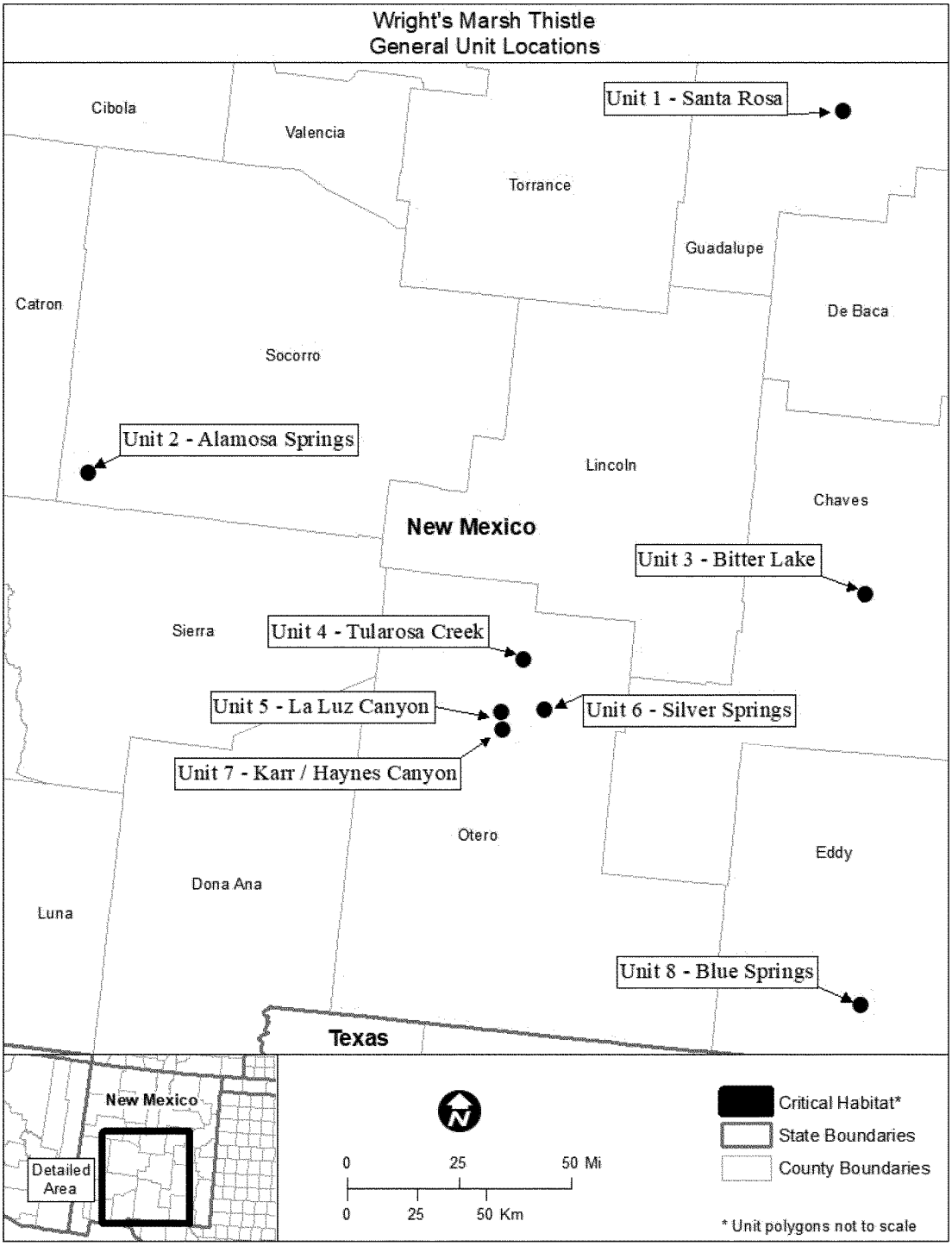
(iv) Diverse floral communities to attract pollinators.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created using the latest imagery available through Esri (*https://www.esri.com/en-us/home*). The actual source is DigitalGlobe and the year of the imagery was 2016. Critical habitat units were then mapped using ArcGIS ArcMap 10.4. All data are in North America Albers Equal Area Conic projection, Datum North American 1983. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service's internet site at *https://www.fws.gov/southwest/es/NewMexico/index.cfm,* at *http://www.regulations.gov* under Docket No. FWS–R2–ES–2018–0071, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) *Note:* Index map follows:

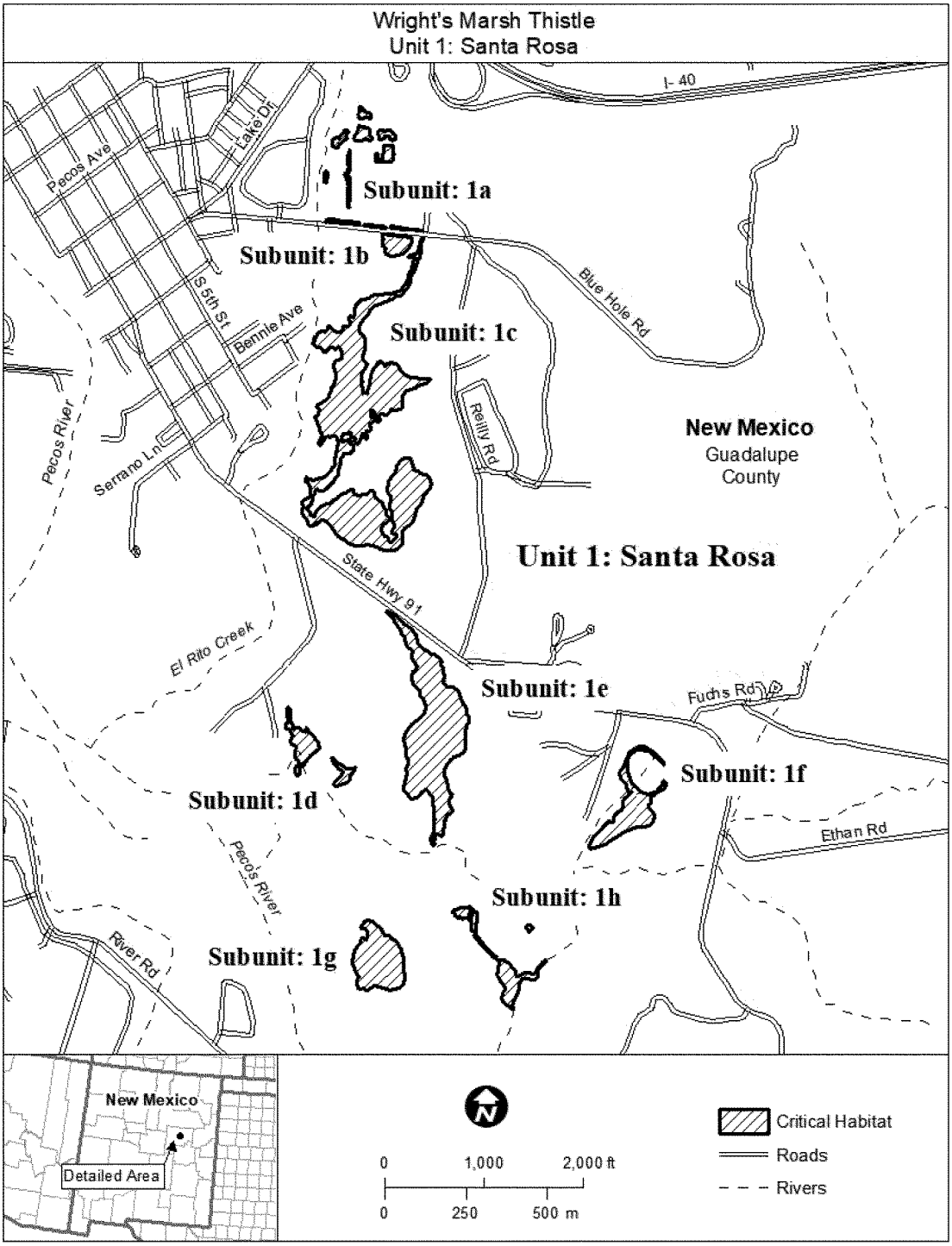
BILLING CODE 4333–15–P

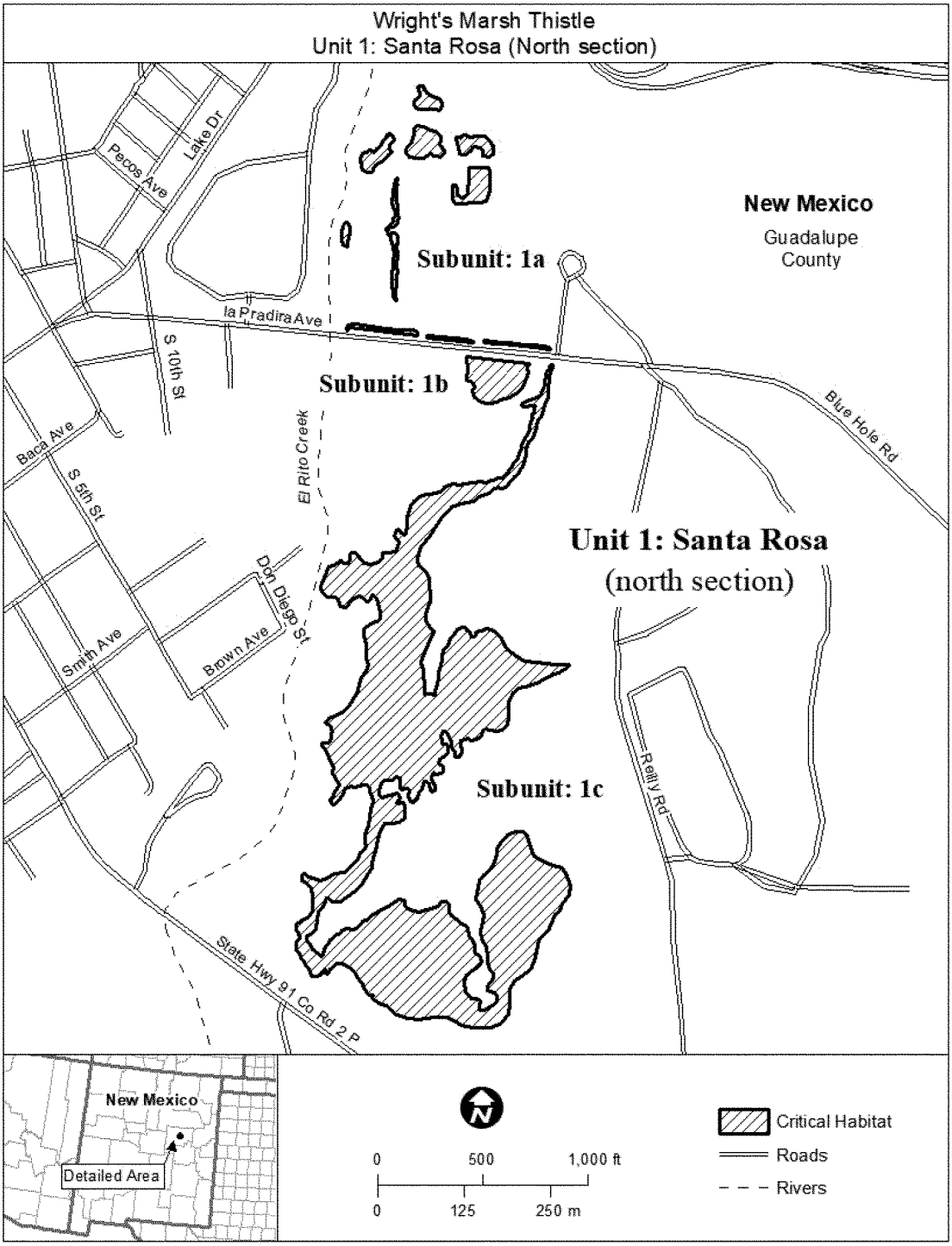


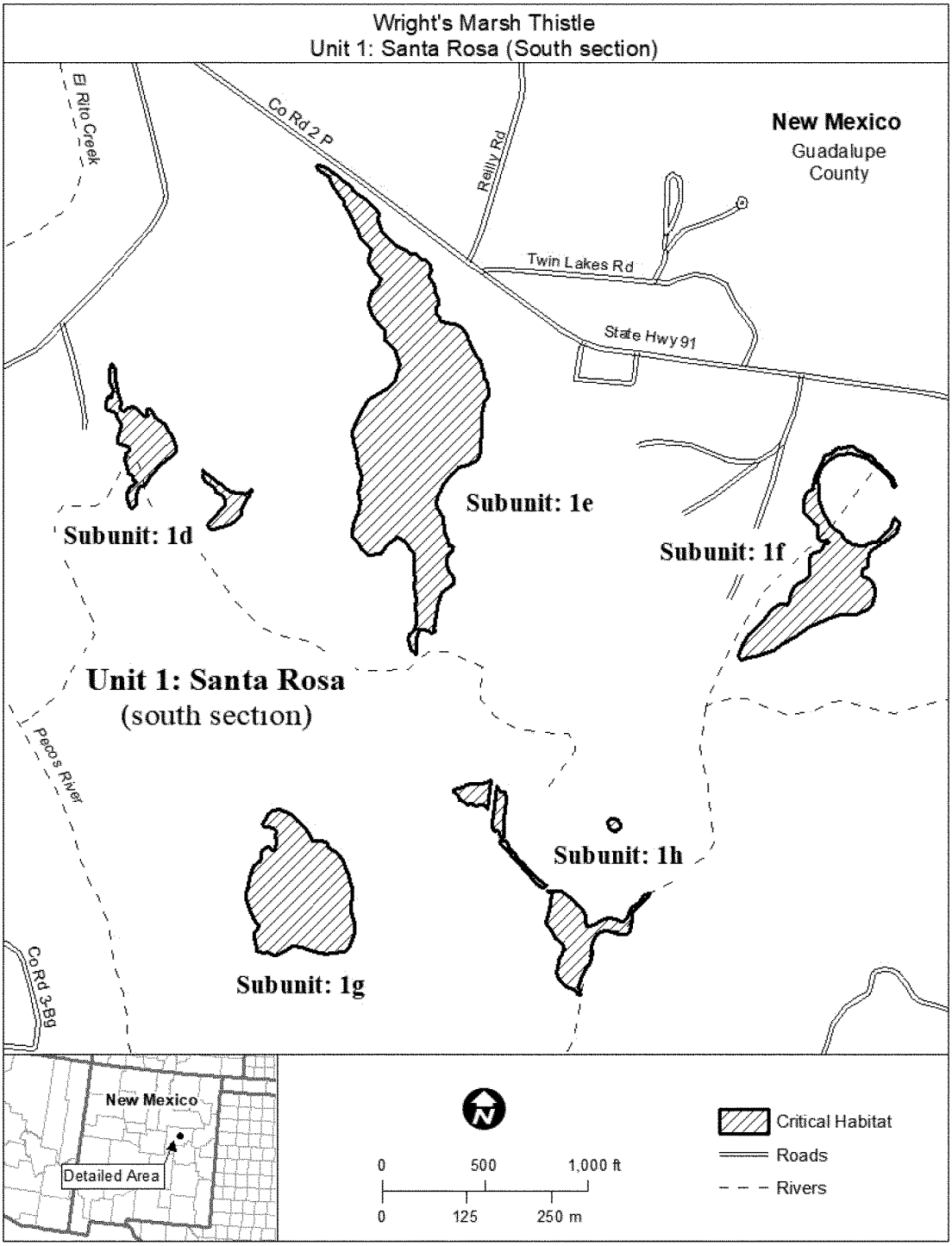
(6) Unit 1: Santa Rosa, Guadalupe County, New Mexico.

(i) *General description:* Unit 1 consists of 26.6 hectares (ha) (65.7 acres (ac)) in Guadalupe County, New Mexico, and is composed of lands in State (12.65 ha (31.2 ac)), City of Santa Rosa (9.88 ha (24.4 ac)), and private (4.09 ha (10.16 ac)) ownership.

(ii) Maps of Unit 1 follow:


Wright's Marsh Thistle
Unit 1: Santa Rosa
I- 40
Pecos Ave
Lake Dr
Subunit: 1a
Subunit: 1b
S 5th St
Bennie Ave
Subunit: 1c
Blue Hole Rd
Reilly Rd
Pecos River
Serrano Ln
New Mexico
Guadalupe
County
Unit 1: Santa Rosa
State Hwy 91
El Rito Creek
Subunit: 1e
Fuchs Rd
Subunit: 1f
Subunit: 1d
Ethan Rd
Pecos River
Subunit: 1h
River Rd
Subunit: 1g
New Mexico
Detailed Area
0 1,000 2,000 ft
0 250 500 m
Critical Habitat
Roads
Rivers

