

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

[Docket No. FWS-R1-ES-2021-0070;  
FF09E21000 FXES1111090FEDR 234]

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:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), list the sand dune phacelia (*Phacelia argentea*), a plant species from coastal southern Oregon and northern California, as a threatened species with a rule issued under section 4(d) of the Endangered Species Act of 1973, as amended (Act). We also designate critical habitat for the species under the Act. In total, approximately 180.8 acres (73.2 hectares) within 13 units in Coos and Curry Counties in Oregon, and Del Norte County in California, fall within the boundaries of the critical habitat designation. This rule extends the protections of the Act to this species and its designated critical habitat.

**DATES:** This rule is effective September 21, 2023.

**ADDRESSES:** This final rule is available on the internet at <https://www.regulations.gov>. Comments and materials we received, as well as supporting documentation we used in preparing this rule, are available for public inspection at <https://www.regulations.gov> at Docket No. FWS-R1-ES-2021-0070.

The coordinates or plot points (or both) from which the maps are generated are included in the decision file for this critical habitat designation and are available at <https://www.regulations.gov> at Docket No. FWS-R1-ES-2021-0070 and at the Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**, below). The critical habitat shapefile is available on the Service's Environmental Conservation Online System (ECOS) portal at <https://www.ecos.fws.gov>.

**FOR FURTHER INFORMATION CONTACT:** Kessina Lee, State Supervisor, Oregon Fish and Wildlife Office, 2600 SE 98th Avenue, Suite 100, Portland, OR 97266; telephone (503) 231-6988. 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, a species warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become endangered in the foreseeable future throughout all or a significant portion of its range). We have determined that the sand dune phacelia meets the definition of a threatened species; therefore, we are listing it as such and finalizing a designation of its critical habitat. Listing a species as an endangered or threatened species and designation of critical habitat can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 *et seq.*).

*What this document does.* This rule lists the sand dune phacelia (*Phacelia argentea*) as a threatened species with a rule issued under section 4(d) of the Act (a "4(d) rule") and designates critical habitat comprised of 13 units totaling approximately 180.8 acres (ac) (73.2 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 based on any one or more of the following five factors or the cumulative effects thereof: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the primary threats to sand dune phacelia are invasive species encroachment and competition, climate change, and small population size (Factors A and E).

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.

**Previous Federal Actions**

Please refer to our March 22, 2022, proposed rule (87 FR 16320) for a detailed description of previous Federal actions concerning the sand dune phacelia.

**Peer Review**

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 solicited independent scientific review of the information contained in the sand dune phacelia SSA report. As discussed in the proposed rule, we sent the SSA report to three independent peer reviewers and received three responses. The peer reviews can be found at <https://www.regulations.gov>. In preparing the proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which was the foundation for the proposed rule and this final rule. A summary of the peer review comments and our responses can be found in the Summary of Comments and Recommendations below.

**Summary of Changes From the Proposed Rule**

We made several changes in this final rule in response to public comments we received on the March 22, 2022,

proposed rule (87 FR 16320).

Specifically, we:

- Completed minor editorial changes and reorganized various sections of the rule to improve readability, and made many small, nonsubstantive clarifications and corrections throughout the rule in order to ensure better consistency, clarify information, and update or add new references;
- Corrected a mapping error that resulted in proposed critical habitat Unit 10 (Pacific Shores) being too large, and we produced a new map and description for Unit 10 (see details under *Our Response to (6) Comment* below). The correction decreased Unit 10's acreage from 92.3 ac (37.4 ha) to 21 ac (8.5 ha); and
- Corrected the statement of land ownership for critical habitat Unit 13 (Pebble Beach) based on new information provided by Del Norte County.

We conclude that the information we received during the comment period for the proposed rule did not change our previous analysis of the magnitude or severity of threats facing the species or our determination that the sand dune phacelia meets the definition of a threatened species under the Act (16 U.S.C. 1531 *et seq.*).

