DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R1–ES–2021–0070; FF09E21000 FXES1111090FEDR 223]

RIN 1018–BF89

Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for Sand Dune Phacelia 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 sand dune phacelia (*Phacelia argentea*), a plant species from coastal southern Oregon and northern California, as a threatened species and designate critical habitat under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the sand dune phacelia. 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 sand dune phacelia 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 the sand dune phacelia under the Act. In total, approximately 252 acres (102 hectares) in Coos and Curry Counties in Oregon, and Del Norte County in California, fall within the boundaries of the proposed critical habitat designation. We also announce the availability of a draft economic analysis of the proposed designation of critical habitat for sand dune phacelia.

DATES: We will accept comments received or postmarked on or before May 23, 2022. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. Eastern Time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by May 6, 2022.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *https://www.regulations.gov.* In the Search box, enter the docket number or RIN for this rulemaking (presented above in the document headings). For best results, do not copy and paste either number; instead, type the docket number or RIN into the Search box using hyphens. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on ''Comment.''

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R1–ES–2021–0070, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041–3803.

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

Availability of supporting materials: For the critical habitat designation, the draft economic analysis and the coordinates or plot points or both from which the maps are generated are included in the decision file and are available at the Oregon Ecological Services website (*https://www.fws.gov/oregonfwo/*) and at *https://www.regulations.gov* under Docket No. FWS–R1–ES–2021–0070. Additional supporting information that we developed for this critical habitat designation will be available at the Service's website set out above, at *https://www.regulations.gov,* or both.

FOR FURTHER INFORMATION CONTACT: Paul Henson, State Supervisor, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266; telephone (503) 231–6179. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act, if we determine that a species warrants listing, we are required to promptly publish a proposal in the **Federal Register**, unless doing so is precluded by higher-priority actions and expeditious progress is being made to add and remove qualified species to or from the List of Endangered and Threatened Wildlife and Plants. The Service will make a determination on our proposal within 1 year. If there is substantial disagreement regarding the sufficiency and accuracy of the available data relevant to the proposed listing, we may extend the final determination for not more than six months. To the maximum extent prudent and determinable, we must designate critical habitat for any species that we determine to be an endangered or threatened species under the Act. Listing a species as an endangered or threatened species and designation of critical habitat can only be completed by issuing a rule.

What this document does:

- Proposes to list sand dune phacelia as a threatened species under the Act.
- 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; import or export; sell; or involve in interstate or foreign commerce.
- Proposes to designate critical habitat for the species on approximately 252 acres (ac) (102 hectares (ha)) in Coos and Curry Counties in Oregon, and Del Norte County in California.

The basis for our action. Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that stressors related to Factors A and E (invasive species encroachment and competition, climate change, and small population size) are causing sand dune phacelia 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 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. 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.

Information Requested

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

We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements;

(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 sand dune phacelia 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 Act's section 9 prohibitions in the 4(d) rule or whether we should consider any additional exceptions 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 that the regulations identify as reasons why designation of critical habitat may 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; or

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

(7) Specific information on:

(a) The amount and distribution of sand dune phacelia 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 designation and why;

(c) Any additional areas occurring within the range of the species (in Coos or Curry County in Oregon, or Del Norte County in California) that should be included in the designation because they (1) are occupied at the time of listing and contain the physical or biological features that are essential to the conservation of the species and that may require special management considerations, or (2) are unoccupied at the time of listing and are essential for the conservation of the species;

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

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

(i) Regarding whether occupied areas are adequate for the conservation of the species;

(ii) Providing specific information regarding whether or not unoccupied areas would, 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; and

(iii) Explaining whether or not unoccupied areas fall within the definition of ''habitat'' at 50 CFR 424.02 and why.

(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 that may be included in the final designation, and the related benefits of including or excluding specific 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 and any additional information regarding probable economic impacts that we should consider.

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

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

Because we will consider all comments and information we receive during the comment period, 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. For critical habitat, our final designation may not include all areas proposed, may include some additional areas that meet the definition of critical habitat, and may exclude some areas if we find the benefits of exclusion outweigh the benefits of inclusion. In addition, we may change the parameters of the prohibitions or the exceptions to those prohibitions in the 4(d) rule if we conclude it is appropriate in light of comments and new information received. For example, we may expand the prohibitions to include prohibiting additional activities if we conclude that those additional activities are not compatible with conservation of the species. Conversely, we may establish additional exceptions to the prohibitions in the final rule if we conclude that the activities would facilitate or are compatible with the conservation and recovery of the species.

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 regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

On March 7, 2014, the Service received a petition requesting that sand dune phacelia be listed as an endangered or threatened species and, if applicable, critical habitat be designated for this species under the Act (Center for Biological Diversity et al. 2014, entire). Our subsequent 90-day finding (80 FR 37568, July 1, 2015) concluded that the petition provided substantial information, and that the status of sand dune phacelia warranted further review.

Supporting Documents

A species status assessment (SSA) team prepared an SSA report for the sand dune phacelia. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species. In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we sought the expert opinions of three appropriate specialists regarding the SSA. We received three responses. We also sent the SSA report to seven partners, including scientists with expertise in botany and coastal native dune plant conservation, for review. We received review from three partners: Oregon Department of Agriculture's Native Plant Conservation Program, the California Department of Parks and Recreation, and the Tolowa Dunes Stewards.

I. Proposed Listing Determination

Background

Sand dune phacelia (*Phacelia argentea*), also known as silvery phacelia, is an evergreen, herbaceous, flowering perennial in the forget-me-not family (Boraginaceae), and its status as a taxonomically valid species is well-accepted (Nelson and MacBride 1916, p. 34). It is found only on coastal dune habitat in southern Oregon (Coos and Curry Counties) and far northern California (Del Norte County) coasts. A rangewide survey conducted in 2017 documented 26 occupied sites (including 1 entirely introduced population), with 16 sites in Oregon and the remaining 10 in California (Brown 2020a database). Sand dune phacelia occurs on the open sand above the high tide line, further inland on semi-stabilized and open dunes, and on coastal bluffs (Kalt 2008, p. 2). It has been described as occurring at elevations ranging from 10 to 40 feet (3 to 12 meters) and on slopes less than 30 percent composed of sand or (rarely) gravel (Rodenkirk 2019, p. 7).

Sand dune phacelia exhibits multiple adaptations for living in drought-like, nutrient-poor areas with high winds, blowing sand, and salt spray. It forms mats that reduce its exposure to wind and spray and has silvery hairs on its leaves, which allow it to resist desiccation in its harsh environment of blowing sand. Its tap root may be extensive, facilitating life in an environment of shifting sands and maximizing the plant's ability to uptake water (Rodenkirk 2019, p. 12).

Sand dune phacelia occurs in sandy habitats that are sufficiently free of competing vegetation to provide space and a high light environment to allow for seedling establishment and growth (Kalt 2008, p. 4; Meinke 2016, p. 2). Reproductively mature plants begin to bloom in late April and May, with flowers persisting through August (Meinke 1982, p. 282). Sand dune phacelia appears to be largely incapable of significant self-pollination (Meinke 2016, p. 3), relying upon pollination by bees (Rittenhouse 1995, p. 8).

A thorough review of the taxonomy, life history, and ecology of the sand dune phacelia (*Phacelia argentea*) is presented in the SSA report (Service 2021, pp. 7–20).

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 Service 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 documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the species, including an assessment of the potential threats to the species. The SSA report does not represent a decision by the Service on whether the species should be proposed for listing as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies. The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket FWS–R1–ES–2021–0070 on *https://www.regulations.gov* and at *https://www.fws.gov/oregonfwo.*

To assess sand dune phacelia 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. Throughout all of these stages, we 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.

Individual Needs

Sand dune phacelia occurs in sandy habitats that are sufficiently free of competing vegetation to allow for seedling establishment and growth (Kalt 2008, p. 4; Meinke 2016, p. 2). Drought has been implicated in low seedling recruitment and adult mortality (Rodenkirk 2019, p. 17), but precise moisture requirements are unknown. Nutritional needs are evidently low, as sand is nutrient poor. Whether sand dune phacelia is mycorrhizal (like many other dune species) is unknown. A high light environment is important for sand dune phacelia to complete its life cycle and reproduce. There is evidence that high light exposure is needed for seed germination (Meinke 2016, p. 5) as well as for seedling establishment and growth (Rodenkirk 2019, p. 19; Jacobs 2019, p. 92).

Population Needs

To be adequately resilient, populations of sand dune phacelia need sufficient numbers of reproductive individuals to withstand stochastic events. Sufficient annual seed production and seedling establishment is necessary to offset mortality of mature sand dune phacelia plants within a population. Because large individuals produce the most seed (Meinke 2016, p. 3), their loss is likely to have the greatest impact on the overall population. However, no quantitative analyses have been completed to determine minimum viable population size for sand dune phacelia.

Sandy habitat that is relatively free of vegetative competition is important for population persistence (Rodenkirk 2019, p. 16; Rittenhouse 1995, p. 8). Historically, sand dunes shifted as dictated by prevailing winds, tides, and storm surge, and these forces maintained and supported native dune plant communities adapted to highly dynamic environments. In the absence of sand-disturbing forces, dune habitats are susceptible to rapid colonization by nonnative species such as European beachgrass (*Ammophila arenaria*) and gorse (*Ulex europaea*), as well as encroachment by native successional species like shore pine (*Pinus contorta* ssp. *contorta*) (Meinke 2016, p. 2).

Sand dune phacelia is largely dependent upon pollination by bees. In coastal dune habitats, bee abundance and species richness are positively correlated with the presence of sand dune phacelia (Julian 2012, p. 3), and negatively correlated with cover of European beachgrass and other invasive vegetation (Julian 2012, p. 21).

Species Needs

To maintain viability, sand dune phacelia should have a sufficient number of sustainable populations that are well-distributed throughout its geographic range and throughout the variety of ecological settings in which the species is known to exist. Suitable habitat must be available, and the number and distribution of adequately resilient populations must be sufficient for the species to withstand catastrophic events. No quantitative analysis exists upon which to determine the minimum number of populations or the quantity of suitable habitat necessary for sand dune phacelia to maintain viability as a species.

The historical extent and distribution of sand dune phacelia across the southern Oregon and far northern California coasts is not precisely known. The species may have been more abundant, widespread, and contiguously distributed on the landscape prior to the loss and stabilization of sand dune habitats, off-highway vehicle use, and the introduction of invasive species (particularly European beachgrass) (Meinke 2016, p. 2). Due to its specialized adaptations to the sand dune environment, it is unlikely that sand dune phacelia ever occurred in a diverse range of ecological environments, and no information exists on the genetics of sand dune phacelia that would allow an assessment of whether populations demonstrate sufficient genetic variability to persist under changing environmental conditions.

In summary, individual sand dune phacelia plants require sandy substrate with limited vegetative competition for light, moisture, and growing space. Populations must be sufficiently large and sustainable to withstand stochastic events, have sufficient annual seed production, and an adequate pollinator community. For species viability, sand dune phacelia must have sufficiently resilient populations that are well distributed across its range and sufficient genetic diversity to adapt to changing conditions (table 1).

TABLE 1—INDIVIDUAL, POPULATION, AND SPECIES NEEDS OF SAND DUNE PHACELIA

Individuals	Populations	Species
Bare sandy substrate	Sufficiently large number of reproductive individuals per population to withstand stochastic events.	Sufficient number of adequately resilient populations well distributed across the range
High light environment.	Sufficient annual seed production to offset mortality	Sufficient genetic diversity to adapt to change over time (no information on genetics)
Water	Dune/sandy habitat with low degree of invasive species.	
Pollinators	Sufficient abundance and diversity of pollinators for outcrossing/optimal seed production.	

Threats

We considered a comprehensive set of sand dune phacelia stressors that have been cited in the literature (Rodenkirk 2019, entire), in the data provided from our partners (Brown 2020a database), and in the petition (Center for Biological Diversity et al. 2014, entire). For each stressor we assessed whether there was sufficient evidence that the influence of the stressor rose to the scope and magnitude necessary to impact sand dune phacelia populations, and thus be carried forward in our analysis of current and future condition. We also examined positive influence factors (conservation efforts) in a similar manner.

Invasive Plants

Invasive, introduced plant species are considered one of the most influential stressors to sand dune phacelia and its habitat (Kalt 2008, p. 7; Rodenkirk 2019, p. 6). European beachgrass, gorse, and other invasive plant species outcompete sand dune phacelia throughout its range (Rodenkirk 2019, p. 6). Introduced to the Pacific Northwest region of the United States and California in the 1800s, European beachgrass is an aggressive, perennial, rhizomatous grass. It was extensively planted to stabilize sand and build dunes parallel to the ocean shore to protect infrastructure from the effects of ocean storms and tides (Hacker et al. 2011, p. 2; Oregon Department of Fish and Wildlife (ODFW) 2016, pp. 67). Colonizing European beachgrass captures sand with its deep roots and spreading shoots, forming dense monocultures of grass that outcompete many native dune species, including sand dune phacelia, for growing space, sunlight, and moisture (Rittenhouse 1996, p. 3). The steep, heavily vegetated foredunes seen today along much of the Oregon, and to a lesser extent California, coastlines are the result of European beachgrass colonization (Rittenhouse 1995, p. 9; Zarnetske et al. 2010, pp. 12). Dune stabilization by European beachgrass also facilitates the establishment and succession of native trees and shrubs that proliferate in the absence of natural disturbance regimes,

thereby resulting in the conversion, and ultimate loss, of native dune habitat (Rittenhouse 1996, p. 3; Brown 2020a database).

According to population surveys conducted in California, European beachgrass poses the most consequential threat to sand dune phacelia populations in that State (Jacobs 2019, p. 9; Imper 1987, p. 1; Kalt 2008, p. 7). In Oregon, the expansion of European beachgrass was a likely factor in the extirpation of two sand dune phacelia populations near Bandon (Christy 2007, p. 15), and adverse effects to sand dune phacelia populations from European beachgrass have been documented at multiple locations throughout its range (Rittenhouse 1995, p. 9; Kagan and Titus 1998a, p. 10; Kagan and Titus 1998b, p. 3; Titus 1998, p. 12; Rodenkirk 2019, entire; Brown 2020a database).

We are also aware that under certain ocean shore alteration permits in Oregon, landowners are required to stabilize the dune against erosion in order to protect properties and shoreline. European beachgrass is often used because it is readily available and effective for that purpose (Bacheller 2021, pers. comm.). This permitting requirement may promote the spread of European beachgrass, although to our knowledge this is not currently occurring within the range of sand dune phacelia.

Gorse is an introduced spiny shrub that forms impenetrable thickets that overtake dune habitats. It is widely recognized as a threat to native plant species and dune habitats (Christy 2007, entire; ODFW 2016, p. 7). Widespread in the Bandon, Oregon, area, it poses a threat to sand dune phacelia populations in the northern region of its range (Kagan and Christy 1998, p. 14; Christy 2007, p. 17; Kalt 2008 p. 8; Rodenkirk 2019, p. 6; Brown 2020a database). Gorse is also highly flammable and produces copious amounts of seed that can persist in the environment for 30 years or more (Goodwin 2018, p. 119).

There is broad consensus in the scientific literature and available data that invasive species presently pose a population-level threat to sand dune phacelia rangewide and will continue to do so into the future, so we included this threat in our analysis of current and future condition.

Recreational Impacts

Legal and illegal off-highway vehicle (OHV) use can damage or kill sand dune phacelia. While widely perceived as a potential threat (Kalt 2008, p. 9; Brown 2020a database; Rodenkirk 2019, p. 6), documented impacts from OHVs are limited to individuals at a small number of sites throughout its range, most notably in California (Imper, 1987, p. 1; Gedik 2009, p. 7; Tolowa Dune Stewards 2013, p. 18; Jacobs 2019, pp. 15, 102). Impacts of OHV use to sand dune phacelia in Oregon are thought to be minimal and localized (Rittenhouse 1995, p. 9), with most OHV use occurring in areas unoccupied by sand dune phacelia (Kalt 2008, p. 9).

Trampling by pedestrians and equestrians is noted in the literature as a concern throughout the range of sand dune phacelia. Trampling can both decrease the size of sand dune phacelia mats and destroy individuals (Rodenkirk 2019, p. 6). However, light levels of disturbance can also partially destabilize dunes and reduce invasive species proliferation, thus benefitting sand dune phacelia habitat (Kalt 2008, p. 10). Additional study is needed to investigate the effects of human traffic on sand dune phacelia populations (Jacobs 2019, pp. 113–114).

In general, while noted as a stressor and documented as destructive to individuals at some sites, lack of available data on population-level effects of recreational use on sand dune phacelia precluded us from carrying forward the influence of recreation in our analysis of current and future condition. However, we do acknowledge that recreational impacts, primarily from OHV use, are damaging sand dune phacelia habitat at some sites, and may be especially deleterious to small populations.

Coastal Development

Coastal development may directly damage sand dune phacelia plants or result in habitat loss due to conversion of sand dunes to other uses (Kalt 2008, p. 9). Coastal development may be more consequential in Oregon, where State-listed plants receive no protection on private lands. In California, the California Environmental Quality Act, the Native Plant Protection Act, and the California Coastal Act regulate development to minimize impacts to coastal dunes and other Environmentally Sensitive Habitat Areas.

Most extant populations of sand dune phacelia occur on public lands where protections are in place that safeguard against direct mortality or habitat loss, and we found insufficient data to support the claim that development is currently impacting the remaining extant populations on private land. For example, the two primary private land parcels that currently support sand dune phacelia are the Pacific Shores Subdivision in California and the sites at the Bandon Dunes Golf Resort in Oregon. Seventy-five percent of the undeveloped, privately owned lots at Pacific Shores have been acquired by the California Department of Fish and Wildlife for inclusion into a conservation area, and efforts are underway to purchase the remaining undeveloped private holdings (Jerabek 2020, pers. comm.). At the Bandon Dunes Golf Resort, a stated goal of the conservation-minded owner is to protect and enhance the sand dune phacelia population there, which after heavy infestations of gorse were cleared (Gunther 2012, no pagination) now represents the largest population rangewide (Brown 2020a database).

It is possible that coastal development had impacts on sand dune phacelia historically, leading to its present-day condition of small and fragmented populations. However, based on our assessment of current land ownership and population condition, the best available data does not indicate that development is presently a population-level threat to sand dune phacelia. This stressor may have had historical impacts but no longer appears influential, and, based on land ownership of extant population sites, it seems unlikely to become influential in the future.