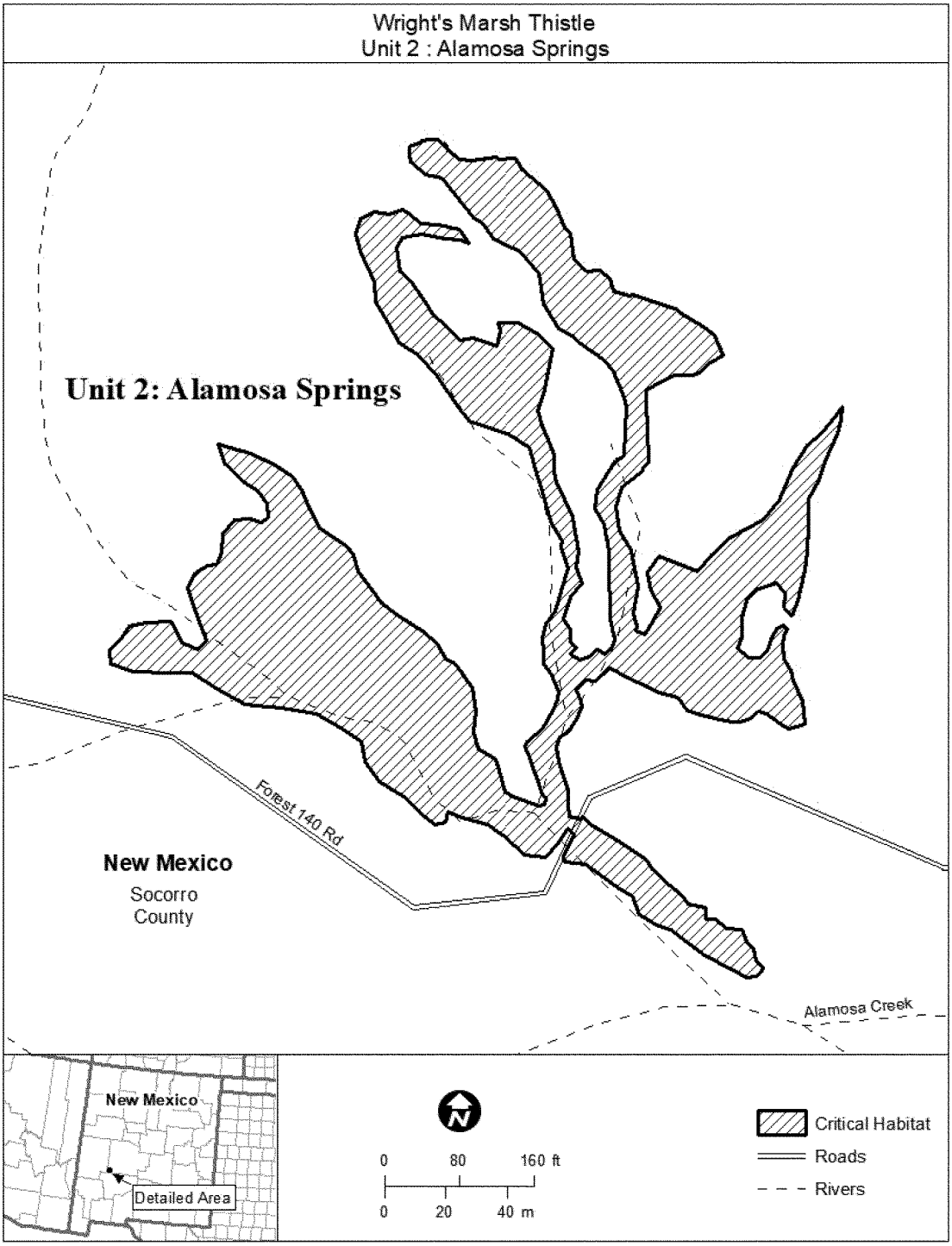

Wright's Marsh Thistle
Unit 1: Santa Rosa (North section)
New Mexico
Guadalupe County
Subunit: 1a
Subunit: 1b
Subunit: 1c
Unit 1: Santa Rosa
(north section)
la Pradira Ave
Pecos Ave
Lake Dr
S 10th St
Baca Ave
S 5th St
Smith Ave
Brown Ave
Don Diego St
El Rito Creek
Blue Hole Rd
Reilly Rd
State Hwy 91 Co Rd 2 P
New Mexico
Detailed Area
0 500 1,000 ft
0 125 250 m
Critical Habitat
Roads
Rivers



(7) Unit 2: Alamosa Springs, Socorro County, New Mexico.

(i) *General description:* Unit 2 consists of 1.58 ha (3.9 ac) in Socorro County, New Mexico, and is composed of lands in private ownership.