### Summary of Comments and Recommendations

In our March 22, 2022, proposed rule (87 FR 16320), we requested that all interested parties submit written comments on the proposal by May 23, 2022. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposed rule. Newspaper notices inviting general public comment were published in the Eureka Times Standard and The Oregonian on March 27, 2022. We also notified members of Congress, Tribes, and Federal and State agencies within the range of the species by email on March 18, 2022. On March 21, 2022, email notifications were sent to County Commissioners and relevant nonprofit organizations within the sand dune phacelia's range. All substantive information provided during the comment period has either been incorporated directly into this final rule or is addressed below. Examples of nonsubstantive comments include those that emphasized the importance of sand dune phacelia in the ecosystem and the importance of preserving biodiversity. Other commenters made suggestions for public engagement and outreach to protect sand dune phacelia and its habitat. While these comments were not

incorporated into this final rule, we have noted them, and look forward to working with our partners on these topics during recovery planning for sand dune phacelia.

### Peer Reviewer Comments

As discussed above, we received comments from three peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the content contained in the SSA report. The peer reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and suggestions to improve the document, including an added emphasis on the importance of invasive species control to maintain the viability of sand dune phacelia populations. No substantive changes to our analysis and conclusions within the SSA report were deemed necessary, and peer reviewer comments are addressed in version 1.0 of the SSA report, which is available for public review at <https://www.regulations.gov> under Docket No. FWS-R1-ES-2021-0070.

### Public Comments

We received public comments from 24 entities in response to our March 22, 2022, proposed rule (87 FR 16320). We reviewed all the comments we received during the public comment period for substantive issues and new information regarding the proposed rule. Eleven commenters provided substantive comments or new information concerning the proposed listing and designation of critical habitat for the sand dune phacelia. Substantive comments that were similar in content are grouped together and are addressed collectively below. Comments outside the scope of the proposed rule or those without supporting information did not warrant an explicit response and, therefore, are not presented here. All comments are available at <https://www.regulations.gov> in Docket No. FWS-R1-ES-2021-0070.

(1) *Comment:* Four commenters expressed their concern that the acreage of proposed critical habitat is too small to adequately protect and recover sand dune phacelia.

*Our Response:* Each proposed critical habitat unit currently contains sand dune phacelia populations of at least 25 individuals. We determined that these units, if recovered, would be sufficient to conserve the species because they are distributed across the three representation units and across the historical range of the species, thereby encompassing the full array of

ecological diversity that exists within the species' range. Therefore, if these populations were recovered to sufficient resiliency, they would provide adequate redundancy and representation for the species. Because we found areas currently occupied by sand dune phacelia populations of at least 25 individuals sufficient to recover the species, we conclude that the critical habitat designation is adequate.

Please note that, as we discuss below (see Background under III. Critical Habitat), 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 the sand dune phacelia; and (3) the prohibitions found in the 4(d) rule for this species.

(2) *Comment:* Five commenters stated that the proposed listing and designation of critical habitat will negatively affect public access and recreation in California, including the Pacific Shores Subdivision, the Lake Earl Wildlife Area, Tolowa Dunes State Park, and Point Saint George.

*Our Response:* The designation of critical habitat does not prevent access to any land, whether private, Tribal, State, or Federal. 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.

None of the lands supporting sand dune phacelia populations or designated as critical habitat in California are owned or managed by Federal agencies. Public access and use of critical habitat for recreational activities is managed under the jurisdiction of the current land

management entity or owner (e.g., State, County, or private) and, in the absence of a Federal nexus, may continue under their guiding authorities or private property rights. In addition, existing roads that may provide public access are, by definition, not included within critical habitat, nor are other developed areas such as buildings, airports, parking lots, piers, and similar facilities.

(3) *Comment:* One commenter stated that because Crissey Fields State Park in Oregon includes open dune habitat with greater than 25 individual sand dune phacelia plants, it meets our criteria for critical habitat and should be designated as such.

*Our Response:* We proposed designating critical habitat only where naturally occurring sand dune phacelia populations exist that consist of 25 or more individuals. We did not include augmented or introduced populations because of the high incidence of plant mortality generally observed following transplantation efforts, and significant uncertainty as to whether these populations are capable of contributing to the maintenance or enhancement of sand dune phacelia populations over time. The population at Crissey Fields is, for the most part, the result of a population augmentation effort in which 111 individuals were planted in 2018. The declining natural population was last counted in 2017 and consisted at the time of 24 plants. Invasive grasses and granivory were cited as threats, larger plants were dying, and there was little evidence of natural recruitment. Because the most recent information available on the natural population at Crissey Fields indicates that it consists of fewer than 25 individuals, it does not meet the criteria we defined for identifying critical habitat. Monitoring of the transplanted individuals in 2019 documented 49 remaining plants of those transplanted, with a 44 percent decline in transplant viability in the first year. However, because this rule lists the sand dune phacelia as a threatened species under the Act, and thereby extends the protections of the Act to this species, this rule protects the sand dune phacelia at Crissey Fields and in other areas it occupies even absent a critical habitat designation.