Livestock Grazing

Livestock grazing occurs throughout the range of sand dune phacelia on some private lands; however, it usually occurs on well-stabilized (vegetated) dunes and coastal meadows, which are not suitable sand dune phacelia habitat. Furthermore, in some cases grazing may actually benefit sand dune phacelia by reducing competition from invasive species (Rodenkirk 2019, p. 22). Negative effects of livestock grazing on sand dune phacelia populations have not been documented, and grazing was not listed as a threat to any of the populations in the most recent rangewide survey (Brown 2020a database). Given current land ownership, we do not expect grazing to impact populations in the future. Therefore, we did not include livestock grazing in our threat analysis.

Overutilization

Because of sand dune phacelia's attractive foliage, illegal removal of it for horticultural purposes has been cited as a threat (Rodenkirk 2019, p. 6; Oregon Department of Agriculture (ODA) 2020, no pagination). We could find no information with which to validate this claim or assess its impacts on sand dune phacelia populations. As such, we do not consider overutilization to be a threat influencing populations of sand

dune phacelia currently or into the future.

Sea Level Rise

The best available data does not indicate that sea level rise is currently influencing sand dune phacelia, and it is unknown how changes in sea levels may have affected the species in the past. However, because sea level rise is expected to increase in the future with climate change, and near-shore species could be affected by sea level rise and associated erosion and storm surge (IPCC 2014, p. 67), we consider the impact of projected sea level rise on sand dune phacelia in our analysis of future conditions.

Small Population Size

We acknowledge that, prior to habitat fragmentation, many of the populations, especially those south of the town of Bandon, Oregon, and near Crescent City, California, were most likely functionally continuous (Brown 2020b, pers. comm.). Our assessment of population abundance and habitat quality from recent surveys indicates that the number of populations of sand dune phacelia is reduced compared to documented historical occurrences. Many of the remaining populations are very small in size, and most populations are isolated from one another by large tracts of unsuitable habitat, making genetic exchange and dispersal among most populations unlikely without human intervention. No information exists on the minimum number of individuals required to support a sand dune phacelia population. However, a population size of about 25 individuals appears to be biologically relevant given the best available data. Specifically, the current abundance of nearly every extant population falls either below 25 (1 to 24 individuals) or well above 25 (100 or more individuals), with all populations with fewer than 25 individuals also undergoing population decline (Brown 2020a database). Therefore, in the absence of any existing minimum viable population analysis to draw upon, we assume that at least 25 individuals are necessary for sand dune phacelia population viability. As such, low abundance was a factor in our analysis of current condition, and we considered small populations that currently support fewer than 25 individuals as unlikely to persist in our future condition analysis.

Pollinator Decline

Because sand dune phacelia is largely reliant upon pollination to successfully reproduce, pollinator decline is cited as a potential threat to sand dune phacelia (ODA 2020; no pagination). Furthermore, bee abundance and diversity were found to be positively correlated with the presence of sand dune phacelia in one study in California (Julian 2012, p. iii). While we recognize the important role pollinators play in the needs of sand dune phacelia, we found no data with which to assess the status of pollinator communities at extant sand dune phacelia sites, nor to indicate that pollinator decline was affecting sand phacelia populations. Therefore, we acknowledge the importance of a healthy and diverse pollinator community but were unable to include this factor in our analysis of current and future conditions.

Summary of Threats

The primary threat currently acting upon sand dune phacelia populations is that of invasive species, which is expected to continue impacting the species into the future and was therefore included in our analysis of current and future condition. In addition, our current and future condition analysis included the consideration of sea level rise and small population size. Other stressors mentioned above may act on sand dune phacelia individuals, or have highly localized impacts, but do not rise to the level of impacting populations. However, we acknowledge that all stressors may exacerbate the effects of other ongoing threats.

Regulatory Conservation Efforts

Sand dune phacelia is listed as threatened by the Oregon Department of Agriculture (ODA) and has a State listing status of 1, indicating that it is threatened or endangered throughout its range (Oregon Biodiversity Information Center 2019, p. 33). Native plant species that are listed as threatened or endangered in Oregon are protected on all non-federal public lands (Oregon Revised Statutes (ORS) 564.105). Any land action on Oregon public lands that results, or might result, in the collection or disturbance of a threatened or endangered species requires either a permit or a consultation with ODA staff. The State consultation process for public land managers requires a written evaluation of projects that impact listed plant species, and the ODA may recommend alternatives to avoid or minimize impacts to those species; a formal consultation or permit may be required. Prohibitions for listed plant species in the State of Oregon are provided by ORS 603–073–0003, which states ''Willful or negligent cutting, digging, trimming, picking, removing, mutilating, or in any manner injuring, or subsequently selling, transporting, or offering for sale any plant, flower, shrub, bush, fruit, or other vegetation growing on the right of way of any public highway within this state, within 500 feet of the center of any public highway, upon any public lands, or upon any privately owned lands is prohibited without the written permission of the owner or authorized agent of the owner.'' Additionally, ORS 564.105(3) calls for the State to establish programs for the protection and conservation of plant species, and the State participates in conservation management actions as staffing and funding allows. In practice, however, resource limitations often prevent implementation of the full suite of affirmative management actions required to achieve the recovery of State listed plants. As an example, the eradication or control of widespread invasive species such as gorse, one of the primary threats to sand dune phacelia, would pose enormous resource requirements that far exceed the State's capacity.

Oregon State Parks contain nearly 50 percent of all sand dune phacelia populations rangewide. Under the master-plan level designation for Oregon State parks, sites that contain listed species are automatically placed in a category of administrative conservation designation, which provides sand dune phacelia populations with protection from development. While no formal conservation plans to benefit sand dune phacelia are in place, invasive control actions at several parks improve sand dune habitat and may assist with restoring or maintaining suitable conditions for sand dune phacelia in the future (Bacheller 2020, pers. comm.). Oregon State Parks are not supported by tax dollars, as are other State agencies, but are supported by a combination of State Park user fees, recreational vehicle license fees, and a portion of State lottery revenues. As a result, Oregon State Park budgets can be subject to significant fluctuations in revenue and are often limited, which can affect their capacity to implement management actions for conservation, such as habitat restoration for rare plants on State Park lands.

In California, sand dune phacelia is designated as a California Rare Plant with a rank of 1B.1, meaning that it is rare, threatened, or endangered in California and elsewhere, and is seriously endangered in California. Impacts to species of this rank or their habitat must be analyzed during preparation of environmental documents relating to the California Environmental Quality Act (CEQA).

Under CEQA, state public agencies (including State Parks) must provide measures to reduce or avoid adverse environmental impacts of proposed projects, including impacts to designated rare plants such as sand dune phacelia. Designation as a California Rare Plant generally reduces negative impacts to sand dune phacelia caused by development or other land use programs and actions but does not ameliorate the primary threat to the species, which is that of invasive species encroachment. All of the plants constituting California Rare Plant Rank 1B meet the definitions of the California Endangered Species Act of the California Fish and Game Code, and are eligible for State listing, however, sand dune phacelia is not listed under the California Endangered Species Act.

The Federal Lands Policy and Management Act of 1976, as amended (FLPMA; 43 U.S.C. 1701 *et seq.*) governs the management of public lands administered by the Bureau of Land Management (BLM). Under FLPMA, the BLM administers a special status species policy that calls for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands. BLM special status species are any species listed or proposed for listing under the Endangered Species Act, or species designated as ''Bureau sensitive'' by the State Director(s). Sand dune phacelia is designated as a Bureau sensitive special status plant species and is thus the recipient of proactive conservation efforts on BLM lands as staffing and resources allow. On Federal lands in Oregon, the BLM regularly restores sand dune phacelia habitat through the removal or control of invasive species at Lost Lake, Floras Lake, and Storm Ranch (Rodenkirk 2019; entire). BLM is updating its management plan for the New River Area of Critical Environmental Concern, where the majority of sand dune phacelia populations on BLM land occurs (Wright, pers. comm. 2020). The new plan will include an emphasis on restoring native dune plant communities, including those with sand dune phacelia.

Voluntary Conservation Efforts

Rangewide, the largest sand dune phacelia population is located on private land at the Bandon Dunes Golf Resort, and while no formal conservation agreements or commitments exist, the private land owner has been actively maintaining sand dune phacelia habitat through ongoing removal of European beachgrass and gorse (Gunther 2012, no pagination). In California, the South Lake Tolowa Restoration effort has removed European beachgrass from approximately 25 ac (10 ha) at Tolowa Dunes State Park and the Lake Earl Wildlife Area (Jacobs 2019, pp. 24–25). Conducted by California State Parks and a volunteer group called the Tolowa Dunes Stewards (Jacobs 2019, p. 10), restoration efforts initiated in 2010 increased the sand dune phacelia population from approximately 2,300 plants to 5,936 plants in 2017 (Brown 2020a database). The South Lake Tolowa population is now the largest in California, and the second largest rangewide. Volunteers from the Tolowa Dunes Stewards have also restored 30 ac of habitat (12 hectares) at the nearby East Dead Lake population via the removal of European beachgrass (Jerabek 2020, pers. comm.). However, in the absence of committed funding or agreements associated with these restoration efforts, they are almost entirely reliant on grant funding and volunteer efforts (Jerabek 2020, pers. comm.). The significant gains made for sand dune phacelia at these sites could quickly be lost without continuous maintenance efforts, given the aggressive nature of European beachgrass and other invasive species.

Rangewide, actions to control invasive species have demonstrated success in maintaining or increasing populations of sand dune phacelia (Gunther 2012, no pagination; Meinke 2016, p. 25; Jacobs 2019, p. 10; Rodenkirk 2019; entire). Sand dune phacelia is a management-dependent species, as restoration of dune habitat through ongoing control of invasive species is essential to the continuing viability of sand dune phacelia rangewide. Therefore, we considered the contribution of habitat management actions, and in particular control of invasive species, in our analysis of future conditions.

We also considered whether or not our Policy for the Evaluation of Conservation Efforts (68 FR 15100, March 28, 2003) applies to sand dune phacelia habitat management efforts, but we determined that it does not apply because no formalized agreements exist to ensure the future mitigation of the threat posed by invasive species.

In addition to habitat restoration activities, augmentation of sand dune phacelia populations using transplants has been carried out at several sites by BLM in partnership with Oregon State University (Meinke 2016, entire) and the Oregon Department of Agriculture (Brown 2017, entire). While transplant efforts appear to be beneficial initially, transplant mortality over time tends to be high as outplanted individuals succumb to environmental conditions (Meinke 2016, p. 18). Refinements to sand dune phacelia cultivation protocols are necessary to improve transplanting success (Meinke 2016, entire; Brown 2017, p. 5).

Attempts are also underway by BLM to enhance or establish populations by directly seeding sand dune phacelia into suitable habitat (Wright 2020, pers. comm.). The recently introduced population at Storm Ranch is the largest population that occurs on Federal lands (Rodenkirk 2019, p. 28). Attempts to establish the Storm Ranch population began in 2012 with a seeding of 2 ac (0.8 ha) (Rodenkirk 2019, p. 28). Initial seedings were unsuccessful, but eventually a population was established, with 1,596 plants counted in 2018. The population drastically declined in 2019, with only 620 plants observed (Rodenkirk 2019, p. 29). Long-term monitoring will assess whether this seeded population can maintain viability.

Because of the high levels of plant mortality observed following transplantation efforts, and the significant uncertainty as to whether augmented or introduced populations may be capable of contributing to the maintenance or enhancement of sand dune phacelia populations over time, we did not include the seeded population at Storm Ranch, or outplanted individuals at other sites, in our analysis of current and future conditions.

We determined that habitat restoration in the form of invasive species removal is the primary conservation effort influencing sand dune phacelia at the population level, and therefore carried it through our analysis of future condition. Augmentation and reintroduction are likely having a positive influence on sand dune phacelia, but we lack evidence that these conservation efforts are having population-level effects at this time.

Current Condition

Methodology

We delineated three representation units (Oregon–North, Oregon–South, and California) based on geographic breaks in the distribution of the species, because they could not otherwise be characterized by marked differences in genetic makeup, phenotypic variation, habitats, or ecological niches. No population viability assessment models exist to inform the categorization of population condition for sand dune phacelia. Therefore, we used the best

available science to score the overall current condition of each population qualitatively as high, moderate, or low, based upon our assessment of habitat condition, population abundance, and population trend over time. The average score was then used to rate the overall current condition of each population.

Sand dune phacelia populations were surveyed rangewide in Oregon and California in 2017 by the Oregon Department of Agriculture's Plant Conservation Program (Brown 2020a database). The 2017 survey enumerated current population size, examined historical data to discern population trends, delineated the area occupied, briefly described the habitat, and identified stressors at each site. This effort provides the most current data available on nearly every extant population of sand dune phacelia.

We excluded sites consisting of *Phacelia* species with intermediate morphology (those that appear hybridized). These plants were determined to most likely be crosses between sand dune phacelia and *P. nemoralis* ssp. *oregonensis* (Brown 2020a database; Meinke 1982, p. 260). In addition to different morphological attributes, the intermediate plants occur in rockier habitats as compared to areas occupied by sand dune phacelia, and rockier habitat is more indicative of *P. nemoralis.* While we suspect that these plants are most likely hybrids and not representatives of sand dune phacelia, no genetic information is available upon which to base this conclusion. Whether the presumed intergrades affect sand dune phacelia population viability is unknown. More information on intermediate populations, as well as on all populations, is included in the SSA (Service 2021, entire).

Abundance categories were defined as ''Low'' (100 or fewer plants), ''Moderate'' (101,500 plants), and ''High'' (over 500 plants). These rating categories were derived to reflect relative abundance between populations only, or an index of population size, because there is no information available on the minimum number of individuals necessary to maintain a viable population.

Habitat condition was scored based on the most recently available observations at sand dune phacelia population sites. Because sand dune phacelia habitat quality is highly influenced by invasive species, the scores reflect the relative encroachment of invasive species at a given site as reported by the 2017 rangewide survey (Brown 2020a database) and by BLM. Quantitative data on invasive species in sand dune phacelia populations, such as percent cover of invasive species, are not available.

Population trend data were derived from the 2017 rangewide survey (Brown 2020a database) and reflect documented abundance data across historical records. Trend data are necessarily coarse, as many populations were rarely or sporadically monitored prior to 2017. Increasing trends were rated as ''High,'' stable trends as ''Moderate,'' and decreasing trends as ''Low.''

The overall condition scores for all known extant populations of sand dune phacelia are presented in table 2.

Current Resiliency, Redundancy, and Representation

Resiliency refers to the ability of populations to withstand stochastic events, and we assessed the resiliency of each population using the current habitat condition, population abundance, and population trend. Of the 25 naturally occurring (we did not include the 1 entirely introduced population) extant sand dune phacelia populations we assessed, 4 are currently in high condition, 4 are in moderate condition, and 17 are in low condition (table 2). Therefore, resiliency is low for most populations rangewide, with 68 percent of all populations rated with low overall condition (figure 1).

TABLE 2.—CURRENT CONDITION OF EXTANT SAND DUNE PHACELIA POPULATIONS.

Representation Unit	Resiliency Unit (Population)	Parameters			Overall Current Condition
		Habitat Condition	Abundance	Population Trend	
Oregon - North	Pacific Dunes Golf Course	Moderate	Moderate	Unknown	Moderate
Oregon - North	Bandon Preserve & Golf Course	Moderate	High	High	High
Oregon - North	Bandon State Natural Area	Low	Low	Low	Low
Oregon - North	Lost Lake	High	Moderate	High	High
Oregon - North	Fourmile Creek	Low	Low	Low	Low
Oregon - North	Floras Lake	Low	Moderate	Low	Low
Oregon - North	Cape Blanco State Park	Low	Low	Low	Low
Oregon - North	Paradise Point	Moderate	Moderate	Unknown	Moderate
Oregon - North	Hubbard Creek	Low	Low	Low	Low
Oregon - South	Ophir Dunes	Low	Low	Low	Low
Oregon - South	Nesika Beach	Moderate	Low	Low	Low
Oregon - South	Pistol River Mouth	Moderate	Moderate	High	Moderate
Oregon - South	Pistol River State Park – South	Low	Low	Moderate	Low
Oregon - South	Lone Ranch Beach	Moderate	High	High	High
Oregon - South	Crissey Fields State Park	Low	Low	Low	Low
California	N. Kellogg Road	Low	Low	Low	Low
California	Pacific Shores Subdivision	Low	Moderate	Low	Low
California	South Lake Tolowa Restoration	High	High	High	High
California	Old Mill Road	Unknown	Low	Unknown	Low
California	NNW of Dead Lake	Low	Low	Low	Low
California	East Dead Lake	Moderate	Low	Low	Low
California	N End Del Norte Cty. Airport	Low	Low	Low	Low
California	NW End Del Norte Cty. Airport	Low	Low	Low	Low
California	Point St. George	Moderate	Low	Low	Low
California	Pebble Beach	Moderate	Moderate	Low	Moderate

Redundancy is a species' ability to withstand catastrophic events and is determined by the number of its populations and their distribution across the landscape. Currently, approximately 33,858 naturally occurring sand dune phacelia plants exist in 25 populations along roughly 100 miles (161 kilometers (km)) of coastline. Our analysis of current redundancy concludes that, although most extant populations exhibit low resiliency, it is unlikely that a single catastrophic event could eliminate all extant populations, which are well distributed throughout all representation units, with the most robust populations located at either end of the range (figure 1).