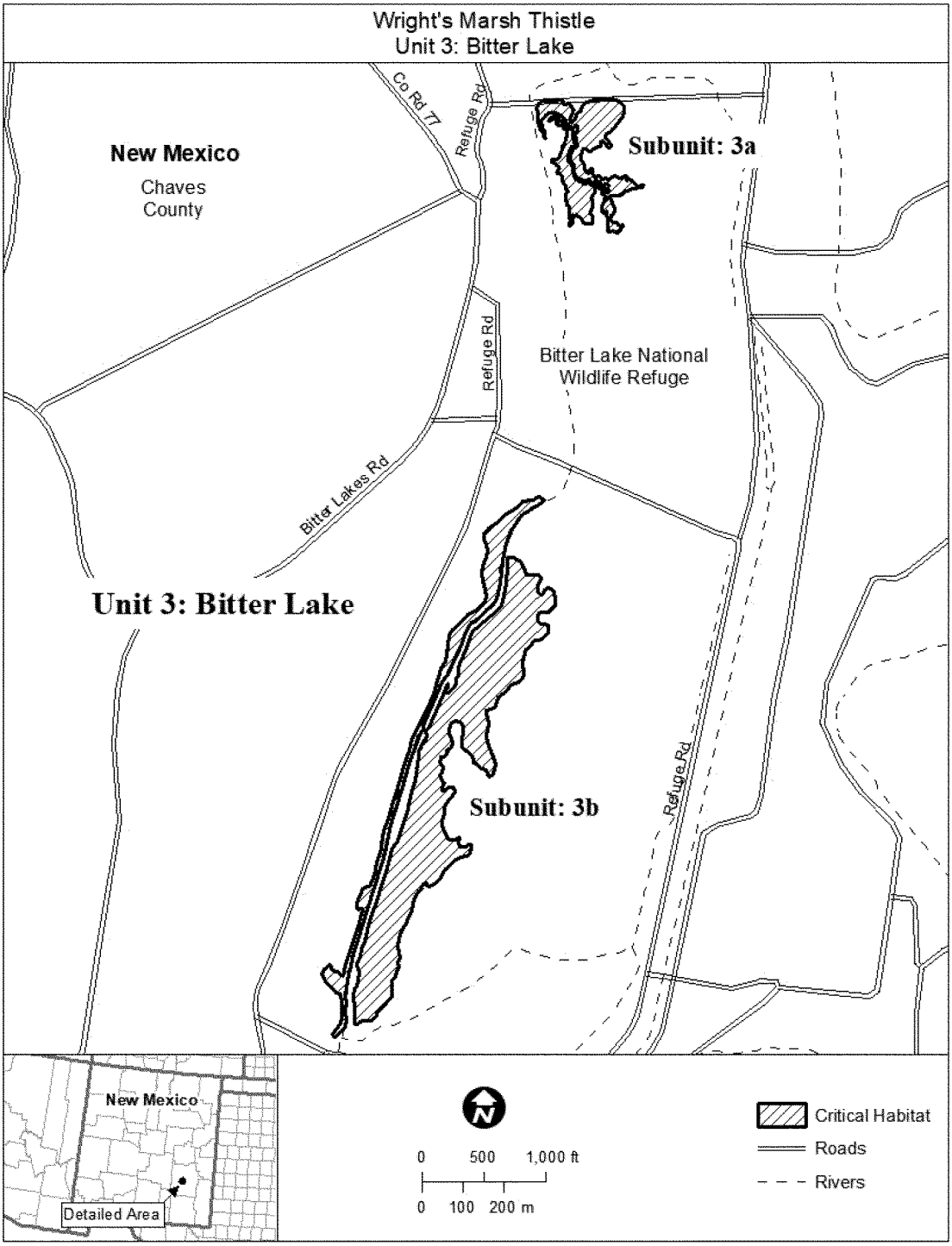
(ii) Map of Unit 2 follows:



(8) Unit 3: Bitter Lake, Chaves County, New Mexico.

(i) *General description:* Unit 3 consists of 19.0 ha (47.0 ac) in Chaves County, New Mexico, and is composed of lands under Federal management, specifically the U.S. Fish and Wildlife Service's Bitter Lake National Wildlife Refuge.

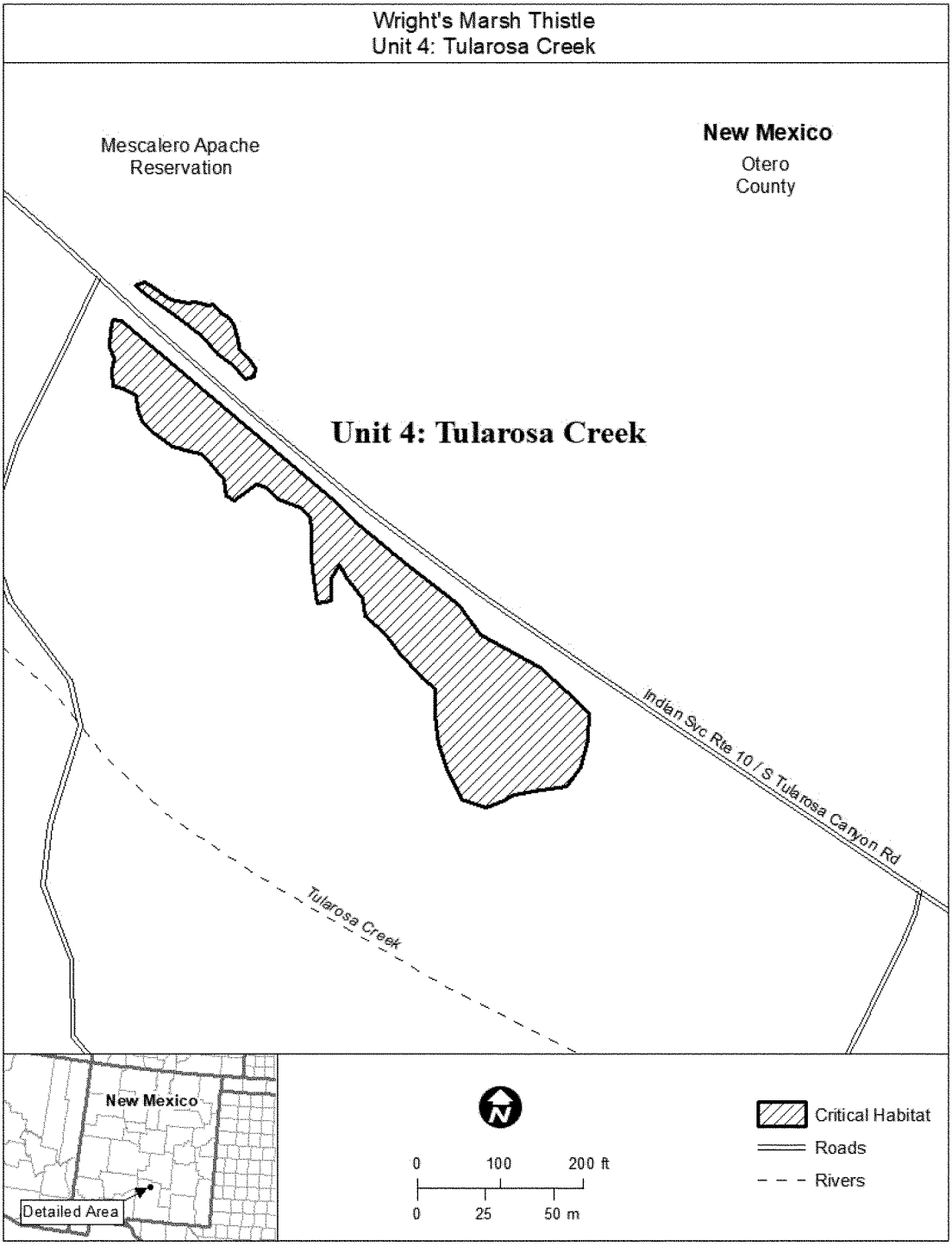
(ii) Map of Unit 3 follows:



(9) Unit 4: Tularosa Creek, Otero County, New Mexico.