(4) *Comment:* Two commenters stated that public outreach regarding the listing of sand dune phacelia and designation of critical habitat was inadequate and that the comment period should be extended.

*Our Response:* Our March 22, 2022, proposed rule (87 FR 16320) opened a 60-day public comment period, ending May 23, 2022, for the proposed listing, 4(d) rule, and critical habitat

designation for this species. As required by section 4(b)(5) of the Act (16 U.S.C. 1533(b)(5)), newspaper notices inviting general public comment were published in the Eureka Times Standard and The Oregonian on March 27, 2022. We also sent notices of the proposed rule and opportunity to comment to members of Congress, Tribes, States, and other interested parties, and notified each County Commissioner within the range of the sand dune phacelia.

The Act requires the Service to publish a final rule within 1 year from the date we propose to list a species (see 16 U.S.C. 1533(b)(6)(A)), and consequently our standard comment period for listing actions is limited to 60 days. This 1-year timeframe can only be extended if there is substantial disagreement regarding the sufficiency or accuracy of the available data relevant to the determination, but only for 6 months and only for purposes of soliciting additional data (see 16 U.S.C. 1533(b)(6)(B)). Based on the comments received and data evaluated regarding our proposed determination for sand dune phacelia, there is not substantial disagreement concerning the sufficiency or accuracy of the data and therefore no grounds for delaying our final determination.

(5) *Comment:* Three commenters stated that the need to breach Tolowa Lake and Lake Earl in California when necessary will continue, and that water management would be negatively affected by the listing of sand dune phacelia, the designation of its critical habitat, or both.

*Our Response:* Del Norte County's ability to breach Lake Earl and Lake Tolowa for water management purposes requires permitting by the U.S. Army Corps of Engineers (Corps). Permitting through a Federal agency establishes a Federal nexus whereby the Corps must consult with the Service to ensure that the action, in this case dune breaching, will not jeopardize the continued existence of listed species within the action area and will not adversely modify designated critical habitat. As discussed in the SSA report, we acknowledge that sand dune phacelia may be negatively influenced by factors other than competition from invasive species, including flooding. However, the available data and historical information do not indicate that flooding is a threat that drives population decline for sand dune phacelia. Therefore, while consultation between the Corps and the Service may be required for breaching Lake Earl and Lake Tolowa, the Service does not anticipate that the listing of the sand dune phacelia and the designation of its

critical habitat will substantially affect Del Norte County's ability to manage lake levels.

(6) *Comment:* One commenter questioned why proposed Unit 10 (Pacific Shores) is so large. They wondered if unoccupied areas were included for future restoration activities (i.e., European beachgrass (*Ammophila arenaria*) removal).

*Our Response:* The boundaries of proposed Unit 10 were incorrectly mapped in our March 22, 2022, proposed rule (87 FR 16320), and this final rule corrects that error. We delineated critical habitat unit boundaries by joining patches of sand dune phacelia within each population to form discrete areas (i.e., units). This was accomplished by joining patch vertices and creating minimum convex polygons. In California, we considered patches to be part of the same population if they were within 0.25 miles (0.40 kilometers (km)) of each other, as defined by the California Natural Diversity Database (CNDDB 2020, unpaginated). In Oregon, patches were considered part of the same population if they were within 0.30 miles (0.48 km) of each other, as defined by the Oregon Biodiversity Information Center (ORBIC 2020, unpaginated). The Pacific Shores sand dune phacelia population is made up of one main patch that contains the majority of the individuals in the population, and two much smaller patches with fewer individuals to the north of the main population. Even though the California Natural Diversity Database (CNDDB 2020, unpaginated) considers all three patches to be part of a single population, the two smaller patches to the north are just outside of the 0.25-mile (0.40-km) range within which individuals are usually considered to be of the same population, as well as beyond the measure by which we joined patches of sand dune phacelia for the critical habitat designation. For this reason, the area between the main population and the two patches to the north should not have been included in the proposed designation. In the corrected map in this final rule, the two patches to the north (which are within 0.25 miles of one another) are joined into a separate subunit from the main subunit to the south. The corrected acreage for the Unit 10 is 21 ac (8.5 ha). The Unit 10 map, as well as acreages associated with this unit, have all been corrected in this final rule.