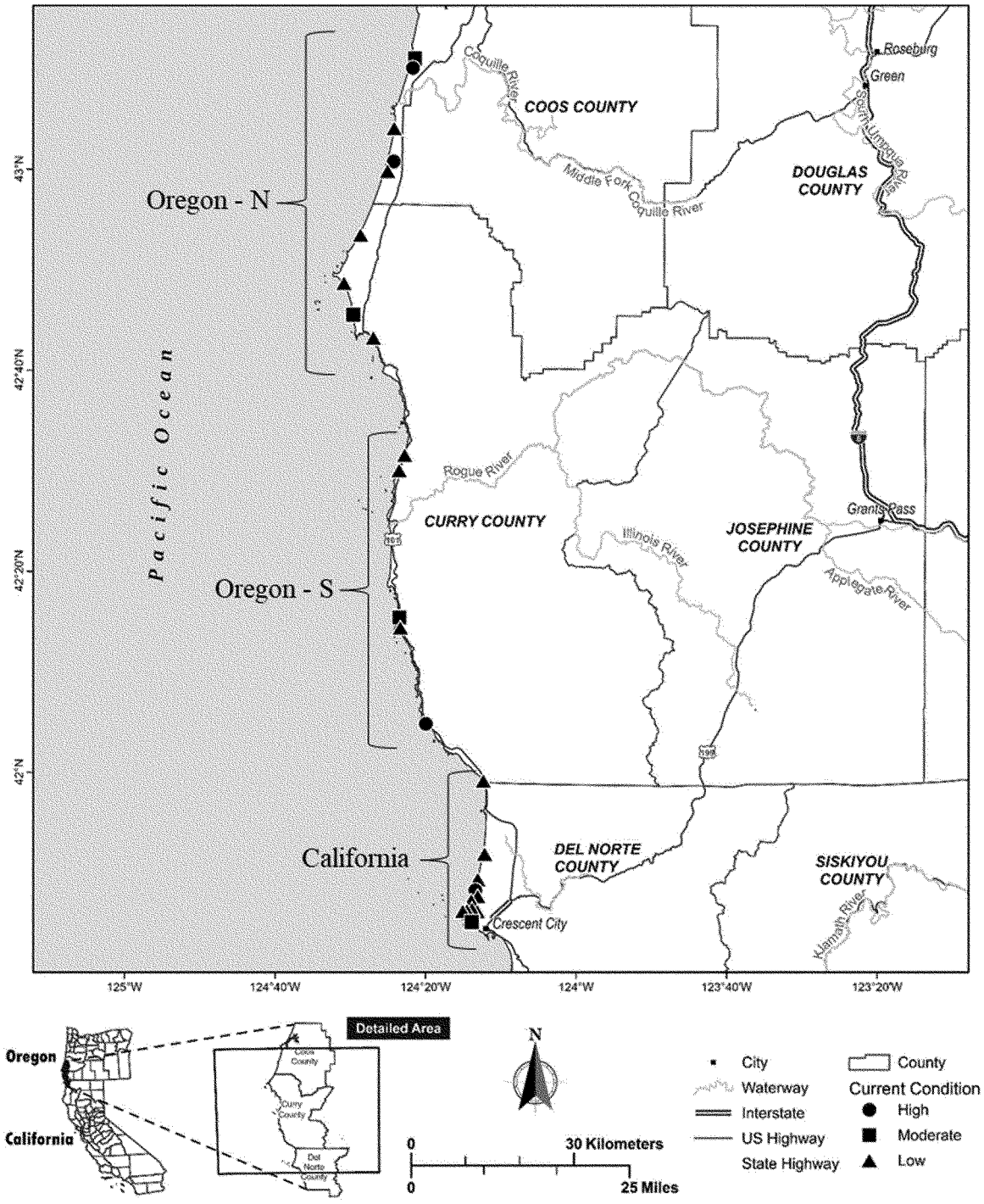


Figure 1.—Current condition of extant sand dune phacelia populations across the three representation units (Oregon–North, Oregon–South, and California).

Representation refers to the ability of a species to adapt to change and is based upon considerations of phenotypic, genetic, and ecological diversity, as well as the species' ability to colonize new areas. There is little evidence of phenotypic variation among individuals of sand dune phacelia, and no data are available on potential genetic diversity. As a narrow endemic, sand dune phacelia is highly specialized and restricted in its ecological niche, with all occupied sites sharing similar features, and differences being largely related to the population's distance from the ocean and position in relation to the dune (*e.g.,* foredune, backdune). As such, sand dune phacelia demonstrates little ecological diversity. However, the ability of a species to adapt is gauged not only by diversity among

individuals, but also by its ability to colonize new areas. Currently, populations of sand dune phacelia are patchy and dispersed, often isolated by large tracts of intervening habitat made unsuitable by human development or invasive species. The lack of available and unoccupied suitable habitat leaves less opportunity for a species to exploit new resources outside of the area it currently occupies and to adapt to changing conditions. Further, the lack of connectivity between populations may result in reduced gene flow and genetic diversity, rendering the species less able to adapt to novel conditions.

The low level of phenotypic and ecological diversity demonstrated within this species, as well as restricted opportunity for colonization into new areas, indicates some limitations in representation for sand dune phacelia. However, sand dune phacelia continues to be represented by multiple populations distributed throughout the known historical range of the species, although the resiliency of most of these populations is low.

Future Condition

The intent of this analysis is to assess the viability of sand dune phacelia into the future under various plausible future scenarios. Further explanation on our methodology and assumptions for our future condition analysis can be found in our SSA report (Service 2021, Chapter 6). We assessed the future condition of sand dune phacelia by considering how invasive species competition, the effects of climate change, small population size, and habitat management efforts may affect populations over time. We considered the impacts of both habitat management (invasive species removal) and climate change on the extent of invasive species cover expected to occur in the future at each site. Climate change is also projected to affect sea levels; thus, we assessed each site for potential effects of inundation due to sea level rise. In addition to the overall current condition categories of ''high,'' ''moderate,'' and ''low'' that were based on current habitat and demographic factors, we included for the future condition analysis the additional categories of ''very high,'' ''very low,'' and ''extirpated'' for populations where the overall condition was already high but projected to improve, was already low but projected to deteriorate further, or where the population (with fewer than 25 individuals) was expected to become extirpated, respectively.

Future Timeframe

We considered a timeframe for this analysis based upon the extent into the future we could reasonably forecast the impact of the threats on the species, given the data and models available to us. Global climate models project changes in global temperature and other associated climatic changes based on potential future scenarios of greenhouse gas concentrations in the atmosphere (*i.e.,* Representative Concentration Pathways, or RCPs). RCP 4.5 assumes major near-future cuts to carbon dioxide emissions, and RCP 8.5 assumes that current emissions practices continue with no significant change (Terando et al. 2020, p. 10). Thus, these RCPs represent conditions in the upper and lower ends of the range of what can reasonably be expected for the future effects of climate change (Terando et al. 2020, p. 17). Climate model projections are fairly aligned until about mid-century when they start to diverge more, as this is the timeframe during which our near-future carbon emissions begin to manifest in projections of future climate. Although all projections into the future show global temperature and sea level rise increasing, the variability or uncertainty in the magnitude of changes expected becomes much greater at this point. Therefore, we determined that the period of time from the present to about mid-century to be the timeframe over which we could most reliably project the future condition of sand dune phacelia. As such, the timeframe for our analysis of the future condition of sand dune phacelia extends to approximately the year 2060, which is the mid-century timeframe available for the sea level rise projections we used to assess inundation at sand dune phacelia populations (Service 2021, p. 43).

Climate Change

Warming temperatures have already been documented and are expected to continue in the Pacific Northwest, though changes will be somewhat muted in coastal areas (Mote et al. 2019, summary p. 1). There have been no clear discernible trends in annual precipitation, though there will likely be modest increases in the winter and decreases of similar scale in the summer (Mote et al. 2019, summary p. 1). Warming summer temperatures paired with decreased summer precipitation may lead to increased drought risk, which has the potential to cause stress, desiccation, and even mortality in plant communities. Although increased temperatures and decreased precipitation during the summer growing season are likely to have negative effects on sand dune phacelia, whether these changes will result in population-level impacts in the next 40 years is unclear given the available data. Therefore, we were unable to analyze the impacts of drought in our future scenarios.

Sea level rise projections in 1-foot increments were available at three locations that span the entire range of sand dune phacelia (Coos Bay and Port Orford in Oregon, and Crescent City in California). One foot (0.3 meter) of sea level rise is projected to occur under RCP 8.5 by 2060 in Oregon and by 2070 in northern California but is not projected to occur within this timeframe under RCP 4.5 (Climate Central 2020, no pagination). According to the sea level rise modeling tool we used (National Oceanographic and Atmospheric Administration 2020, no pagination), this amount of sea level rise under RCP 8.5 is not projected to inundate the areas currently occupied by sand dune phacelia. Further details of the sea level rise analysis we conducted, including potential indirect effects such as erosion and storm surge that we were unable to project, are available in the SSA (Service 2021, Chapter 6, Appendix 2).

Invasive Species

As described previously in this report, invasive plant species, in particular European beachgrass and gorse, unequivocally represent the primary driver of sand dune phacelia's status presently and into the future. Though some uncertainty remains as to how climate change will impact biological invasions into the future, it is widely agreed that changing climate, especially temperature and precipitation regimes, will exacerbate the invasions of many alien species under future conditions (Gervais et al. 2020, p. 1).

Although relatively few in number, some studies have demonstrated the impacts of climate change on invasive species by modeling the abundance, distribution, spread, and impact of invasive species in the Pacific Northwest relative to climate model projections (Gervais et al. 2020, p. 1). Further, there is evidence that climate-induced expansions of invasive species are already underway in this region (Gervais et al. 2020, p. 1). The best available information at this time does not allow us to quantify the magnitude of these expansions, nor does it allow us to predict how the population dynamics of sand dune phacelia at occupied sites may be affected. However, we expect that the pressure currently exerted upon sand dune phacelia populations due to encroachment by invasive plant species

is likely to increase into the future in response to climate change. We expect the negative impacts to sand dune phacelia from climate-related invasive species expansion to be most evident under the higher emissions scenario (RCP 8.5).

Small Population Size

We considered populations with fewer than 25 individuals likely to become extirpated in the future. While small population size does not appear to be a threat at the species level because there are multiple adequately-sized populations found throughout the range of the species, very small populations are at elevated risk for local extirpation, and thus small population size is a threat at the population level. None of the sites with very small populations currently have habitat management practices to remove invasive species, and we did not assume new efforts would be initiated but acknowledge that extirpation of very small populations could be prevented with management intervention.

Habitat Management

As previously described, the removal of invasive species has been shown to be the most effective strategy for maintaining and increasing populations of sand dune phacelia. Because there are no management plans in place at any of the population sites that would ensure the continuation of or initiate new habitat management practices, and funding for these practices is tenuous, we assumed that either habitat management currently in place would continue or cease, but that management efforts would not increase. We also assumed that populations with current management practices in place would improve in condition into the future with continued management, and those without management currently in place would decline in condition into the future.

Future Scenarios

We considered two plausible future scenarios in our analysis of future viability of sand dune phacelia. Scenario 1 assumes that current habitat management actions to control invasive species will continue to occur and will continue to benefit sand dune phacelia into the future. Thus, the condition of populations of sand dune phacelia at sites that are currently receiving habitat management will continue to improve into the future. Conversely, under this scenario we assume that if no actions to control invasive species are currently being implemented in or adjacent to sand dune phacelia populations, no new efforts are likely to be initiated, and habitat conditions will subsequently worsen over time. Scenario 1 also assumes that RCP 4.5 is in effect, with associated effects to sea level rise and a moderate increase in invasive species expansion. Scenario 2 assumes that any habitat management actions that are presently occurring will be discontinued over time, and therefore no habitat management actions to control invasive species are in effect in the future. Scenario 2 also assumes that RCP 8.5 is in effect, with the associated effects to sea level rise and a greater increase in invasive species expansion. Therefore, these two scenarios represent our best understanding of the most optimistic and the least optimistic of plausible futures we can expect for sand dune phacelia.

Future Resiliency, Redundancy, and Representation

Rangewide, we conclude that under Scenario 1, nearly half (12 of 25) of all sand dune phacelia populations would become extirpated by 2060, and many of the remaining populations (7 of 13) would deteriorate to Low or Very Low condition. However, the condition of those populations that currently benefit from the active control of invasive species would increase over time due to improved habitat conditions, such that five populations would be in High or Very High condition under Scenario 1. Future population resiliency fares worse under Scenario 2, with well over half of all populations (68 percent) becoming extirpated, and all remaining populations projected to be in Low or Very Low condition (table 3). Thus, under either future scenario we considered, many populations will become extirpated, and future resiliency will be low among most remaining populations.

TABLE 3.—FUTURE CONDITION OF EXTANT SAND DUNE PHACELIA POPULATIONS.

Representation Unit	Population	Current Condition	Scenario 1	Scenario 2
Oregon - North	Pacific Dunes Golf Course	Moderate	High	Very Low
Oregon - North	Bandon Preserve & Golf Course	High	Very High	Low
Oregon - North	Bandon State Natural Area	Low	Extirpated	Extirpated
Oregon - North	Lost Lake	High	Very High	Low
Oregon - North	Fourmile Creek	Low	Extirpated	Extirpated
Oregon - North	Floras Lake	Low	Moderate	Extirpated
Oregon - North	Cape Blanco State Park	Low	Very Low	Extirpated
Oregon - North	Paradise Point	Moderate	Low	Very Low
Oregon - North	Hubbard Creek	Low	Extirpated	Extirpated
Oregon - South	Ophir Dunes	Low	Extirpated	Extirpated
Oregon - South	Nesika Beach	Low	Extirpated	Extirpated
Oregon - South	Pistol River Mouth	Moderate	Low	Very Low
Oregon - South	Pistol River State Park – South	Low	Very Low	Extirpated
Oregon - South	Lone Ranch Beach	High	Very High	Low
Oregon - South	Crissey Fields State Park	Low	Extirpated	Extirpated
California	N. Kellogg Road	Low	Extirpated	Extirpated
California	Pacific Shores Subdivision	Low	Very Low	Extirpated
California	South Lake Tolowa Restoration	High	Very High	Low
California	Old Mill Road	Low	Extirpated	Extirpated
California	NNW of Dead Lake	Low	Extirpated	Extirpated
California	East Dead Lake	Low	Extirpated	Extirpated
California	N End Del Norte Cty. Airport	Low	Extirpated	Extirpated
California	NW End Del Norte Cty. Airport	Low	Extirpated	Extirpated
California	Point St. George	Low	Very Low	Extirpated
California	Pebble Beach	Moderate	Low	Very Low

Future redundancy of sand dune phacelia declines under both future scenarios we considered. Under Scenario 1, only 13 of the 25 extant populations would exist rangewide by 2060, with about half of those in Low or Very Low condition. However, five populations would remain in High or Very High condition, with at least one population considered in Very High condition in each representation unit. In the event of a catastrophe in a part of its range, sand dune phacelia would likely continue to exist in other parts of its range, albeit in low numbers and condition. Under Scenario 2, only eight populations are estimated to remain extant in 2060 and would be evenly split between Low and Very Low condition. Due to the greatly reduced number of remaining populations (mostly with low resiliency) under either future scenario, sand dune phacelia redundancy will be low, rendering the species vulnerable to catastrophic events within the future timeframe we considered.

Representation is not expected to change significantly under either future scenario we considered. All representation units will retain populations, and each will have at least one population in Very High condition under Scenario 1. However, only 13 populations are projected to exist rangewide, with over half (54 percent) being in Very Low or Low condition. Under Scenario 2, all populations are in Very Low or Low condition, with very few populations existing in any of the representation units. Fewer populations in the future would provide less opportunity for diversity among individuals, with fewer individuals available to contribute to the adaptive capacity of the species. Isolation is also expected to increase in the future with the expected reduction in size and number of populations on the landscape, further decreasing the likelihood of genetic exchange. These factors may result in a modest reduction in representation into the future, but overall, populations (though fewer) will still be distributed across the range of the species providing adequate representation.

Overall, we expect the viability of the species to decline by varying degrees under the future scenarios considered. Persistence of the two populations that contain 89 percent of known individuals, even under the more

favorable future scenario considered, appears to depend upon continued removal of introduced, invasive species. By mid-century (roughly 2060), we expect sand dune phacelia will still occur on the landscape, but likely with a significantly reduced number of sufficiently resilient populations that are even more sparsely distributed across the historical range of the species.

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. To assess the current and future condition of the species, we undertake an iterative analysis that encompasses and incorporates the threats individually and then 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 Sand Dune Phacelia Status

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an ''endangered species'' or a ''threatened species.'' The Act defines an ''endangered species'' as a species in danger of extinction throughout all or a significant portion of its range, and a ''threatened species'' as a species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether a species meets the definition of an ''endangered species'' or a ''threatened species'' because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) Overutilization for commercial, recreational, scientific, or educational purposes; (C) Disease or predation; (D) The inadequacy of existing regulatory mechanisms; or (E) Other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

We carefully assessed the best scientific and commercial information available regarding the past, present, and future stressors to sand dune phacelia. The potential stressors we considered were: Invasive species encroachment and competition (Factors A and E); recreational impacts from OHV use and trampling (Factor A); coastal development (Factor A); livestock grazing (Factor A); regulatory and voluntary conservation efforts (Factor D); climate change impacts including sea level rise and drought (Factor E); small population size (Factor E); and pollinator decline (Factor E). There is no evidence that overutilization (Factor B) or disease and predation (Factor C) are impacting sand dune phacelia. We evaluated each potential stressor to determine which stressors were likely to be drivers of the species' current and future condition, and found that invasive species, climate change, and small population size are the primary threats to the species.

There are 25 naturally occurring, extant populations of sand dune phacelia. Nearly 70 percent (17) of these populations are currently in low condition according to our assessment, and nearly half (12) of the populations have fewer than 25 individuals. However, extant populations are distributed across the historical range of the species, and there remains at least one highly resilient population and one moderately resilient population in each of the three representative areas (in the northern, middle, and southern regions of the range). Populations that are currently in poor condition, many of which have fewer than 25 individuals, are at risk of extirpation without management intervention. Many of these populations, especially those with very low abundance, may never be likely to contribute meaningfully to the species' viability. However, even without the very small (fewer than 25 individuals) populations on the landscape, the species would still maintain 13 populations across the range, with 8 of those populations being in moderate or high condition and evenly distributed across all 3 representation units. The distribution and maintenance of sufficiently resilient populations, albeit few of them, across the historical range of the species indicates an adequate degree of redundancy, making it unlikely that a single catastrophic event would lead to the extirpation of all extant populations.

While we have little evidence of diversity among members of the species, sand dune phacelia is a relatively localized endemic inhabiting a narrow ecological niche, so broad diversity is not necessarily expected. Populations of sand dune phacelia remain distributed across the three representation units and throughout its known historical range, and therefore the species is currently represented across the breadth of any ecological diversity that exists within its range.

We know that the most influential threat to sand dune phacelia, encroachment by invasive species (Factors A and E), can be successfully mitigated with active habitat management. Effective habitat management is currently ongoing at several population sites, including at the largest population strongholds at the northern and southern extents of the species' range (Bandon Preserve and Golf Course in Oregon and Tolowa Dunes in California). It is also possible that if management efforts continue or increase, they could promote the increase and expansion of populations into the future.

Because of the presence of multiple populations in moderate to high condition (or with adequate resiliency) distributed across all regions of the species' historical range (redundancy) and across the breadth of ecological conditions inhabited by the species (representation), as well as the success of current conservation efforts to mitigate the primary threat (invasive species) at population strongholds, we determined that sand dune phacelia is not currently in danger of extinction throughout its range.

Upon determining that sand dune phacelia is not at risk of extinction now, we consider whether it is likely to become endangered in the foreseeable future. According to our assessment of plausible future scenarios, we conclude that the species is likely to become endangered within the foreseeable future throughout all of its range through decreased resiliency, redundancy, and representation. For the purposes of this determination, the foreseeable future is considered to be approximately 40 years from now (or approximately 2060), based on the timeframe with which we could most reliably project the impacts of climate change and the species' response to those impacts.