(i) *General description:* Unit 4 consists of 0.65 ha (1.6 ac) in Otero County, New Mexico, and is composed of lands in tribal ownership.

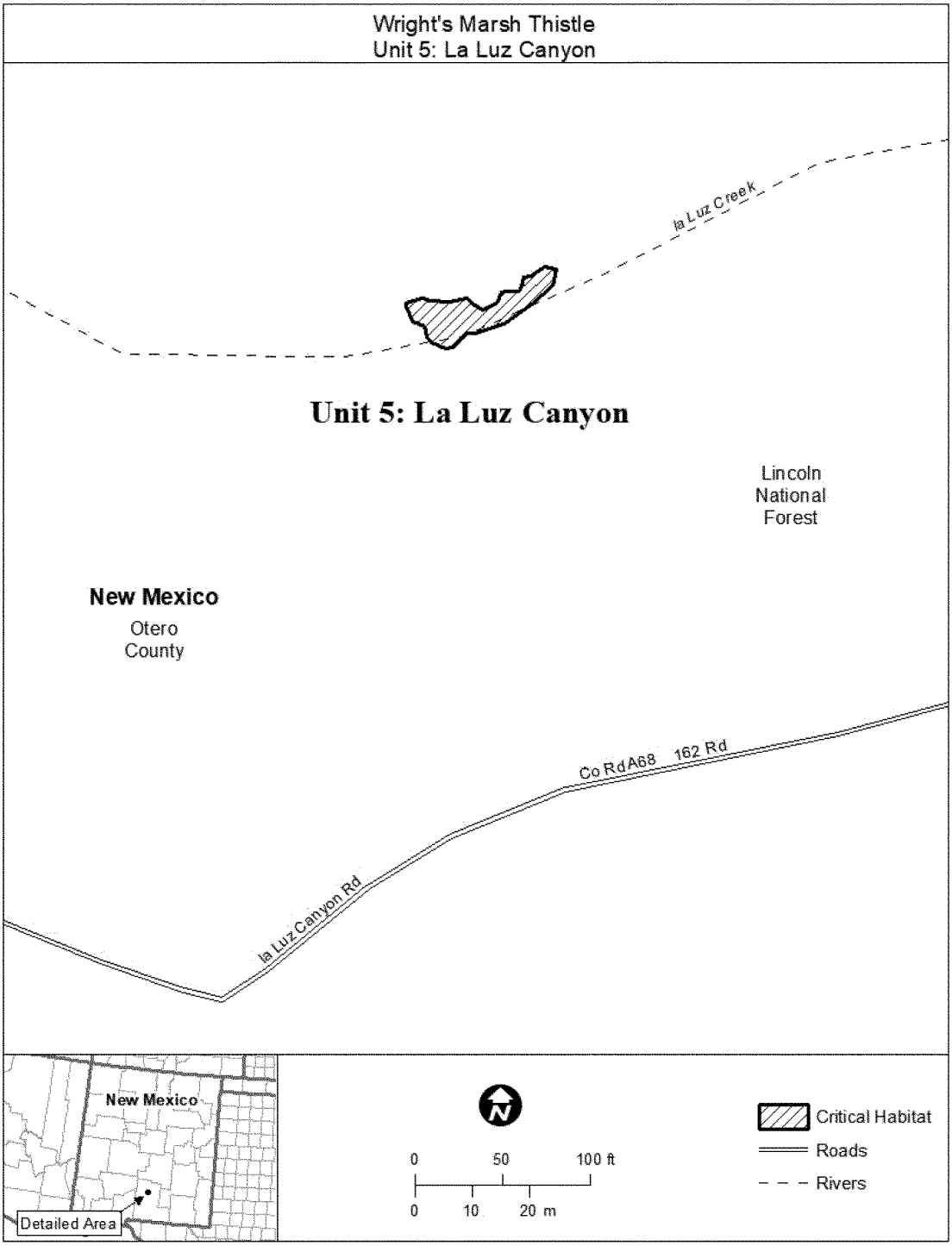
(ii) Map of Unit 4 follows:



(10) Unit 5: La Luz Canyon, Otero County, New Mexico.

(i) *General description:* Unit 5 consists of 0.01 ha (0.03 ac) in Otero County, New Mexico, and is composed of lands under Federal management, specifically the U.S. Forest Service's Lincoln National Forest.