(7) *Comment:* Two commenters stated that removal of European beachgrass is harmful to coastal areas as it destabilizes dunes, causes erosion, and exposes infrastructure to storm damage,

and questioned why we did not analyze those impacts.

*Our Response:* The analysis of effects was based on impacts to sand dune phacelia, not coastal infrastructure. Prior to the introduction of European beachgrass, sand dunes moved in response to ocean tides, storms, and wind. Native plant communities evolved to adapt to this dynamic landscape. Dune restoration activities, including the removal of stabilizing monocultures of invasive beachgrass, have been demonstrated to be beneficial to and promote the recovery of sand dune phacelia populations. Whether or not the removal of European beachgrass negatively affects other aspects of coastal areas is outside the scope and intent of this rulemaking.

*(8) Comment:* Two commenters requested that the Service not allow the California Department of Fish and Wildlife (CDFW) to fence off or buffer the portion of Unit 11 that is on the Lake Earl Wildlife Area.

*Our Response:* 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. Unless there is a Federal nexus, such as a federally issued permit, for an activity affecting designated critical habitat, the Service does not have the authority to direct activities, or have any other jurisdiction, over lands managed by CDFW. For more information, see our response to *(2) Comment*, above.

*(9) Comment:* One commenter notified us that the California Transportation Department (CALTRANS) does not have any ownership in proposed Unit 13, Pebble Beach. Rather, they stated that all land in proposed Unit 13 belongs to Del Norte County.

*Our Response:* We obtained land ownership data from the Protected Areas Database v2.1, and we appreciate corrections to our land ownership data. In this final rule, we revise acreages to show all land ownership in Unit 13 as belonging to Del Norte County.

*(10) Comment:* One commenter stated that there is no evidence that sand dune phacelia existed historically in significant quantities in northern California.

*Our Response:* We found the California Natural Diversity Database (CNDDDB 2020, unpaginated) to be the best information available regarding the historical abundance and location of sand dune phacelia populations in California. The earliest record of sand

dune phacelia in California is from 1929. Another population, now extirpated, that straddled the Oregon and California border was observed in 1913. The issue of “significant quantities” is subjective, but there is consistent documentation of sand dune phacelia in northern California from 1913 to the present (Kalt 2008, table 1), with population estimates showing a steady decline from the 1980s onward.

*(11) Comment:* Two commenters stated that road maintenance may be required within critical habitat units in California, and that continued road maintenance would be required to provide for public access.

*Our Response:* In our March 22, 2022, proposed rule (87 FR 16320), and in this final rule, we state that critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule (see **DATES**, above). Therefore, maintenance activities on roadways will not be affected by this critical habitat designation. Further, the designation of critical habitat along roadways does not prevent access to that land (e.g., for road maintenance activities), but may require that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat under section 7 of the Act.

*(12) Comment:* One commenter stated that the maps supplied in the March 22, 2022, proposed rule are poor representations of what specific lands are included in the critical habitat areas near Lake Tolowa (proposed Unit 11). They further stated that a more detailed map is needed to assess whether all occupied areas are included within Unit 11, and that the maps do not accurately display public and private land boundaries within proposed Unit 10 (Pebble Beach).

*Our Response:* The maps we present in the proposed rule and in this final rule comply with the parameters for publication in the Code of Federal Regulations. These maps and the subsequent textual unit descriptions are the official delineation of the critical habitat designation for the sand dune phacelia. Critical habitat shapefiles, which can provide more detail and metadata on each unit, are available to the public on the species’ profile page at <https://ecos.fws.gov/ecp/species/Q2FB>, and then by clicking on Critical Habitat (<https://ecos.fws.gov/ecp/species/Q2FB#crithab>).

*(13) Comment:* One commenter stated that the entire Tolowa Dunes State Park

(TDSP)/Lake Earl Wildlife Area (LEWA) joint restoration area (376 acres) should be included in proposed Unit 11, Tolowa Dunes. They stated that the minimum LEWA acreage is approximately 6 acres, not 4 acres as mapped, and that the additional 2 acres were not surveyed by the Service’s contractor. They also stated that other areas in the LEWA (outside of the 6 acres) have isolated sand dune phacelia plants that were also not included in proposed Unit 11. Additionally, they stated that other historically occupied sites in the TDSP/LEWA joint restoration area may also have been omitted. They stated that the entire area, including areas not yet restored and potentially unoccupied, is necessary for the conservation of the species and that the entire restoration area (376 acres) should be included in Unit 11 to support and encourage the restoration of former sand dune phacelia and western snowy plover (*Charadrius alexandrinus nivosus*) habitat.