As previously noted, the primary driver of the sand dune phacelia's status is habitat loss due to encroachment and competition by invasive species (Factors A and E). This species is considered management-dependent, relying on active and continuous removal of invasive species such as European beachgrass and gorse to maintain habitat

conditions to support sand dune phacelia. Invasive species removal, especially that which is effective and consistent enough to maintain sand dune phacelia populations over time, is costly and labor-intensive, and requires a significant commitment of resources. Currently, while invasive species removal efforts are responsible for maintaining the few (8 of 25) sand dune phacelia populations that are in moderate to high condition, no formal commitments or agreements are in place to continue these efforts, and many of these efforts are dependent upon the will and resources of volunteer groups or private landowners. The remaining strongholds of sand dune phacelia would likely decline quickly in the absence of effective habitat management efforts that are currently ongoing. Specifically, in the most severe future scenario we considered, which includes the cessation of all management efforts into the future, our analysis projects the extirpation of most (17) populations in the future, with those remaining (8) declining to low or very low condition.

Climate change (Factor E) may elevate the risk of drought, lead to increased erosion caused by sea level rise and the increased frequency and magnitude of storm surge, or potentially result in other negative influences to sand dune phacelia, but we were unable to reliably project how these influences would impact the species in our future analysis. Climate change is expected to exacerbate the threat of invasive species into the future, regardless of which emissions scenarios we consider. Given the severity of the threat of invasive species and the tenuous nature of habitat management into the future, the synergistic effects of climate change and invasive species on sand dune phacelia could be significant regardless of the magnitude of climate change impacts on their own.

Small population size (Factor E) is a threat that affects nearly half of the extant sand dune phacelia populations. These 12 populations have fewer than 25 individuals and have no programs in place or conservation efforts ongoing to ameliorate the threat of invasive species, which is the primary cause of low sand dune phacelia abundance at these sites. Without the implementation of habitat management practices at these sites, we expect these very small populations to become extirpated in the future.

Regulatory mechanisms (Factor D) and voluntary conservation efforts by the States of Oregon and California, BLM, volunteer groups, and private landowners, provide benefit to sand dune phacelia at the affected population sites, mostly through invasive species removal efforts and to some degree augmentation and reintroduction efforts. However, while these efforts have helped reduce the impacts of invasive species and small population size locally at certain populations, these influences remain prominent threats to sand dune phacelia and continue to affect the species as a whole.

Due to the continuation of threats at increasing levels into the future, we anticipate a significant reduction in the distribution of sand dune phacelia as the result of the extirpation of multiple populations. Even in the most optimistic future scenario we considered, nearly half of the extant populations of sand dune phacelia would likely become extirpated, with only six populations remaining with moderate to high/very high resiliency. The less optimistic future projection would result in most populations becoming extirpated, and any remaining populations would be in low or very low condition. These types of declines illustrate a loss of resiliency among most populations, as well as a significant reduction in redundancy and representation, with fewer populations on the landscape to withstand catastrophic events and maintain adaptive capacity. Remaining populations in either future scenario will have lower resiliency, leading to lower overall redundancy and representation. Even in the most optimistic future scenario, the species will have low viability and is therefore at risk of becoming endangered within the foreseeable future.

Thus, after assessing the best available information, we conclude that sand dune phacelia 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 Final Policy on Interpretation of the Phrase ''Significant Portion of Its Range'' in the Endangered Species Act's Definitions of ''Endangered Species'' and ''Threatened Species'' (79 FR 37578; July 1, 2014) that provided that the Service does 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 sand dune phacelia, 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 sand dune phacelia, we considered whether the threats are geographically concentrated in any portion of the species' range at a biologically meaningful scale. We examined the threats of invasive species and of climate change, including cumulative effects.

The threat of invasive species is pervasive throughout the range of sand dune phacelia. The type of invasive species may vary regionally (gorse, for example, is more prevalent in the northern extent of the range), but the threat of invasive species encroachment in general is equal in severity throughout the range. Similarly, both the efficacy of mitigating the threat of invasive species through habitat restoration, and the uncertainty related to funding availability to do so, appear consistent throughout the species' range.

The effects of climate change appear to be similar across the historical range of sand dune phacelia. Increases in temperature and changes in seasonal precipitation that could increase the risk of drought in the future are expected to occur to a similar magnitude across the range of the species. Storm surge, which can lead to flooding and erosion at coastal sites, is also expected to increase with climate change, and we have no data to indicate that these impacts would not be approximately equivalent across the range of sand dune phacelia.

Sea level rise projections are also nearly identical across the coastal habitat occupied by sand dune phacelia. Specifically, RCP 8.5 indicates that the impacts of sea level rise are essentially equal across all sites: Within the foreseeable future all sites will experience a 1-foot (0.3 m) or less increase in sea level rise, which will not inundate any of the population sites. The synergistic effects of climate change and invasive species, with biological invasions being facilitated by climate change, are also expected to occur in approximately equal magnitude throughout the range of sand dune phacelia and likely represent the more influential effect of climate change on the species given that sea level rise is not projected to inundate any extant population sites.

The threat of small population size also appears to be distributed throughout the range, with low-abundance populations throughout the range and distributed across all three representation units.

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 the sand dune phacelia's range at a biologically meaningful scale. Thus, there are no portions of the species' range where the threats facing the species are concentrated to a degree where the species in that portion would have 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 does not conflict with the courts' holdings in *Desert Survivors* v. *Department of the Interior,* 331 F.Supp.3d 1131, 1136 (N.D. Cal. 2018), and *Center for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017) because, in reaching this conclusion, we did not need to consider whether any portions are significant and therefore did not apply the aspects of the Final Policy's definition of ''significant'' that those court decisions held were invalid.

Determination of Status

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

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition, 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. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The 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 consists of preparing draft and final recovery plans, beginning with the development of a recovery outline and making it available to the public within 30 days of a final listing determination. 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 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 (*https://www.fws.gov/endangered*), or from our Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

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

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 States of Oregon and California would be eligible for Federal funds to implement management actions that promote the protection or recovery of the sand dune phacelia. Information on our grant programs that are available to aid species recovery can be found at: *https://www.fws.gov/grants.*

Although the sand dune phacelia 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 Bureau of Land Management.

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 she 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 [or her] with regard to the permitted activities for those species. He [or she] may, for example, permit taking, but not importation of such species, or he [or she] may choose to forbid both taking and importation but allow the transportation of such species'' (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

Exercising this authority under section 4(d), we have developed a proposed rule that is designed to address sand dune phacelia conservation needs. Although the statute does not require us 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 sand dune phacelia. As discussed above under Summary of Biological Status and Threats, we have concluded that sand dune phacelia is likely to become in danger of extinction within the foreseeable future primarily due to encroachment by invasive species, small population size, and the effects of climate change. The provisions of this proposed 4(d) rule would promote conservation of sand dune phacelia by encouraging management of the landscape in ways that meet the conservation needs of the sand dune phacelia. The provisions of this proposed rule are one of many tools that we would use to promote the conservation of sand dune phacelia. This proposed 4(d) rule would apply only if and when we make final the listing of the sand dune phacelia as a threatened species.

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.

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.

This obligation does not change in any way for a threatened species with a species-specific 4(d) rule. Actions that result in a determination by a Federal agency of ''not likely to adversely affect'' continue to require the Service's written concurrence and actions that are ''likely to adversely affect'' a species require formal consultation and the formulation of a biological opinion.

Provisions of the Proposed 4(d) Rule

This proposed 4(d) rule would provide for the conservation of the sand dune phacelia by prohibiting the following activities applicable to an endangered plant, except as otherwise authorized or permitted: Import or export; certain acts related to removing, damaging, and destroying on areas under Federal jurisdiction; delivery, receipt, transport, or shipment in interstate or foreign commerce in the course of commercial activity; and sale

or offering for sale in interstate or foreign commerce.

As discussed above under Summary of Biological Status and Threats, encroachment by native and nonnative invasive species (Factors A and E), small population size (Factor E), and climate change (Factor E) affect the status of sand dune phacelia. Additionally, a range of activities have the potential to negatively affect individual sand dune phacelia, including recreational impacts such as off-road vehicle use and inadvertent trampling through pedestrian or equestrian activities. To protect the species from these stressors, in addition to the protections that apply to Federal lands, the 4(d) rule would prohibit a person from removing, cutting, digging up, or damaging or destroying the species on non-Federal lands in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law. As most populations of sand dune phacelia occur off Federal land, these protections in the 4(d) rule are key to its effectiveness. For example, any damage to the species on non-Federal land in violation of a State off-highway vehicle law would be prohibited by the 4(d) rule. Additionally, any damage incurred by the species due to criminal trespass on non-Federal lands would similarly violate the proposed 4(d) rule. Regulating these activities will help preserve the species' remaining populations, slow their rate of decline, and decrease synergistic, negative effects from other stressors. As a whole, the proposed 4(d) rule would help in the efforts to recover sand dune phacelia by limiting specific actions that damage individual populations.

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 that the permit shall be governed by the provisions of 50 CFR 17.72 unless a special rule applicable to the plant is provided in 50 CFR 17.73 to 17.78. We interpret that second sentence to mean that permits for threatened species are governed by the provisions of 50 CFR 17.72 unless a special rule, which we have defined to mean a species-specific 4(d) rule, provides otherwise. We recently promulgated revisions to 50 CFR 17.71 providing that 50 CFR 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 50 CFR 17.72, or to require that every species-specific 4(d) rule spell out any permitting provisions that apply to that species and species-specific 4(d) rule.

To the contrary, we anticipate that permitting provisions would generally be similar or identical for most species, so applying the provisions of 50 CFR 17.72 unless a species-specific 4(d) rule provides otherwise would likely avoid substantial duplication. Moreover, this interpretation brings 50 CFR 17.72 in line with the comparable provision for wildlife at 50 CFR 17.32, in which the second sentence states that the permit shall be governed by the provisions of 50 CFR 17.32 unless a special rule applicable to the wildlife, appearing in 50 CFR 17.40 to 17.48, provides otherwise. Under 50 CFR 17.72 with regard to threatened plants, a permit may be issued for the following purposes: for scientific purposes, to enhance propagation or survival, for economic hardship, for botanical or horticultural exhibition, for educational purposes, or for other purposes consistent with the purposes and policy of the Act. Additional statutory exemptions from the prohibitions are found in sections 9 and 10 of the Act.

We recognize the special and unique relationship with our State natural resource agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist the Service in implementing all aspects of the Act. In this regard, section 6 of the Act provides that the Service 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 that 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 sand dune phacelia 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 sand dune phacelia. 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. 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). Additionally, our regulations at 50 CFR 424.02 define the word ''habitat,'' for the purposes of designating critical habitat only, as the abiotic and biotic setting that currently or periodically contains the resources and conditions necessary to support one or more life processes of a species.

Conservation, as defined under section 3 of the Act, means 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 also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. 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 occupied 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. The implementing regulations at 50 CFR 424.12(b)(2) further delineate unoccupied critical habitat by setting out three specific parameters: (1) When designating critical habitat, the Secretary will first evaluate areas occupied by the species; (2) 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; and (3) 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.

As the regulatory definition of ''habitat'' reflects (50 CFR 424.02), habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

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 report and proposed listing determination for sand dune phacelia, we determined that the present or threatened destruction, modification, or curtailment of habitat or range is a threat to sand dune phacelia 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) have been met and because the Secretary has not identified other circumstances for which this designation of critical habitat would be not prudent, we have determined that the designation of critical habitat is prudent for sand dune phacelia.

Critical Habitat Determinability

Having determined that designation is prudent, under section 4(a)(3) of the Act we must find whether critical habitat for the sand dune phacelia 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 the sand dune phacelia.

Physical or Biological Features Essential to the Conservation of the Species

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species and that 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, alkaline 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 essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we 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, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

The following features are essential to the conservation of sand dune phacelia:

Sandy Coastal Dune Habitat With Adequate Light Exposure, Water, and Growing Space

Sandy coastal dune habitat above the high tide line that provides a high light environment, room for growth, and adequate moisture is required to support sand dune phacelia populations. Sandy areas must have open (unvegetated) space within them to accommodate population expansion. The physical features of sunlight, space, and water are essential for seedling establishment and growth, and facilitate the development of large, mature plants that produce copious amounts of seed. While we lack information on specific quantities associated with this need (such as maximum percent canopy cover that the species can tolerate), it is clear that sandy habitats that provide the essential features of sunlight, space, and water for sand dune phacelia tend to have lower cover of competitive invasive species, particularly European beachgrass and gorse.

Adequate Pollinator Community

A sufficient abundance of pollinators, particularly leafcutter bees (Family: Megachilidae), are required for genetic exchange among sand dune phacelia individuals. Sand dune phacelia appears to be largely incapable of significant self-pollination (Meinke 2016, p. 3), relying primarily on leafcutter bees (*Anthidium palliventre*) and bumblebees (*Bombus* spp.) for pollination. Ants (*Formica* spp.) and beetles (unidentified spp.) have also been observed in association with sand dune phacelia flowers, but it is unclear how effective they are at pollination (Rittenhouse 1995, p. 8).

Summary of Essential Physical or Biological Features

We derive the specific physical or biological features essential to the conservation of sand dune phacelia from studies of the species' habitat, ecology, and life history as described below. Additional information can be found in the SSA report (Service 2021, entire, available on *https://www.regulations.gov* under Docket No. FWS–R1–ES–2021–0070). We have determined that the following physical or biological features are essential to the conservation of sand dune phacelia:

- Sandy coastal dune habitat above the high tide line that provides a high light environment, room for growth, and adequate moisture;
- A sufficiently abundant pollinator community (which may include leafcutter bees and bumble bees) for pollination and reproduction;

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. In the case of sand dune phacelia, these essential features include sandy dune habitat with high light exposure and adequate moisture and unvegetated space, as well as a sufficiently large and diverse pollinator community, and a minimum of 25 reproductively mature sand dune phacelia plants within dispersal distance of one another to sustain a population.

These features essential to sand dune phacelia conservation may require special management considerations or protection to reduce the threat of invasive species encroachment, and to withstand climate change effects such as drought and sea level rise. In addition, localized stressors related to recreational activity, such as off-road vehicle use and pedestrian or equestrian trampling, may also need to be mitigated by special management practices to maintain viable sand dune phacelia populations.

Management activities that could ameliorate these threats include, but are not limited to: (1) Habitat restoration activities in sand dune habitat that include the removal of invasive species such as nonnative European beachgrass and gorse, or native successional species such as shore pine; (2) efforts to restore a diverse and abundant pollinator community, such as through restricting land management practices that harm pollinator species, or through support of a diverse native nectar plant community; (3) access restrictions and enforcement for off-road vehicle use in areas occupied by sand dune phacelia; (4) recreational restrictions to prevent trampling of sand dune phacelia by pedestrians or equestrians; and (5) augmentation and reintroduction programs to expand phacelia populations.

These management activities will protect the physical and biological features (PBFs) essential for the conservation of sand dune phacelia by providing native sandy dune habitat that allows for sand dune phacelia population growth and expansion, supporting the pollinator community that enables sand dune phacelia reproduction, protecting sand dune phacelia populations from trampling and crushing, and maintaining an adequate number of sand dune phacelia individuals necessary to sustain viable populations.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(2) of the Act, we use the best scientific 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 have not identified any unoccupied areas that meet the definition of critical habitat. We determined that the areas currently occupied by populations of sand dune phacelia made up of at least 25 individuals, if recovered, would be sufficient to conserve the species. The extant populations with at least 25 individuals are distributed across the three representation units and across the historical range of the species and, therefore, also span any ecological diversity that may exist within the species' range. Therefore, if these populations were recovered to sufficient resiliency, they would provide adequate redundancy and representation for the species. Because currently occupied areas are sufficient to recover the species, we conclude that currently unoccupied areas do not meet the definition of critical habitat because they are not essential to the conservation of the species. 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 criteria:

Across the representation units, there are 25 naturally occurring sand dune phacelia populations consisting of a total of 94 polygons (patches of sand dune phacelia). We developed critical habitat units within each representation unit by joining patches of sand dune phacelia within each population to form discrete units; this was accomplished by joining patch vertices and creating minimum convex polygons. We considered patches to be part of the same population if they are within 0.30 miles (0.48 km) of each other in Oregon (as defined by Oregon Natural Heritage Information Center) or 0.25 miles (0.4 km) of each other in California (as defined by the California Natural Diversity Database).

A minimum of 25 reproductively mature plants are required for breeding purposes to maintain viability in a population. Extant sand dune phacelia populations are isolated from one another on the landscape, with no possibility of natural dispersal between populations. As such, each individual population relies on having an adequate number of its own members to sustain itself and avoid extirpation. Although there are no data related to the minimum number of individuals necessary to sustain the viability of a sand dune phacelia population, we assume that at least 25 reproductively mature plants are needed for sufficient reproduction to allow the population to withstand stochastic events.

Because we consider populations comprising fewer than 25 plants as being in low condition and unlikely to contribute meaningfully to recovery, we designated critical habitat only around populations with equal to or greater than 25 individuals. This consideration resulted in the creation of 13 critical habitat units.

Some patches within the same population were separated by habitat that was unsuitable (*i.e.,* does not contain PBFs). We avoided including unsuitable habitat within the critical habitat units by joining patches only if the intervening habitat contained at least one PBF. We further limited the inclusion of unsuitable habitat by removing areas from the unit that were clearly unsuitable (*e.g.,* forest, water bodies) to the maximum extent possible given the scale of mapping.

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 sand dune phacelia. 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 to designate as critical habitat lands that we have determined are occupied at the time of listing (*i.e.,* currently occupied). Thirteen critical habitat units are proposed for designation based on the physical or biological features being present to support sand dune phacelia's life-history processes. All of the critical habitat units contain all of the identified physical or biological features and support multiple life-history processes necessary to support the sand dune phacelia's 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 *https://www.regulations.gov* at Docket No. FWS–R1–ES–2021–0070, and on our internet site at *https://www.fws.gov/oregonfwo.*

Proposed Critical Habitat Designation

We are proposing to designate approximately 252 ac (102 ha) in 13 units as critical habitat for sand dune phacelia. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for sand dune phacelia. The 13 critical habitat units we propose are: (1) North Bandon 1, (2) North Bandon 2, (3) Lost Lake, (4) Floras Lake, (5) Cape Blanco, (6) Paradise Point, (7) Pistol River North, (8) Pistol River South, (9) Lone Ranch, (10) Pacific Shores, (11) Tolowa Dunes, (12) Point St. George, and (13) Pebble Beach. All 13 critical habitat units are occupied by the species. Table 4 shows the proposed critical habitat units and the approximate area, broken down by land ownership, for each unit.