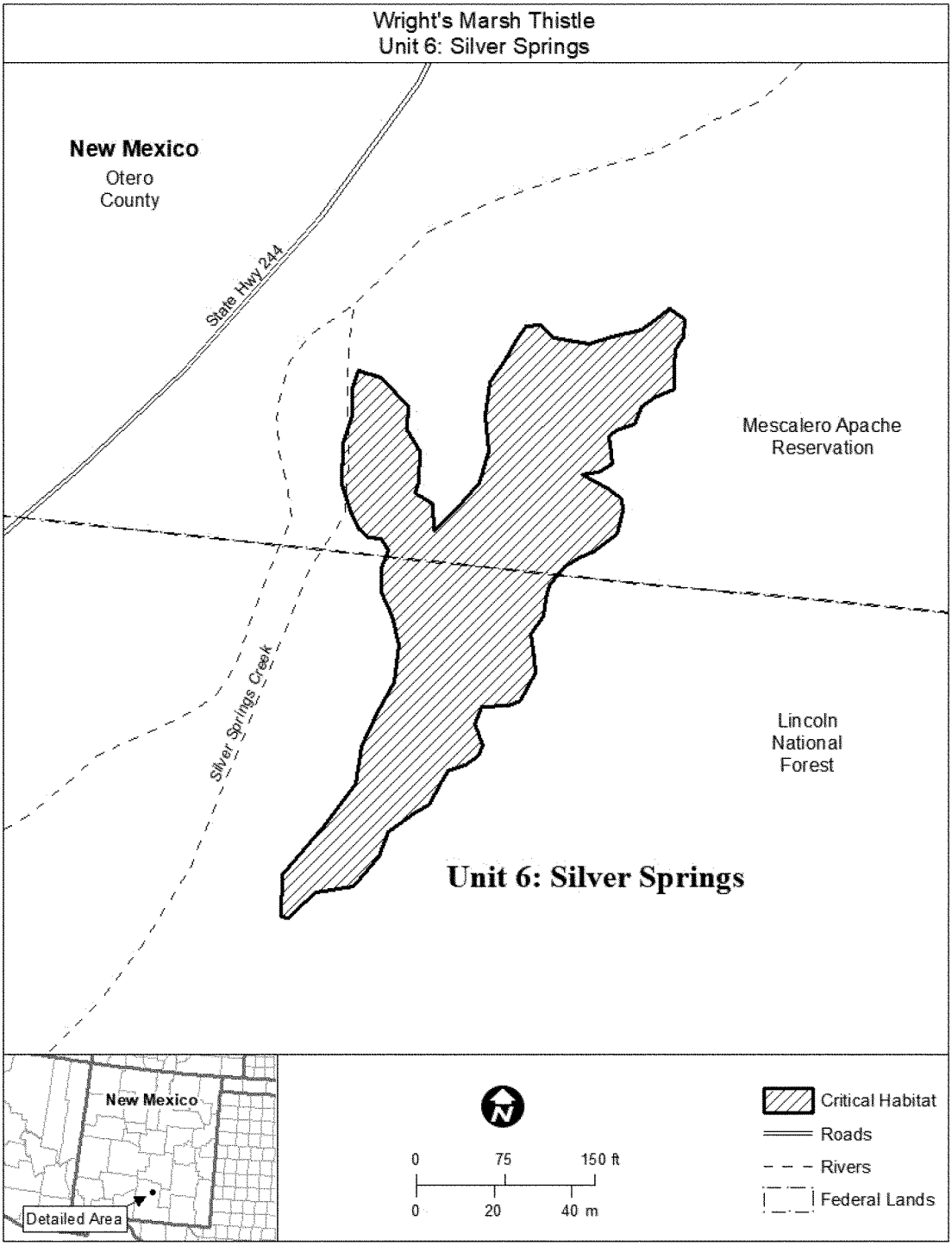
(ii) Map of Unit 5 follows:



(11) Unit 6: Silver Springs, Otero County, New Mexico.

(i) *General description:* Unit 6 consists of 0.62 ha (1.53 ac) in Otero County, New Mexico, and is composed of lands under Federal management (0.38 ha (0.95 ac)), specifically the U.S. Forest Service's Lincoln National Forest, and tribal ownership (0.23 ha (0.58 ac)).

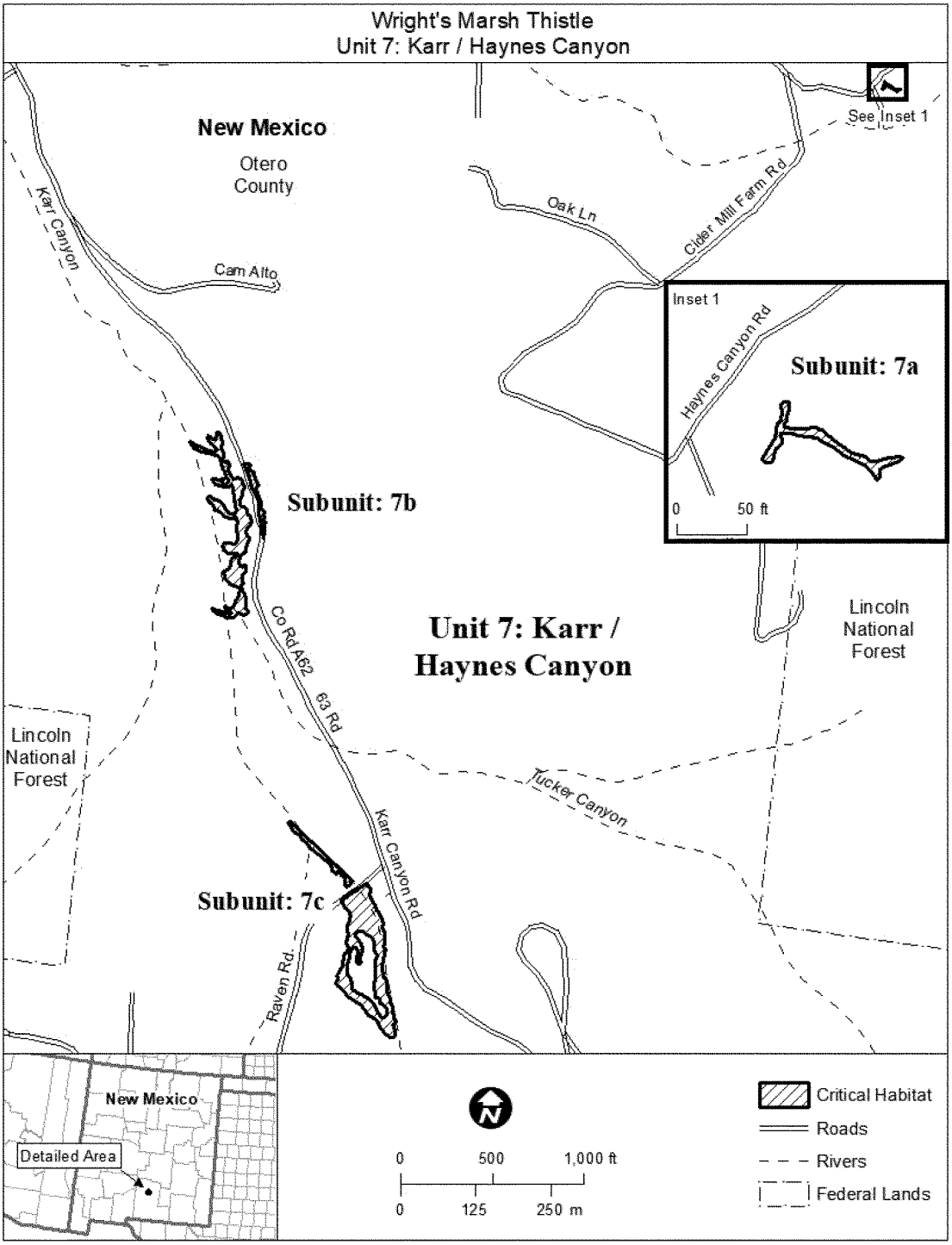
(ii) Map of Unit 6 follows:



(12) Unit 7: Karr/Haynes Canyon, Otero County, New Mexico.

(i) *General description:* Unit 7 consists of 1.79 ha (4.42 ac) in Otero County, New Mexico, and is composed of lands in private ownership.

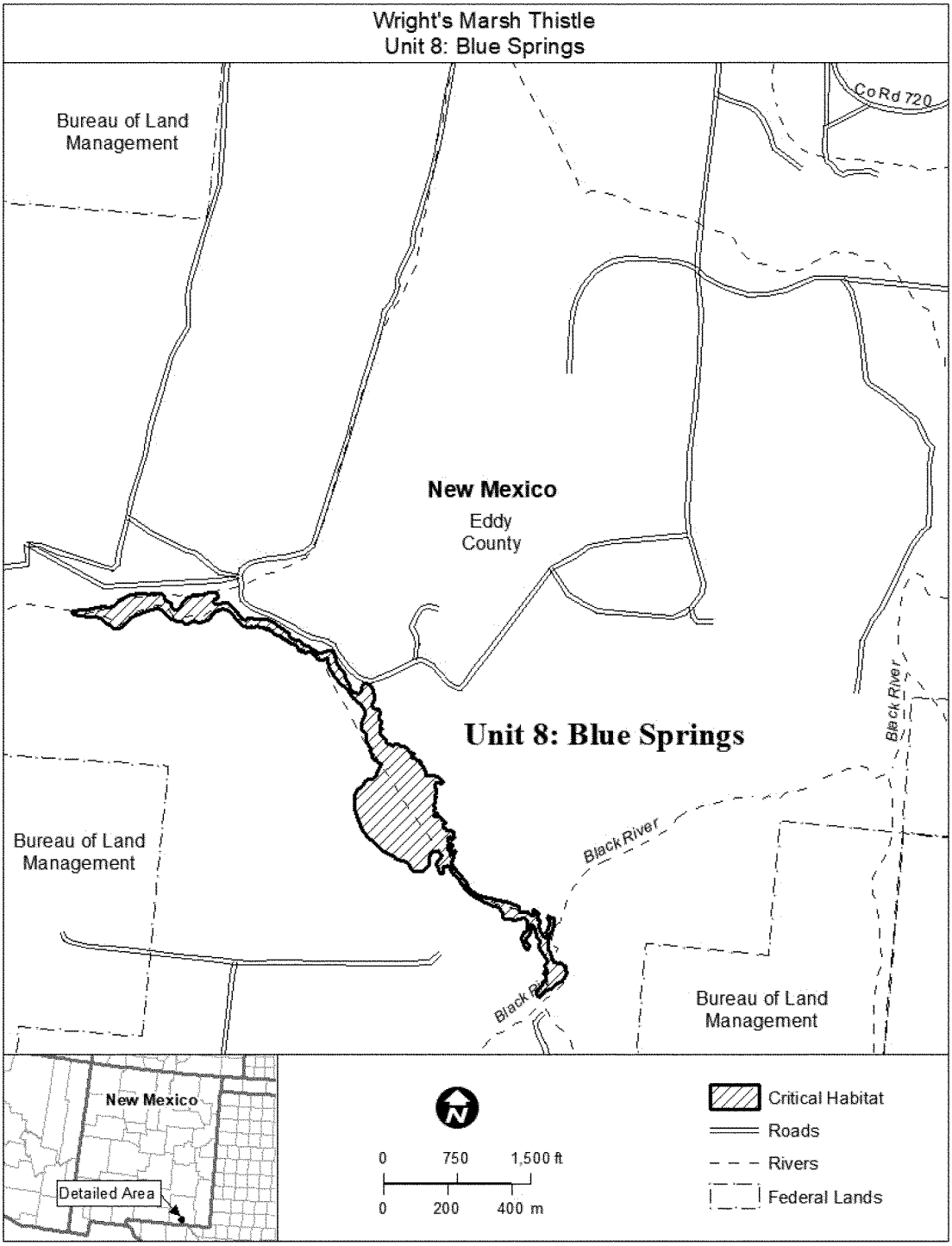
(ii) Map of Unit 7 follows:



(13) Unit 8: Blue Springs, Eddy County, New Mexico.

(i) *General description:* Unit 8 consists of 14.04 ha (34.7 ac) in Eddy County, New Mexico, and is composed of lands in private ownership.

(ii) Map of Unit 8 follows:



* * * * *

Aurelia Skipwith,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2020–19337 Filed 9–28–20; 8:45 am]

BILLING CODE 4333–15–C