*Our Response:* We determined that the areas occupied by sand dune phacelia that we proposed for designation as critical habitat are adequate to ensure the conservation of the species, and, therefore, no other areas are included in this critical habitat designation (see our response to *(1) Comment*, above). As described in the SSA report (Service 2021, pp. 22–23), locations and data related to sand dune phacelia populations were available primarily from the Oregon Biodiversity Information Center (ORBIC 2020, unpaginated) and the California Natural Diversity Database (CNDDDB 2020, unpaginated), but also via information provided by our partners (such as the Bureau of Land Management (BLM)) during our early outreach to partners with requests for information on the species. Most of the populations we identified from our review of available data were surveyed in 2017 by the Oregon Department of Agriculture’s Plant Conservation Program (Brown 2020a, unpaginated). 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. However, nine of the populations we identified during our data review were not visited during the 2017 survey, and for these populations we instead used the best data available prior to 2017 to determine current status. Similarly, if data for some populations more recent than 2017 were available, then we used that most recent data to determine current status. Further, if available



occurrence records of sand dune phacelia did not meet our criteria for inclusion as critical habitat (*e.g.*, they consisted only of isolated individuals), we did not include those areas as critical habitat (see also our responses to (4) *Comment* and (7) *Comment*, above). Conversely, some populations, due to restoration efforts, have expanded since 2017, and therefore may be larger than last documented in the SSA report. Nonetheless, the data provided by the 2017 survey and other sources gathered during our data review and request for information from our partners constitute the most comprehensive dataset that we are aware exists and represents the best scientific data available upon which to base our critical habitat designation.

According to section 7(a)(2) of the Act, the regulatory effect of critical habitat designation is to ensure that any action authorized, funded, or carried out by a Federal agency is not likely to result in the destruction or adverse modification of that habitat. As noted above in our response to (3) *Comment*, critical habitat designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal or Federal landowners, nor does it establish specific land management standards or prescriptions. However, the Act provides many tools to advance the conservation of listed species. Conservation of sand dune phacelia is dependent upon working partnerships with a wide variety of entities, including the voluntary cooperation of non-Federal landowners. Building partnerships and promoting cooperation of landowners are essential to understanding the status of species on non-Federal lands and may be necessary to implement recovery actions such as habitat restoration and habitat protection. Support provided by the Service for sand dune phacelia includes funding under section 6 of the Act and from our Coastal Program grants to the States to implement conservation actions. This support is not limited to designated critical habitat but may occur wherever the species is found throughout its range.

(14) *Comment*: One commenter claimed that illegal vehicle trespass should be identified as a significant threat to sand dune phacelia.

*Our Response*: In the SSA report, we acknowledge that legal and illegal off-highway vehicle (OHV) use can damage or kill sand dune phacelia (Service 2021, p. 17). While OHV use is listed as a threat to sand dune phacelia in various sources, documented impacts to the species from OHVs are limited to individuals at a small number of sites throughout its range, most notably in

California. Further, the best available information on OHV use and its impacts does not indicate that the influence of this stressor is of the scope and magnitude sufficient to cause population-level impacts to sand dune phacelia. We agree with the commenter that recreational impacts, primarily from OHV use, can be destructive to individuals, may be especially deleterious to small populations, and may negatively affect sand dune phacelia habitat at some sites, but it does not appear to be a key driver in sand dune phacelia population decline; therefore, we did not carry it forward in our analysis of current and future condition. As noted in this final rule, any damage to the species on non-Federal land in violation of a State law (such as damage caused by illegal vehicle trespass) is prohibited by the 4(d) rule for sand dune phacelia.

(15) *Comment*: One commenter requested information on where the agency responsible for managing the sand dune phacelia is located.

*Our Response*: U. S. Fish and Wildlife Service (Service) offices responsible for promoting the recovery of endangered species within the range of the sand dune phacelia are located in Arcata, California; Newport, Oregon; and Portland, Oregon. These offices work with the public and our partner agencies to restore habitat and populations of listed species and provide consultation and technical assistance to landowners and land managers wherever there is a Federal nexus.