We present brief descriptions of all critical habitat units below. Note that all units of critical habitat described below meet the definition of critical habitat for sand dune phacelia because all of the units are occupied by sand dune phacelia, and all units contain all of the physical and biological features essential to the species.

TABLE 4—PROPOSED CRITICAL HABITAT UNITS FOR SAND DUNE PHACELIA

	Private (ac (ha))	Federal (ac (ha))	State (ac (ha))	County (ac (ha))	Total (ac (ha))
Oregon					
North Bandon 1	0.6 (0.2)	0	0	0	0.6 (0.2)
North Bandon 2	54.4 (22)	0	6.9 (2.8)	0	61.3 (24.8)
Lost Lake	2.8 (1.1)	0.8 (0.3)	0.1 (0.04)	0	3.7 (1.5)
Floras Lake	0	5.8 (2.3)	0	0	5.8 (2.3)
Cape Blanco	0	0	2.0 (0.8)	0	2.0 (0.8)
Paradise Point	3.7 (1.5)	0	0	0	3.7 (1.5)
Pistol River North	0	0	3.2 (1.3)	0	3.2 (1.3)
Pistol River South	0	0	0.7 (0.3)	0	0.7 (0.3)
Lone Ranch	0	0	6.5 (2.6)	0	6.5 (2.6)
California					
Pacific Shores	54.4 (22)	0	37.9 (15.3)	0	92.3 (37.4)
Tolowa Dunes	0	0	69.6 (28.2)	0	69.6 (28.2)
Pt. St. George	0.1 (0.4)	0	0	1.0 (0.4)	1.1 (0.4)
Pebble Beach	0	0	1.3 (0.5)	0.4 (0.2)	1.7 (0.7)
Totals	116 (46.9)	6.6 (2.8)	128.2 (51.9)	1.4 (0.6)	252.2 (102.1)

Note: Area estimates reflect suitable habitat within critical habitat unit boundaries, with non-habitat (as identified by textual description) excluded. Area sizes may not sum due to rounding.

Unit 1: North Bandon 1

Unit 1 consists of 0.6 ac (0.2 ha) in Coos County, Oregon. It is at the northernmost limit of the sand dune phacelia's range in Coos County and is located on the privately owned Bandon Dunes Golf Resort. Invasive species are an ongoing threat at this site, and therefore invasive species management may be required. A stated goal of the conservation-minded owner is to protect and enhance sand dune phacelia at the site, and the population here has flourished due to the removal of heavy infestations of gorse (Gunther 2012, no pagination).

Unit 2: North Bandon 2

Unit 2 consists of 61.3 ac (24.8 ha) in Coos County, Oregon, and currently supports the largest population of sand dune phacelia rangewide. The majority (54.4 ac (22 ha)) of the habitat at this site is on the privately owned Bandon Dunes Golf Resort. The population here is now the largest rangewide, with over 24,000 individuals (Brown 2020a database). Invasive species are the primary threat, and therefore invasive species management may be required. Conservation and restoration implemented by the golf resort are largely responsible for the high

condition of this population and its habitat. While there are no formal agreements in place to protect sand dune phacelia at the resort, we have no evidence at this time that management efforts at this site will be discontinued. Part of the population (6.9 ac (2.8 ha)) is in State park ownership (Bullard's Beach) and implementation of invasive species control, particularly gorse, could result in an expanded sand dune phacelia population in the park.

Unit 3: Lost Lake

Unit 3 consists of 3.7 ac (1.5 ha) in Coos County, Oregon. The Lost Lake unit contains land within the Coos Bay New River Area of Critical Environmental Concern (ACEC) (0.8 ac (0.3 ha)) that is federally managed by BLM, State-managed land (0.1 ac (0.04 ha)) within the Bandon State Natural Area (BSNA), and undeveloped private land (2.8 ac (1.1 ha)). Stressors in Unit 3 include illegal off-highway vehicle (OHV) use and the persistent threat of invasive species. As such, managing OHV use may benefit the unit, and invasive species management may be required to maintain it. Sand dune phacelia has greatly benefited from BLM's efforts to remove invasive species in the Lost Lake area, and it is likely that there is room for expansion of this population provided that annual, or nearly annual, vegetation management continues. Augmentation efforts, including transplanting and seeding, have also occurred at Lost Lake on the ACEC.

Unit 4: Floras Lake

Unit 4 consists of 5.8 ac (2.3 ha) in Curry County, Oregon. Like Unit 3, Floras Lake is a part of BLM's New River ACEC. BLM monitors and regularly manages the habitat to maintain the open sand conditions that the sand dune phacelia requires, contributing to the fact that the population of sand dune phacelia at Floras Lake is the largest naturally occurring (*i.e.,* not introduced) population on Federal land. BLM has augmented populations in this subunit with transplants. In addition to the threat of invasive species, other stressors include trampling by hikers and wintertime flooding from Floras Lake. Dependent upon the intensity, these activities could also be beneficial as they mobilize sand and clear habitat of invasive species. As such, mitigating the impacts of pedestrian use, flooding, and invasive species, may be required. Sea level rise may pose an additional threat. As determined by our future condition analysis, a 1-foot rise in sea level by 2060 would barely reach the seaward boundary of the unit; however, other accompanying effects of climate change, like increased storm surge, may also affect sand dune phacelia habitat in this unit.

Unit 5: Cape Blanco

Unit 5 consists of 2.0 ac (0.8 ha) in Curry County, Oregon. The unit is State-managed by the Oregon Parks and Recreation Department (OPRD) and consists of sandy bluffs above the high tide line. A naturally occurring population was augmented with transplants in 2018. Invasive species are a threat at this site, and therefore invasive species management may be required.

Unit 6: Paradise Point

Unit 6 consists of 3.7 ac (1.5 ha) in Curry County, Oregon. It is separated from Unit 5 by the Elk River and bounded to the east by private ranchlands. Unit 6 is made up of undeveloped private land, limited to sandy bluffs between the high tide line and adjacent pastureland. Although it is privately owned, the State (OPRD) has jurisdiction over the land in Unit 6 as well as some adjacent State-owned land. In addition to the threat of invasive species, other factors influencing the population at this site include OHV use, erosion, and storm surge associated with sea level rise. As such, invasive species management may be required, and other management associated with mitigating the impacts of OHV use, erosion, and flooding may also be beneficial.

Unit 7: Pistol River North

Unit 7 consists of 3.2 ac (1.3 ha) in Curry County, Oregon. The land on Unit 7 lies southwest of the Pistol River and is State-managed by OPRD (Pistol River State Park) and the Oregon Department of Transportation. As with all other units, invasive species are a threat, and therefore invasive species management may be required. Another stressor affecting Unit 7 is erosion, as the mouth of the Pistol River changes location annually, scouring the dunes and carrying sand out to sea.

Unit 8: Pistol River South

Unit 8 consists of 0.7 ac (0.3 ha) in Curry County, Oregon. The land is south of Unit 7 and also located on Pistol River State Park. Invasive species are a threat here, and the site is surrounded by European beachgrass and encroaching shore pine. As such, invasive species management may be required.

Unit 9: Lone Ranch

Unit 9 consists of 6.5 ac (2.6 ha) in Curry County, Oregon, and currently supports the third largest population of sand dune phacelia throughout its range. It is composed entirely of land managed by the State (OPRD; Boardman State Park). There is an imminent threat to the population at this site posed by a number of invasive species. As such, invasive species management may be required. Existing control of weedy species for recreational trail access may be maintaining existing suitable habitat.

Unit 10: Pacific Shores

Unit 10 consists of 92.3 ac (37.4 ha) in Del Norte County, California. State lands make up 37.9 ac (15.3 ha) of this site, with the remaining 54.4 acres (22 ha) in private ownership at this time. This area represents an abandoned real estate venture, where lands were subdivided into 0.5-ac (0.20-ha) lots in the 1960s for residential development. Over 1,500 lots were sold and approximately 27 miles of road and electric transmission line were constructed. However, the area remains undeveloped due to permitting issues, and the empty lots are now being acquired for conservation by a coalition of entities for inclusion into the State's Lake Earl Wildlife Area. Approximately 430 lots remain in private ownership. Invasive species are a threat here, and therefore invasive species management may be required. In addition, because much of the sand dune phacelia population in the unit occurs adjacent to roadways or other readily accessible areas, the unit is considered heavily impacted by human activities that include OHV use. Special management considerations to mitigate the impact to sand dune phacelia habitat from these activities may be required.

Unit 11: Tolowa Dunes

Unit 11 consists of 69.6 ac (28.2 ha) in Del Norte County, California, and currently supports the second largest population of sand dune phacelia rangewide. The unit is State-managed in part by California State Parks (on Tolowa Dunes State Park) and the California Department of Fish and Wildlife (on Lake Earl Wildlife Area). Invasive species are a threat here and OHV use also impacts this site. As such, managing OHV use and invasive species may be required. The relatively high abundance of sand dune phacelia in Unit 11 is attributed to a concerted restoration program that has removed invasive species, particularly European beachgrass. These efforts have made this population the stronghold for the

species in California and an important contributor to sand dune phacelia resiliency and redundancy rangewide. However, much of the restoration at this site has been conducted by volunteers, and funding to continue maintaining restored habitat is uncertain.

Unit 12: Point Saint George

Unit 12 consists of 1.1 ac (0.4 ha) in Del Norte County, California. The vast majority of the land (1 ac (0.4 ha)) is county-managed by Del Norte County Parks, and the other 0.1 ac (0.04 ha) is privately owned. Invasive species, particularly annual grasses, are prolific in this unit and therefore invasive species management may be required. However, a large proportion of the sand dune phacelia population at this site occurs near a hiking trail where disturbance has kept the area relatively free of invasive species.

Unit 13: Pebble Beach

Unit 13 consists of 1.7 ac (0.7 ha) in Del Norte County, California. While 0.4 ac (0.2 ha) of the land here is county land, the rest (1.3 ac (0.5 ha)) is State-managed by the California Department of Transportation. Invasive species pose a substantial threat at this site, primarily Hottentot fig or iceplant (*Carpobrotus edulis*), and therefore invasive species management may be required. Additionally, much of this unit is located within a road right-of-way, and therefore road development or maintenance activities could impact sand dune phacelia individuals, some of which are quite large and productive. As such, special management to mitigate the impact to sand dune phacelia habitat from these activities may be required.

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 rule revising the 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 set forth requirements for 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: (1) If the amount or extent of taking specified in the incidental take statement is exceeded; (2) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (4) if a new species is listed or critical habitat designated that may be affected by the identified action.

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 ''Destruction or 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 section 7(a)(2) of the Act by destroying or adversely modifying such habitat, or that may be affected by such designation.

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

(1) Actions that would destroy, alter, or convert sand dune habitat. Such activities could include, but are not limited to, the construction of new roads or utility lines, dune breaching or breaching of water bodies for flood control, bridge work, and the use of heavy equipment for regular maintenance activities (such as roadway maintenance). These activities could eliminate or reduce the sandy dune habitat necessary for sand dune phacelia growth and reproduction.

(2) Actions that would inhibit or reduce native plant communities and the pollinator communities they support. Such activities could include, but are not limited to, herbicide or insecticide application. These activities could limit the ability of sand dune phacelia to reproduce by inhibiting pollinator communities.

(3) Actions that would introduce or promote the proliferation of invasive or successional species plant species into sand dune habitat. Such activities could include, but are not limited to, vegetation management that encourages growth of competing native and nonnative species. These activities could increase competition for space for growth, sunlight, and nutrients between sand dune phacelia and nonnative or successional competitors such as European beachgrass and shore pine, respectively.

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. No DoD lands with a completed INRMP are within the proposed critical habitat designation.

Consideration of Impacts Under 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 designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the Secretary may exercise discretion to exclude the area only if such exclusion would not result in the extinction of the species. In making the determination to exclude a particular area, 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. 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). Therefore, the baseline 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 was then used to develop a screening analysis of the probable effects of the designation of critical habitat for the sand dune phacelia (Industrial Economics, Inc. 2021). 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 particular geographic areas of critical habitat that are already subject to such protections and are, therefore, unlikely to incur incremental economic impacts. In particular, the screening analysis considers baseline costs (*i.e.,* absent critical habitat designation) and includes any probable incremental economic impacts where land and water use may already be subject to conservation plans, land management plans, best management practices, or regulations that protect the habitat area as a result of the Federal listing status of the species. 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. If the proposed critical habitat designation contains any unoccupied units, the screening analysis assesses whether those units require additional management or conservation efforts that may incur incremental economic impacts. This screening analysis combined with the information contained in our IEM

constitute what we consider to be our draft economic analysis (DEA) of the proposed critical habitat designation for the sand dune phacelia; our DEA 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 the sand dune phacelia, first we identified, in the IEM dated April 14, 2021, probable incremental economic impacts associated with the following categories of activities: (1) Federal lands management (U.S. Bureau of Land Management) for recreational use, western snowy plover management, dune breaching, salt spray meadow restoration, and management plan updates; (2) bridge work; (3) breaching of water bodies for flood control purposes; and (4) road development and maintenance. 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 list the species, in areas where the sand dune phacelia is present, Federal agencies would be required to consult with the Service under section 7 of the Act on activities they fund, permit, or implement that may affect the species. If, when we list the species, we also finalize this proposed critical habitat designation, our consultation would include an evaluation of measures to avoid the destruction or adverse modification of critical habitat.

In our IEM, we attempted to clarify the distinction between the effects that would 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 sand dune phacelia's critical habitat. Because the designation of critical habitat for sand dune phacelia was 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 sand dune phacelia 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.

We are proposing to designate approximately 252 ac (102 ha) of critical habitat for sand dune phacelia across Coos and Curry Counties in Oregon and Del Norte County in California. The designation is divided into 13 units, and all units are occupied by sand dune phacelia. We are not proposing to designate any units of unoccupied habitat. Approximately 51 percent of the proposed designation is located on State-owned lands, 46 percent is on privately owned lands, 3 percent is on Federal lands, and less than 1 percent is on county-owned lands. Any actions that may affect the species or its habitat would also affect 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 sand dune phacelia. Therefore, only administrative costs are expected with the proposed critical habitat designation. While this additional analysis will require time and resources by both the Federal action agency and the Service, it is believed that, in most circumstances, these costs would predominantly be administrative in nature and would not be significant.

The probable incremental economic impacts of the sand dune phacelia critical habitat designation are expected to be limited to additional administrative effort resulting from an estimated 3 programmatic consultations, 10 formal consultations, 3 informal consultations, and 7 technical assistance efforts related to section 7 consultation over the next 10 years. Because all of the proposed critical habitat units are occupied by the species, incremental economic impacts of critical habitat designation, other than administrative costs, are unlikely. The incremental costs for each programmatic, formal, informal, and technical assistance effort are estimated to be $9,800, $5,300, $2,600, and $420, respectively. These estimates assume that consultation actions will occur even in the absence of critical habitat due to the presence of the sand dune phacelia, and the amount of administrative effort needed to address the critical habitat during this process is relatively minor. Applying these unit cost estimates, this analysis estimates that considering adverse modification of sand dune phacelia critical habitat during section 7 consultation will result in incremental costs of no more than $9,300 (2021 dollars) per year, which is well below the annual administrative burden threshold of $100 million of incremental administrative impacts in a single year.

We are soliciting data and comments from the public on the DEA discussed above, as well as on all aspects of this proposed rule and our required determinations. During the development of a final designation, we will consider the information presented in the DEA and any additional information on economic impacts 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 17.90. If we receive credible information regarding the existence of a meaningful economic or other relevant impact supporting a benefit of exclusion, we will conduct an exclusion analysis for the relevant area or areas. We may also exercise the discretion to evaluate any other particular areas for possible exclusion. Furthermore, when we conduct an exclusion analysis based on impacts identified by experts in, or sources with firsthand knowledge about, impacts that are outside the scope of the Service's expertise, we will give weight to those impacts consistent with the expert or firsthand information unless we have rebutting information. 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

Section 4(a)(3)(B)(i) of the Act may not cover all DoD lands or areas that pose potential national-security concerns (*e.g.,* a DoD installation that is in the process of revising its INRMP for a newly listed species or a species previously not covered). If a particular area is not covered under section 4(a)(3)(B)(i), then national-security or homeland-security concerns are not a factor in the process of determining what areas meet the definition of ''critical habitat.'' However, the Service must still consider impacts on national security, including homeland security, on those lands or areas not covered by section 4(a)(3)(B)(i), because section 4(b)(2) requires the Service to consider those impacts whenever it designates critical habitat. Accordingly, if DoD, Department of Homeland Security (DHS), or another Federal agency has requested exclusion based on an assertion of national-security or homeland-security concerns, or we have otherwise identified national-security or homeland-security impacts from designating particular areas as critical habitat, we generally have reason to consider excluding those areas.

However, we cannot automatically exclude requested areas. When DoD, DHS, or another Federal agency requests exclusion from critical habitat on the basis of national-security or homeland-security impacts, we must conduct an exclusion analysis if the Federal requester provides credible information, including a reasonably specific justification of an incremental impact on national security that would result from the designation of that specific area as critical habitat. That justification could include demonstration of probable impacts, such as impacts to ongoing border-security patrols and surveillance activities, or a delay in training or facility construction, as a result of compliance with section 7(a)(2) of the Act. If the agency requesting the exclusion does not provide us with a reasonably specific justification, we will contact the agency to recommend that it provide a specific justification or clarification of its concerns relative to the probable incremental impact that could result from the designation. If we conduct an exclusion analysis because the agency provides a reasonably specific justification or because we decide to exercise the discretion to conduct an exclusion analysis, we will defer to the expert judgment of DoD, DHS, or another Federal agency as to: (1) Whether activities on its lands or waters, or its activities on other lands or waters, have national-security or homeland-security implications; (2) the importance of those implications; and (3) the degree to which the cited implications would be adversely affected in the absence of an exclusion. In that circumstance, in conducting a discretionary section 4(b)(2) exclusion analysis, we will give great weight to national-security and homeland-security concerns in analyzing the benefits of exclusion.

Under section 4(b)(2) of the Act, we also consider whether a national-security or homeland-security impact might exist on lands not owned or managed by DoD or DHS. In preparing this proposal, we have determined that the lands within the proposed designation of critical habitat for sand dune phacelia are not owned or managed by DoD or DHS. Therefore, we anticipate no impact on national security or homeland security. However, if through the public comment period we receive credible information regarding impacts on national security or homeland security from designating particular areas as critical habitat, then as part of developing the final designation of critical habitat, we will conduct a discretionary exclusion analysis to determine whether to exclude those areas under authority of section 4(b)(2) and our implementing regulations at 50 CFR 17.90.

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 discussed above. Other relevant impacts may include, but are not limited to, impacts to Tribes, States, local governments, public health and safety, community interests, the environment (such as increased risk of wildfire or pest and invasive species management), Federal lands, and conservation plans, agreements, or partnerships. To identify other relevant impacts that may affect the exclusion analysis, we consider a number of factors, including whether there are permitted conservation plans covering the species in the area—such as HCPs, safe harbor agreements, or candidate conservation agreements with assurances—or whether there are non-permitted conservation agreements and partnerships that may be impaired by designation of, or exclusion from, critical habitat. In addition, we look at whether Tribal conservation plans or partnerships, Tribal resources, or government-to-government relationships of the United States with Tribal entities may be affected by the designation. We also consider any State, local, public-health, community-interest, environmental, or social impacts that might occur because of the designation.

We have not identified any areas to consider for exclusion from critical habitat based on other relevant impacts. In preparing this proposal, we have determined that there are currently no permitted conservation plans or other management plans for sand dune phacelia. There are no partnerships, management, or protection afforded by cooperative management efforts sufficient to provide for the conservation of the species. There are no areas for which exclusion would result in conservation, or in the continuation, strengthening, or encouragement of partnerships.

However, during the development of a final designation, we will consider all information currently available or received during the public comment period. If we receive credible information regarding the existence of a meaningful impact supporting a benefit of excluding any areas, we will undertake an exclusion analysis and determine whether those areas should be excluded from the final critical habitat designation under the authority of section 4(b)(2) and our implementing regulations at 50 CFR 17.90. We may also exercise the discretion to undertake exclusion analyses for other areas as well, and we will describe all of our exclusion analyses as part of a final critical habitat determination.

Summary of Exclusions Considered Under Section 4(b)(2) of the Act

At this time, we are not considering any exclusions from the proposed designation based on economic impacts, national security impacts, or other relevant impacts—such as partnerships, management, or protection afforded by cooperative management efforts—under section 4(b)(2) of the Act. In preparing this proposal, we have determined that no HCPs or other management plans for sand dune phacelia currently exist, and the proposed designation does not include any Tribal lands or trust resources. Therefore, we anticipate no impact on Tribal lands, partnerships, or HCPs from this proposed critical habitat designation and thus, as described above, we are not considering excluding any particular areas on the basis of the presence of conservation agreements or impacts to trust resources.

During the development of a final designation, we will consider any additional information received through 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 17.90.

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 determined that this rule is not significant.

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 proposed 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 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 whether 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.

Under the RFA, as amended, and as understood in light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies 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 would be directly regulated if we adopt the proposed critical habitat designation. The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities would be directly regulated by this rulemaking, the Service certifies that, if made final as proposed, 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.

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. In our economic analysis, we did not find that this proposed critical habitat designation would significantly affect energy supplies, distribution, or use. We are not aware of any energy-related activities or facilities within the boundaries of 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 finding:

(1) This proposed 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) We do not believe that this rule would significantly or uniquely affect small governments because it will not produce a Federal mandate of $100 million or greater in any year, that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. Therefore, a Small Government Agency Plan is not required.

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 sand dune phacelia 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 for the proposed designation of critical habitat for sand dune phacelia and it concludes that, if adopted, this designation of critical habitat does 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. 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 proposed rule does 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 proposed 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 for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to 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) of the Act 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 would 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, this proposed rule identifies the physical or biological features essential to the conservation of the species. The proposed areas of critical habitat are presented on maps, and the proposed 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 regulations adopted pursuant to section 4(a) of 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)).

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. We have determined that no Tribal lands fall within the boundaries of the proposed critical habitat for sand dune phacelia, so no Tribal lands would be affected by the proposed designation.

References Cited

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

Authors

The primary authors of this proposed rule are the staff members of the Fish and Wildlife Service's Species Assessment Team and the Oregon 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 paragraph (h) by adding an entry for ''*Phacelia argentea* (Sand dune phacelia)'' 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				
*	*	*	*	* * *
Phacelia argentea	Sand dune phacelia	Wherever found	T	[**Federal Register** citation when published as a final rule]; 50 CFR 17.73(j); [4d] 50 CFR 17.96(a).[CH]
*	*	*	*	* * *

■ 3. Revise § 17.73 to read as follows:

§ 17.73 Special rules—flowering plants.

(a)–(i) [Reserved]

(j) *Phacelia argentea* (sand dune phacelia).—(1) *Prohibitions.* The following prohibitions that apply to endangered plants also apply to sand dune phacelia. Except as provided under paragraph (k)(2) of this section, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to this species:

(i) Import or export, as set forth at § 17.61(b) for endangered plants.

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

(iii) 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 law or regulation of any State 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.

(iv) Interstate or foreign commerce in the course of commercial activity, as set forth at § 17.61(d) for endangered plants.

(v) Sale or offer for sale, as set forth at § 17.61(e) for endangered plants.

(2) *Exceptions from prohibitions.* In regard to *Phacelia argentea,* you may:

(i) Conduct activities, including activities prohibited under paragraph (k)(1) of this section, if they are authorized by a permit issued in accordance with the provisions set forth at § 17.72.

(ii) Remove and reduce to possession from areas under Federal jurisdiction, as set forth at § 17.71(b).

(iii) Remove, cut, dig up, damage or destroy on areas not under Federal jurisdiction by any qualified employee or agent of the Service or 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 that agency for such purposes, when acting in the course of official duties.

■ 4. Amend § 17.96 paragraph (a) by adding an entry for ''Family Boraginaceae: *Phacelia argentea* (sand

dune phacelia)'' after the entry for ''Family Boraginaceae: *Amsinckia grandiflora* (large-flowered fiddleneck)'', to read as set forth below:

§ 17.96 Critical habitat—plants.

(a) *Flowering plants.*

* * * * *

Family Boraginaceae: Phacelia argentea (sand dune phacelia)

(1) Critical habitat units are depicted for Coos and Curry Counties, Oregon, and Del Norte County, California, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of sand dune phacelia consist of the following components:

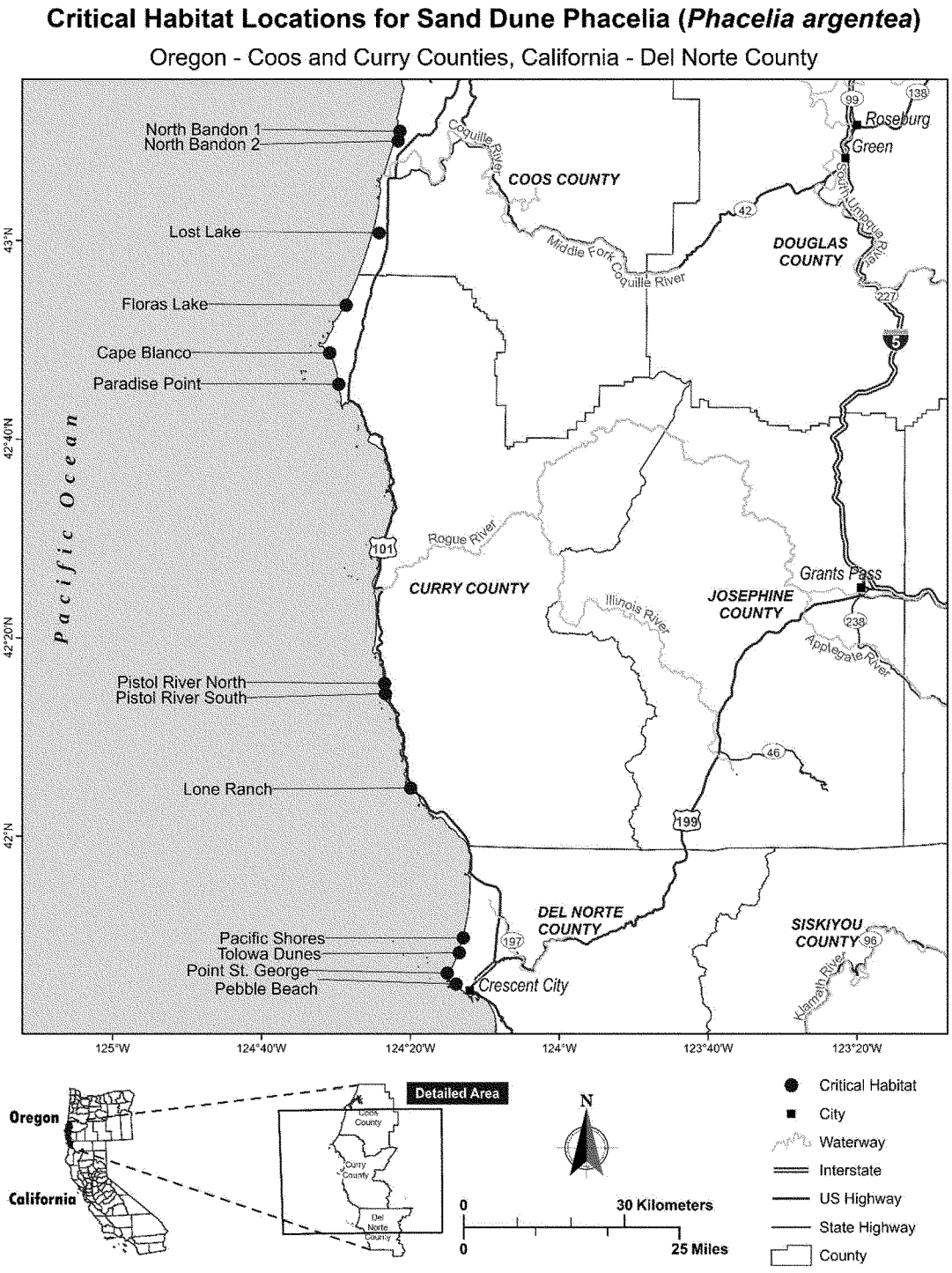
(i) Sandy coastal dune habitat above the high tide line that provides a high light environment, room for growth, and adequate moisture.

(ii) A sufficiently abundant pollinator community (which may include leafcutter bees and bumble bees) for pollination and reproduction.

(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 [EFFECTIVE DATE OF THE FINAL RULE].

(4) Data layers defining map units were created using Geographic Information Systems (GIS) feature classes from known extant populations. Critical habitat units were defined by applying the minimum convex polygon approach in GIS, thereby creating a single polygon from occupied habitat patches within each population consisting of 25 or more individuals. In a few cases, the unit boundaries were modified to align with the coastal boundary based on current National Agriculture Imagery Program natural color imagery. 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/oregonfwo,* at *https://www.regulations.gov* at Docket No. FWS–R1–ES–2021–0070, 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.

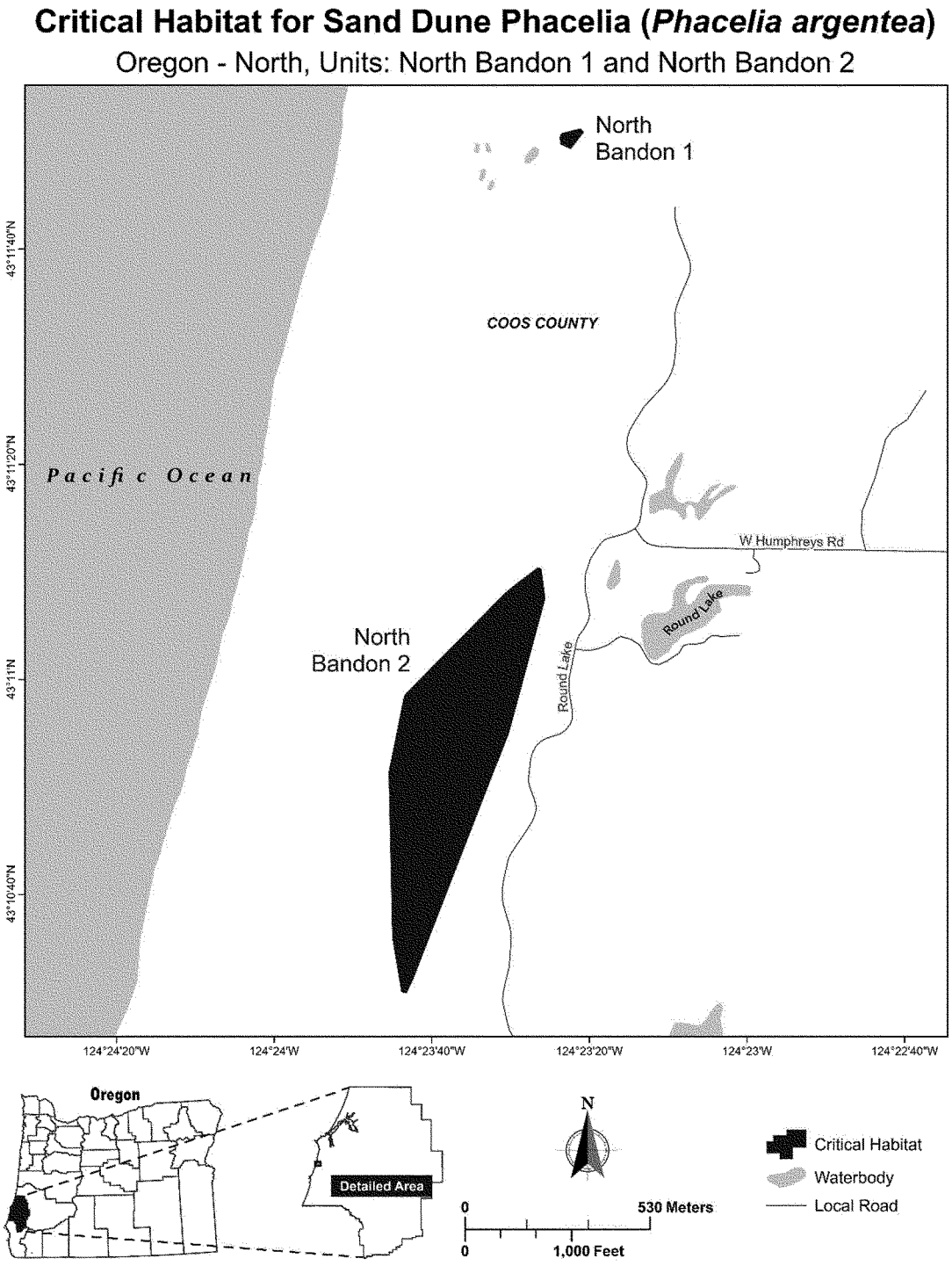
(5) Note: Index map follows:



(6) Unit 1: North Bandon 1, Coos County, Oregon; Unit 2: North Bandon 2, Coos County, Oregon.

(i) Unit 1 consists of 0.6 acres (ac) (0.2 hectares (ha)) in Coos County, Oregon, and is composed of land in private ownership. Unit 2 consists of 61.3 ac (24.8 ha) in Coos County, Oregon, and is composed of land in State (6.9 ac (2.8 ha)) and private ownership (54.4 ac (22 ha)).

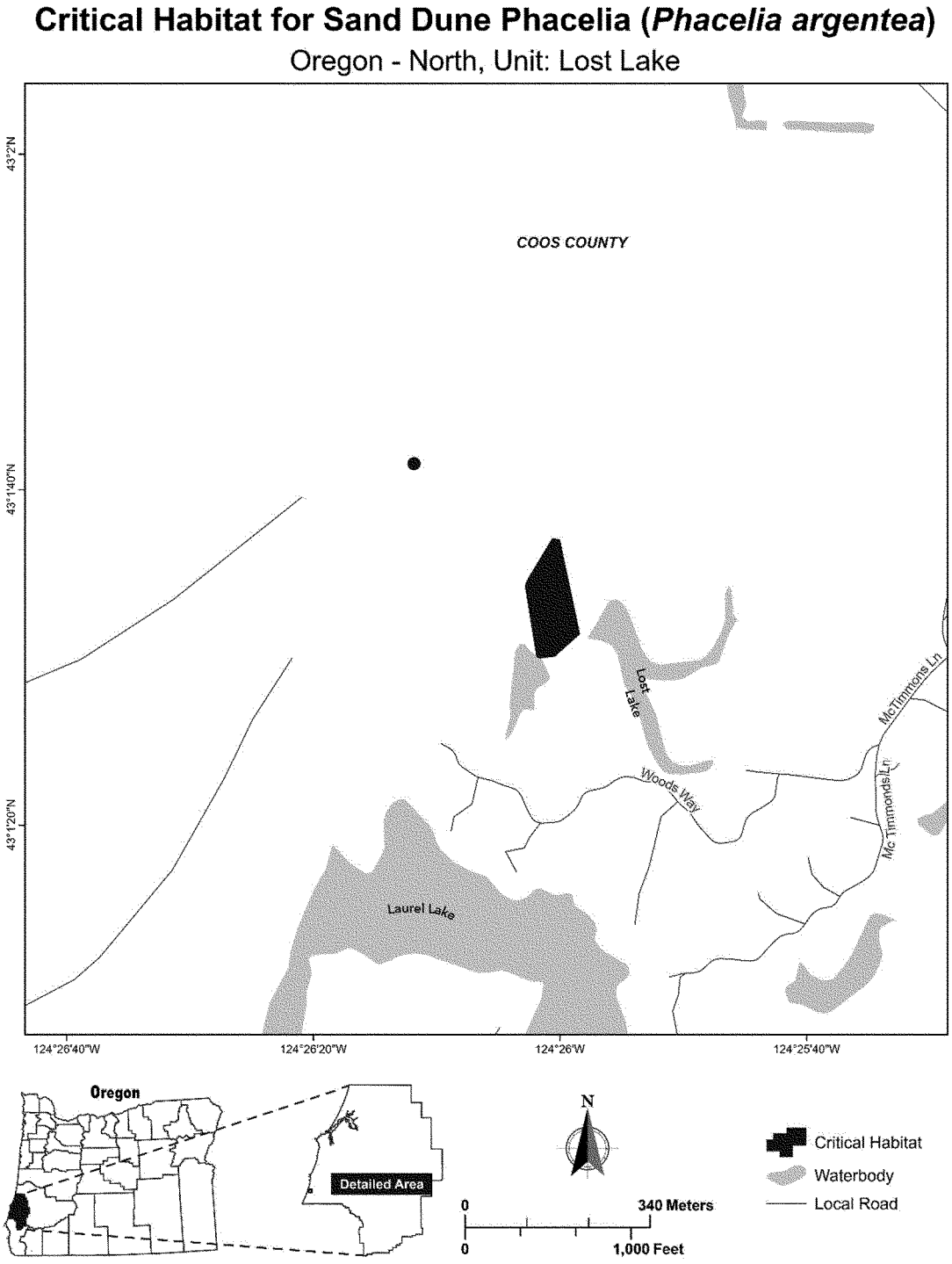
(ii) Map of Unit 1 and Unit 2 follows:



(7) Unit 3: Lost Lake, Coos County, Oregon.

(i) Unit 3 consists of 3.7 ac (1.5 ha) in Coos County, Oregon, and is composed of land in State (0.1 ac (0.04 ha)), Federal (0.8 ac (0.3 ha)), and private ownership (2.8 ac (1.1 ha)).

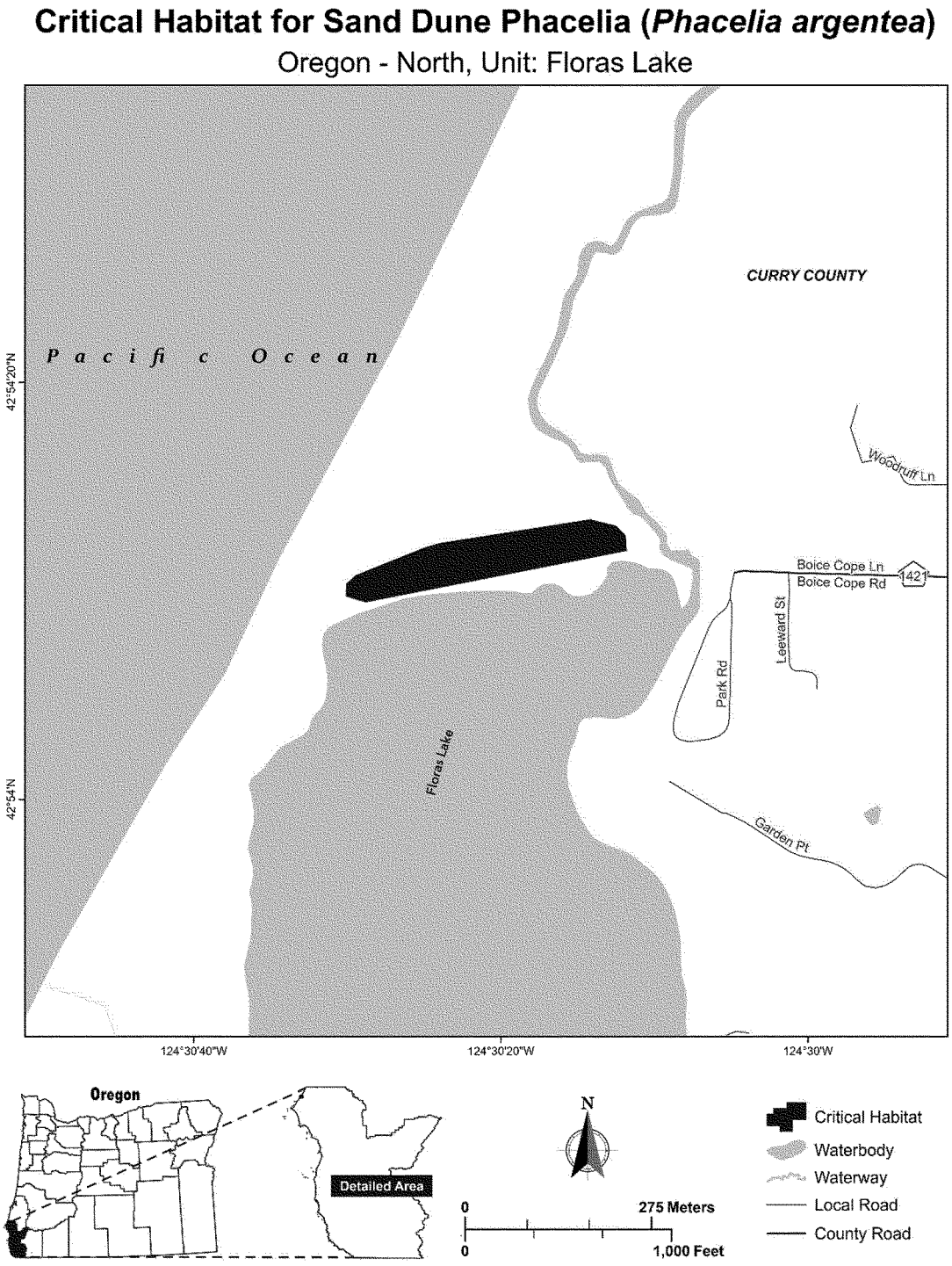
(ii) Map of Unit 3 follows:



(8) Unit 4: Floras Lake, Curry County, Oregon

(i) Unit 4 consists of 5.8 ac (2.3 ha) in Curry County, Oregon, and is composed of land in Federal ownership.

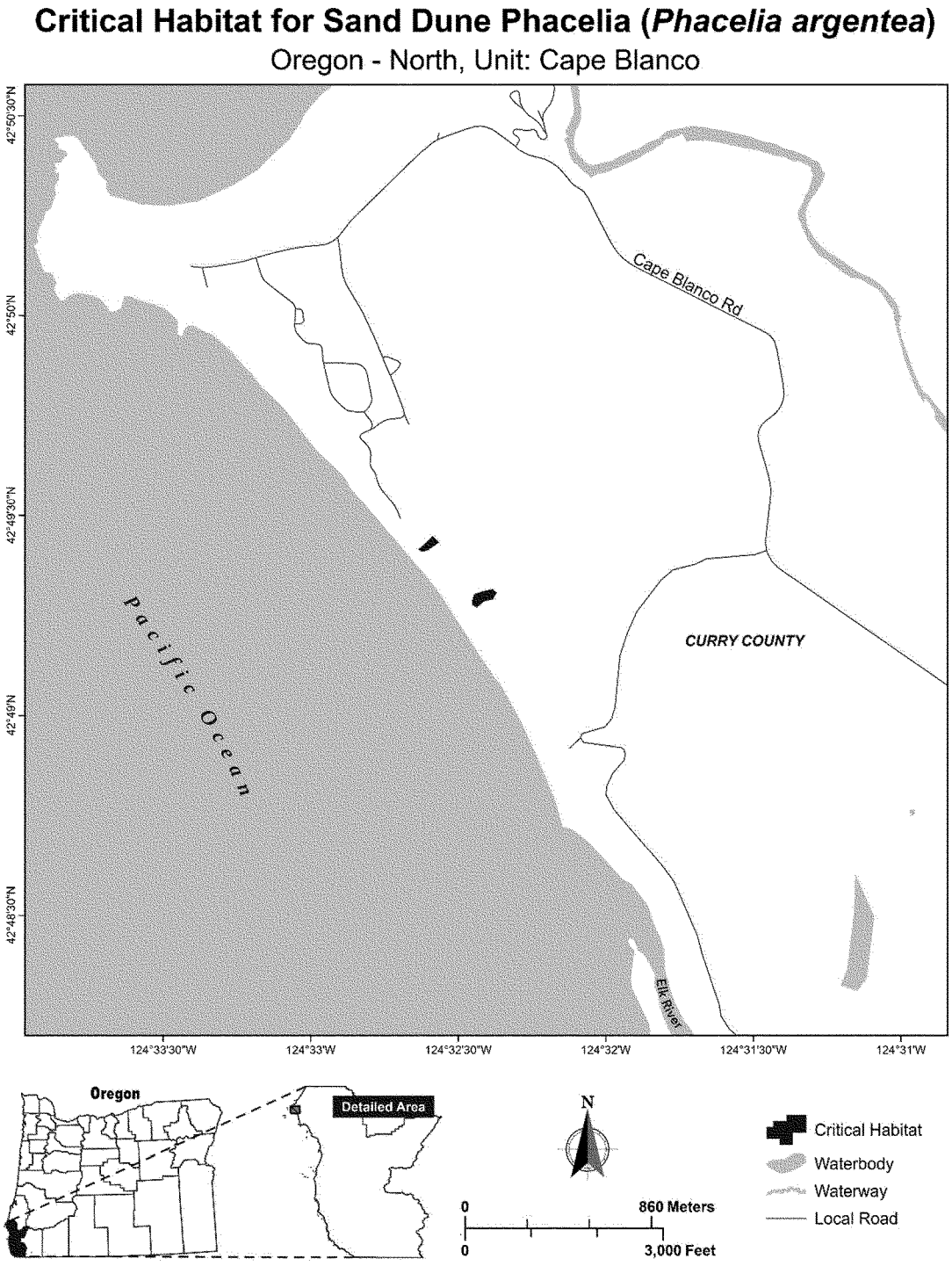
(ii) Map of Unit 4 follows:



(9) Unit 5: Cape Blanco, Curry County, Oregon

(i) Unit 5 consists of 2 ac (0.8 ha) in Curry County, Oregon, and is composed of land in State ownership.

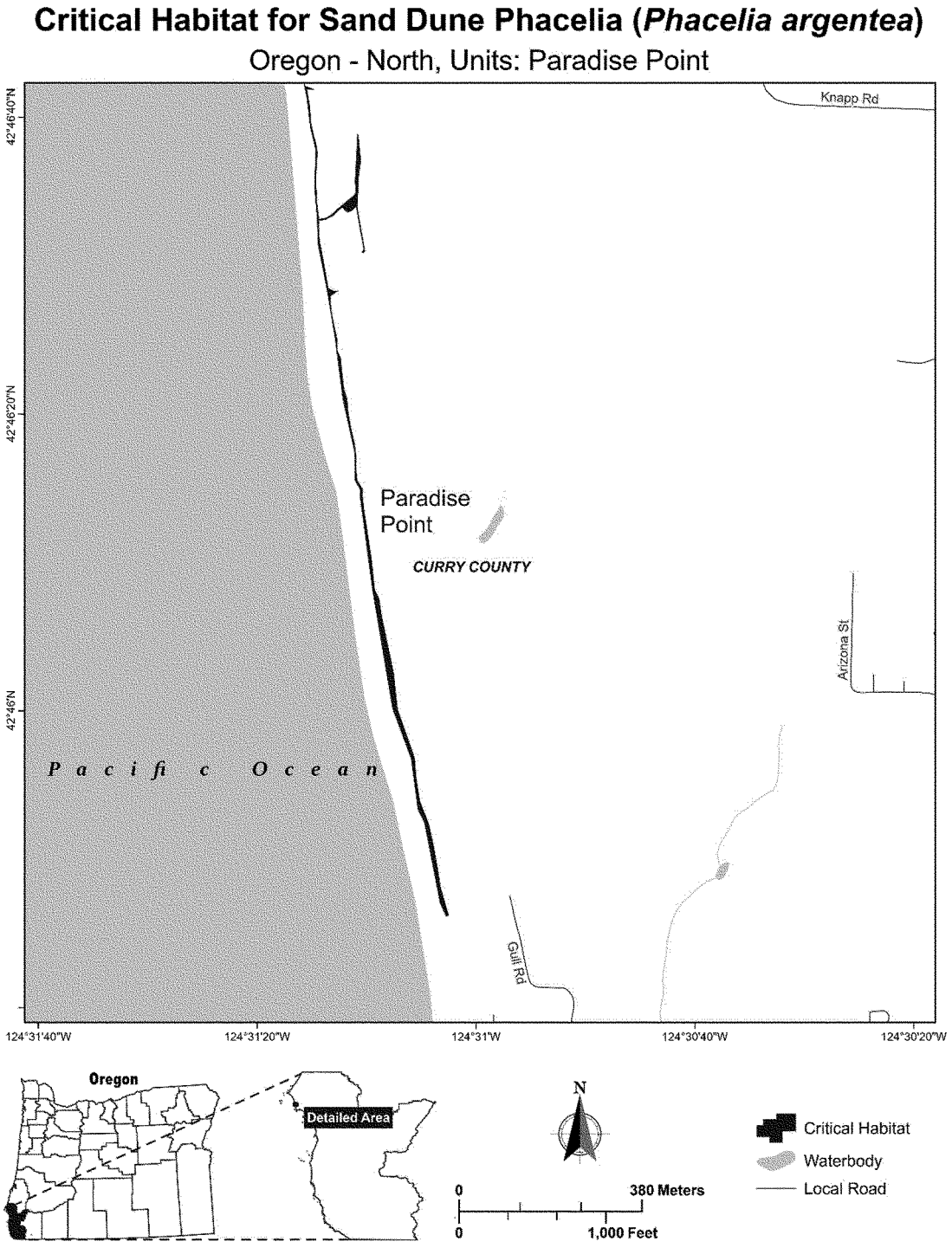
(ii) Map of Unit 5 follows:



(10) Unit 6: Paradise Point, Curry County, Oregon.

(i) Unit 6 consists of 3.7 ac (1.5 ha) in Curry County, Oregon, and is composed of land in private ownership.

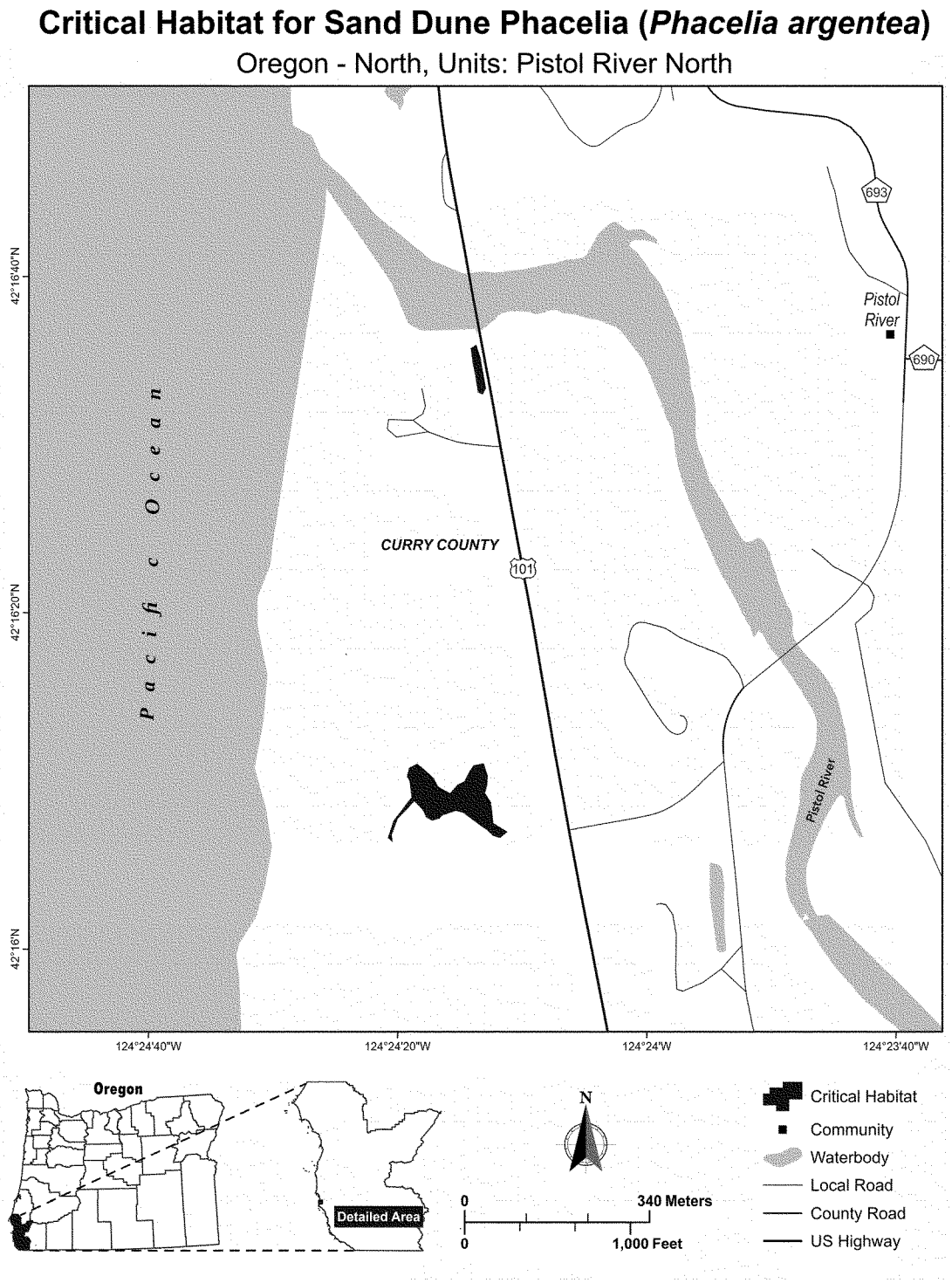
(ii) Map of Unit 6 follows:



(11) Unit 7: Pistol River North, Curry County, Oregon.

(i) Unit 7 consists of 3.2 ac (1.3 ha) in Curry County, Oregon, and is composed of land in State ownership.

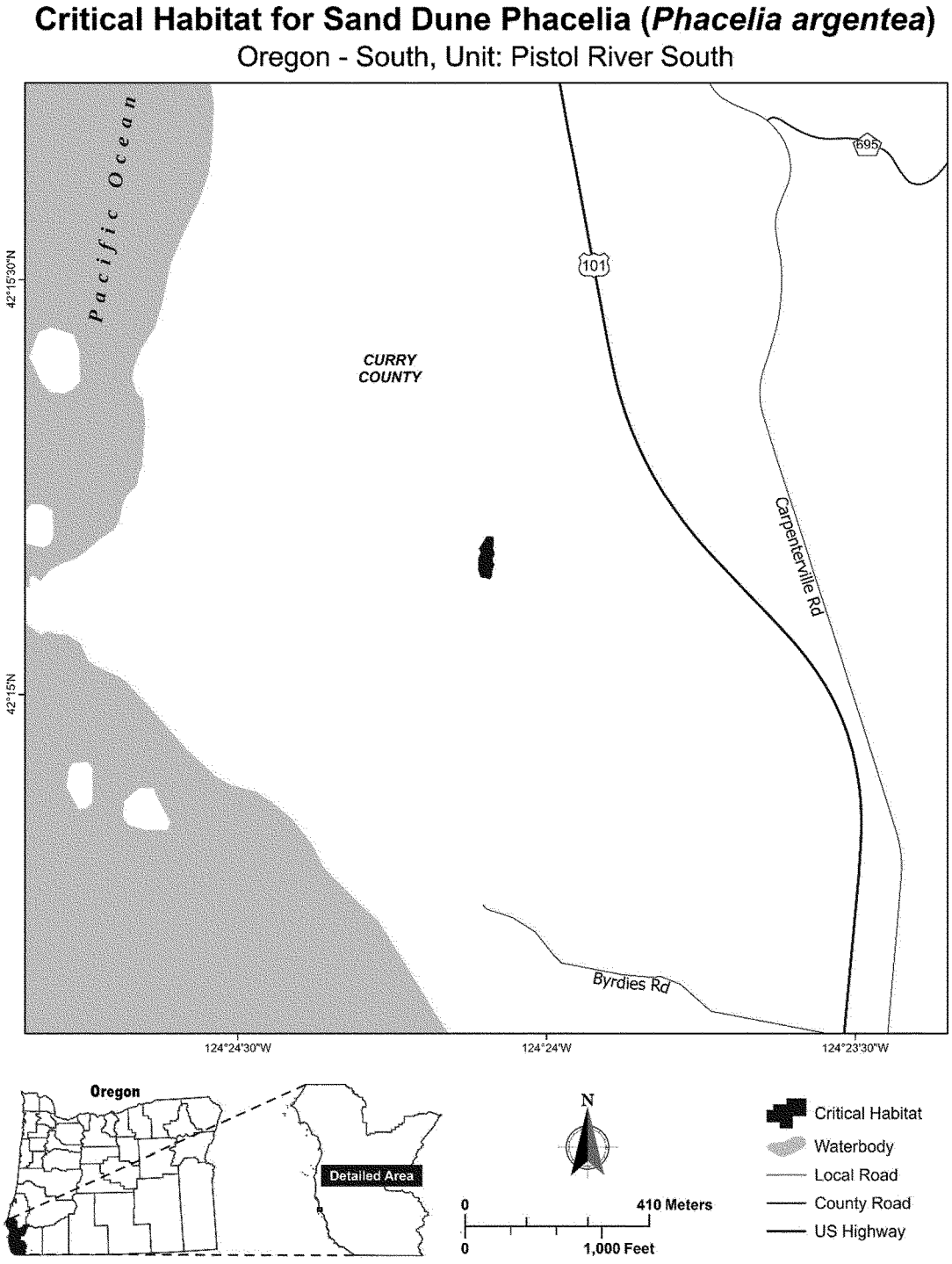
(ii) Map of Unit 7 follows:



(12) Unit 8: Pistol River South, Curry County, Oregon

(i) Unit 8 consists of 0.7 ac (0.3 ha) in Curry County, Oregon, and is composed of land in State ownership.

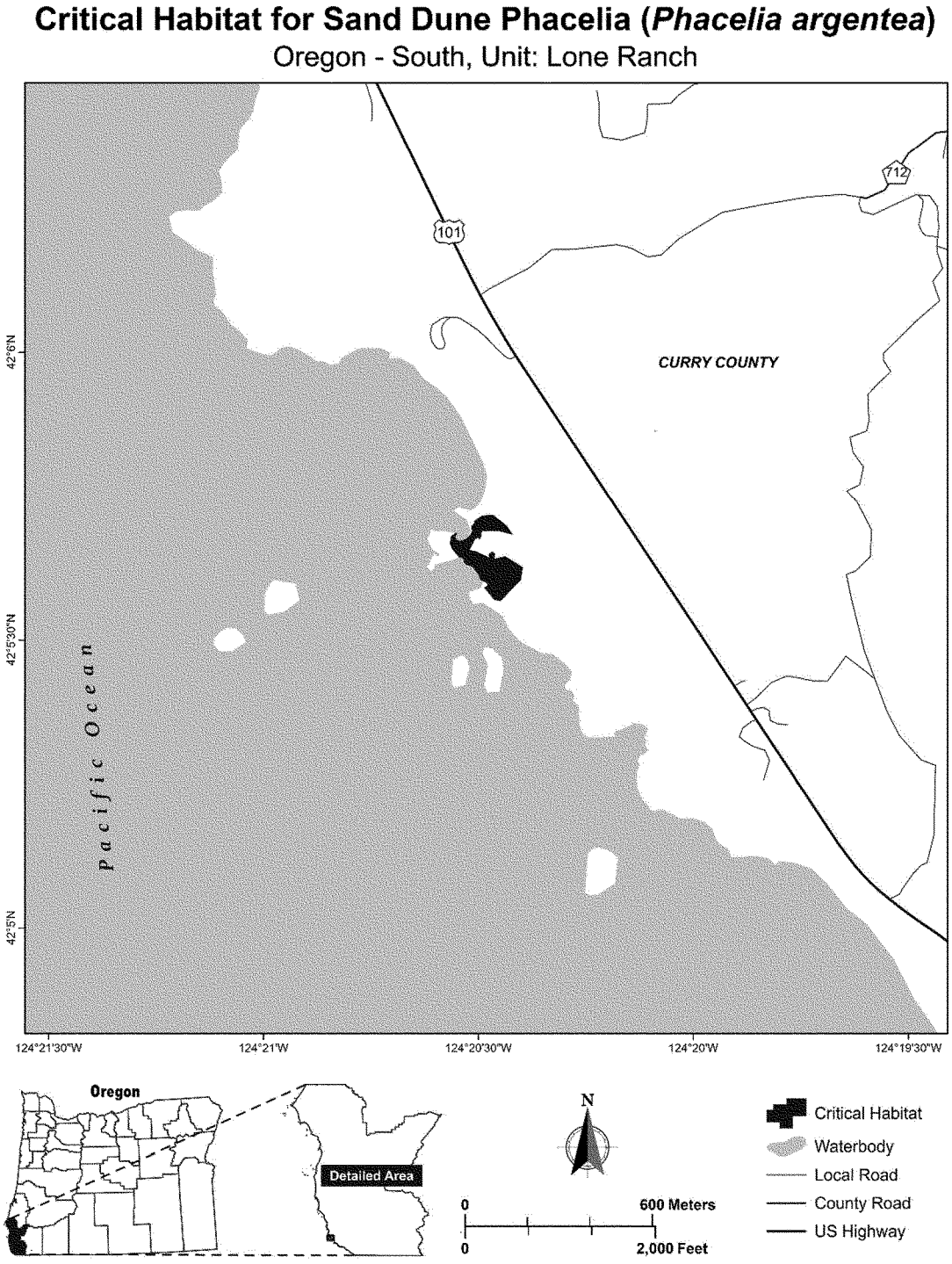
(ii) Map of Unit 8 follows:



(13) Unit 9: Lone Ranch, Curry County, Oregon

(i) Unit 9 consists of 6.5 ac (2.6 ha) in Curry County, Oregon, and is composed of land in State ownership.

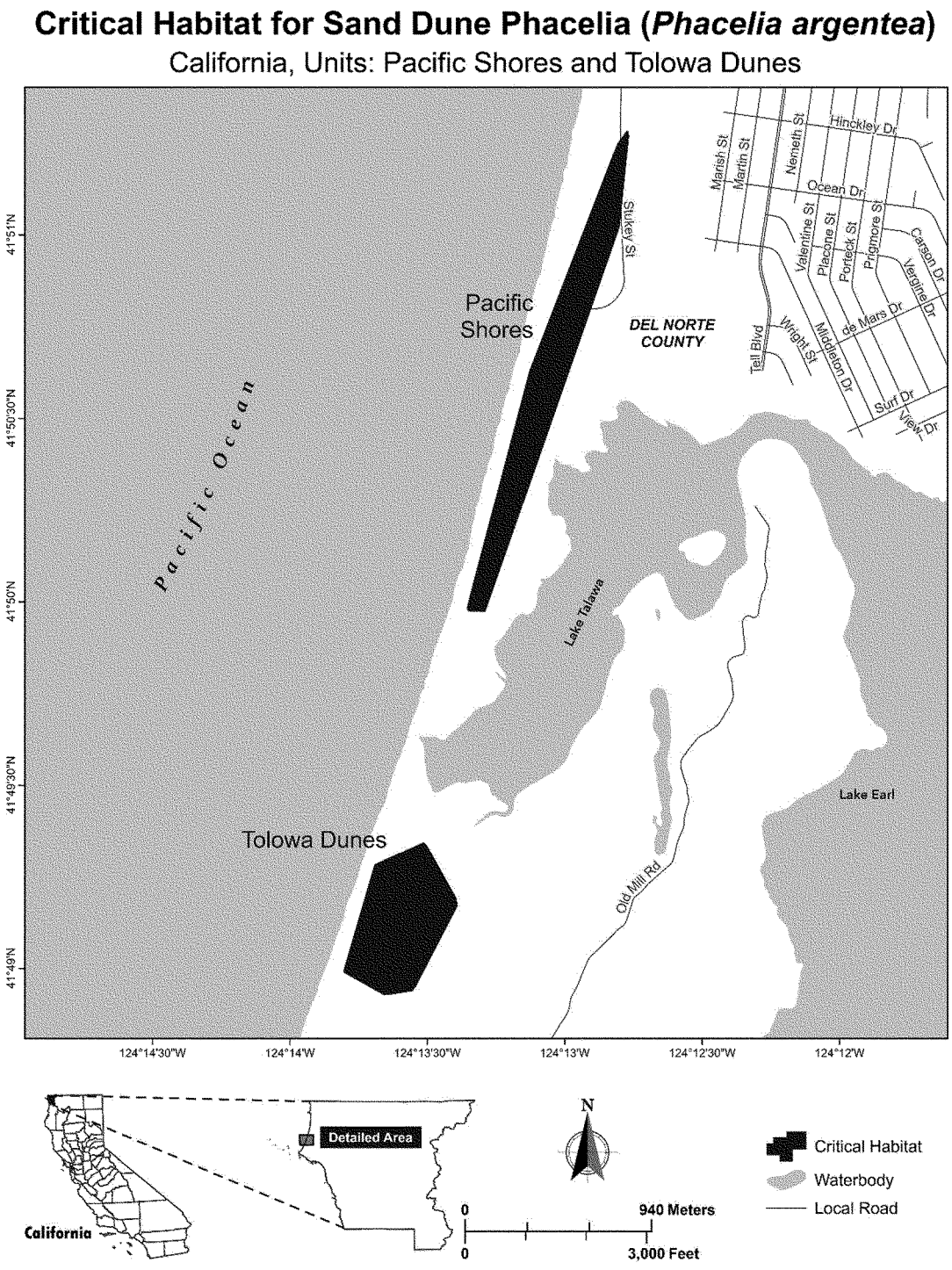
(ii) Map of Unit 9 follows:



(14) Unit 10: Pacific Shores, Del Norte County, California; Unit 11: Tolowa Dunes, Del Norte County, California.

(i) Unit 10 consists of 92.3 ac (37.4 ha) in Del Norte County, California, and is composed of land in State (37.9 ac (15.3 ha)) and private ownership (54.4 ac (22 ha)). Unit 11 consists of 69.6 ac (28.2 ha) in Del Norte County, California, and is composed of land in State ownership.

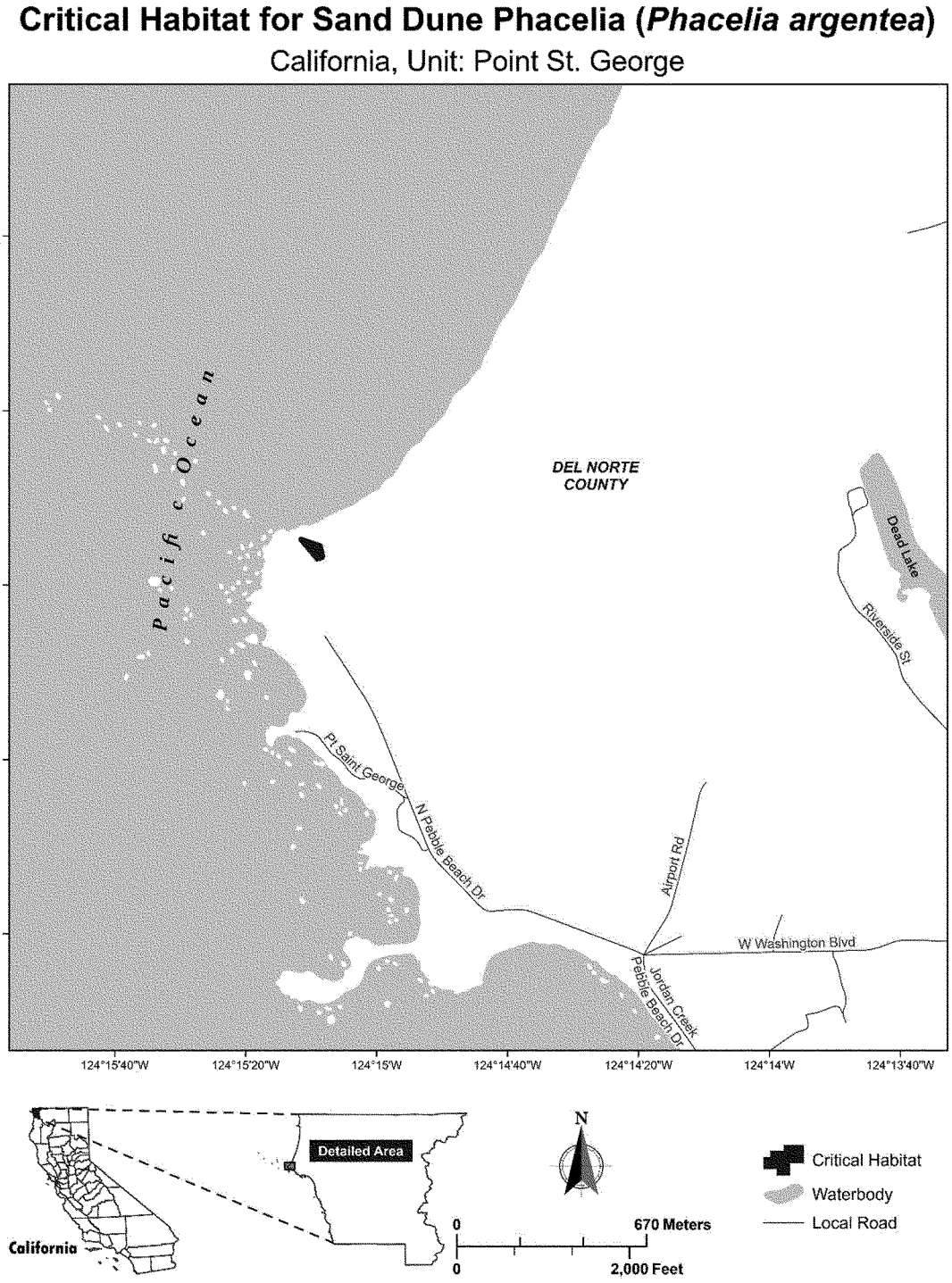
(ii) Map of Unit 10 and Unit 11 follows:



(15) Unit 12: Point Saint George, Del Norte County, California.

(i) Unit 12 consists of 1.1 ac (0.4 ha) in Del Norte County, California, and is composed of land in county (1 ac (0.4 ha)) and private ownership (0.1 ac (0.04 ha)).

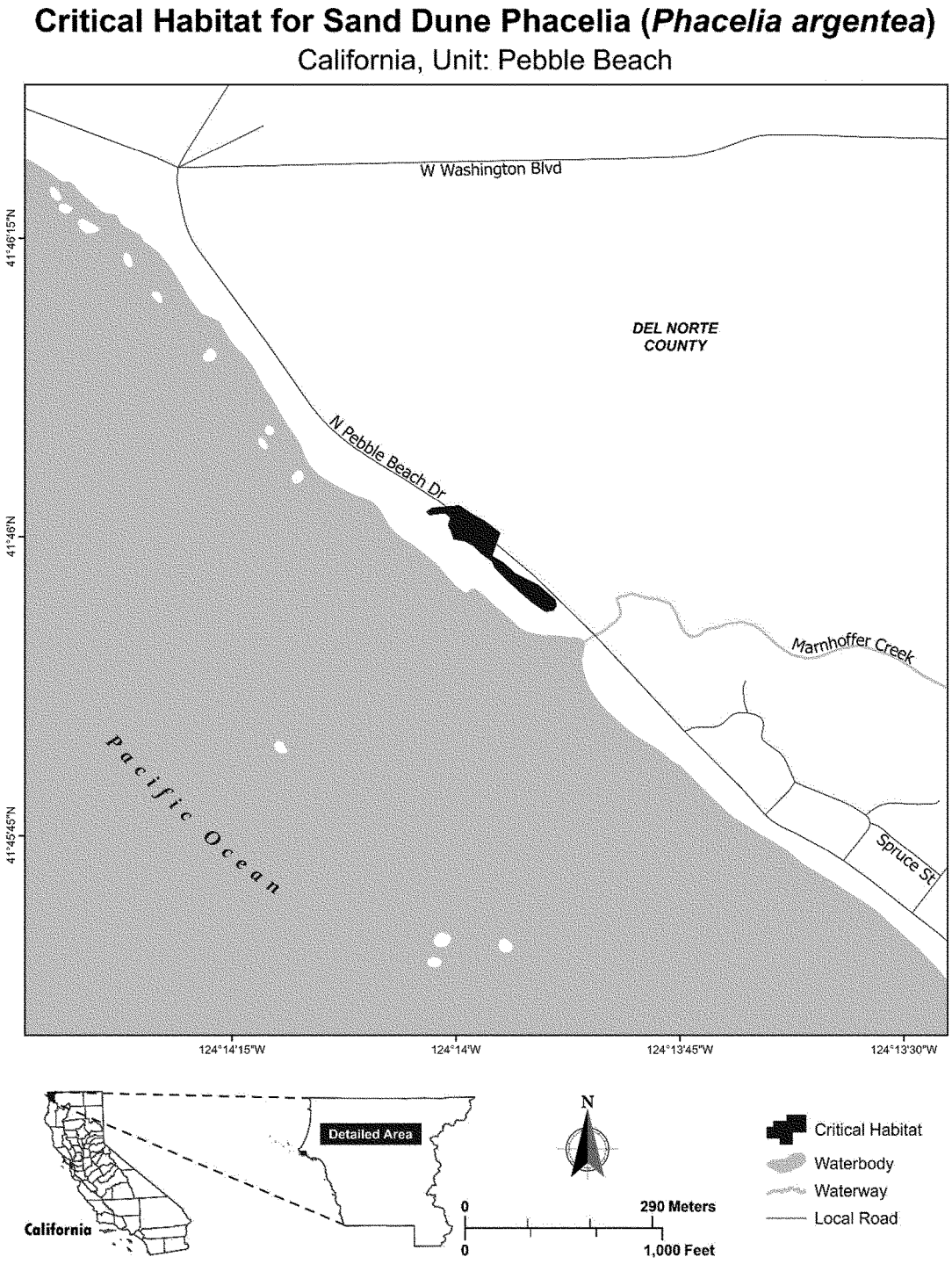
(ii) Map of Unit 12 follows:



(16) Unit 13: Pebble Beach, Del Norte County, California.

(i) Unit 13 consists of 1.7 ac (0.7 ha) in Del Norte County, California, and is composed of land in State (1.3 ac (0.5 ha)) and county ownership (0.4 ac (0.2 ha)).

(ii) Map of Unit 13 follows:



* * * * *

Martha Williams,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2022–05326 Filed 3–21–22; 8:45 am]

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