(16) *Comment*: One commenter requested information on methods used to remove European beachgrass and wanted to know what, if any, plans the Service has to remove invasive species within sand dune phacelia critical habitat.

*Our Response*: Commonly used techniques to remove European beachgrass include hand-pulling, herbicide application, and mechanical removal by machinery such as excavators or bulldozers. Removal techniques are chosen based on the scale and objectives of the project, and the accessibility and topography of the landscape. More information on beachgrass removal can be obtained by contacting Service offices in Arcata, California (<https://www.fws.gov/office/arcata-fish-and-wildlife>), and Newport, Oregon (<https://www.fws.gov/office/oregon-fish-and-wildlife/visit-us/locations/newport-field-office>). Invasive species removal has been ongoing in some of the areas we are designating as critical habitat, such as North Bandon, Lost Lake, Floras Lake, and Tolowa Dunes, and the Service will continue to

work with our conservation partners on sand dune phacelia restoration activities as funding allows.

(17) *Comment*: One commenter wanted to know if and how the Service will post on the landscape within the critical habitat units information related to the designation of critical habitat and the listing of the sand dune phacelia.

*Our Response*: This rule makes final the designation of critical habitat for the sand dune phacelia. For more information on this critical habitat designation, please see **ADDRESSES** and **FOR FURTHER INFORMATION CONTACT**, above. The Service does not have management authority to require the physical posting of signs at critical habitat units. The placement of informational signs at sites where critical habitat is located is voluntary and under the purview of the landowner.

## I. Final Listing Determination

### Background

A thorough review of the taxonomy, life history, and ecology of the sand dune phacelia is presented in the SSA report (Service 2021, pp. 7–20). The full SSA report is available at <https://www.regulations.gov> under Docket No. FWS–R1–ES–2021–0070.

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, unpaginated). Sand dune phacelia occurs on the open sand above the high tide line, farther 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).

## Regulatory and Analytical Framework

### *Regulatory Framework*

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species. In 2019, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR part 424 regarding how we add, remove, and reclassify endangered and threatened species and the criteria for designating listed species' critical habitat (84 FR 45020; August 27, 2019). On the same day, the Service also issued final regulations that, for species listed as threatened species after September 26, 2019, eliminated the Service's general protective regulations automatically applying to threatened species the prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

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

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

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

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

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

These factors represent broad categories of natural or human-caused actions or conditions that could influence 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 the threats on the species. 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 Act's 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. Our analysis of the foreseeable future uses the best scientific and commercial data available and considers 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 (Service 2021, entire) documents the results of our comprehensive biological review of the best scientific and commercial data regarding the status of the sand dune phacelia, 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.

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.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS-R1-ES-2021-0070 on <https://www.regulations.gov> and at <https://www.fws.gov/office/oregon-fish-and-wildlife>.

**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 have 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 (see table 1, below).

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, in the data provided from our partners, 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. 6–7). 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. 1–2). 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, unpaginated).

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, unpaginated).

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, unpaginated). 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.

### Sea Level Rise

The best available data do 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 (Intergovernmental Panel on Climate Change (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, unpaginated). 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.

We also considered several other potential threats to sand dune phacelia, but because we found no evidence that these factors were having an influence at the magnitude and scope to be impacting sand dune phacelia populations, we did not include them in our analysis of current and future condition. For example, damage to sand dune phacelia due to off-highway vehicle (OHV) use has been documented but appears to be limited to individual plants at a small number of sites, most notably in California. Pedestrian or equestrian trampling may negatively affect individual plants but may also benefit habitat through light disturbance, and there is no evidence that this type of activity is affecting sand dune phacelia populations. Coastal development may have had historical impacts for the species but no longer appears influential, and based on land ownership of extant population sites, it seems unlikely to become influential in the future. Because sand dune phacelia is largely reliant upon pollination to successfully reproduce, pollinator decline is cited as a potential threat to

sand dune phacelia, but we found no evidence that pollinator decline was affecting sand phacelia populations. Additionally, we considered livestock grazing and overutilization but found no evidence of negative impacts to sand dune phacelia from these factors. Details on these potential threats can be found in the SSA report (Service 2021, chapter IV).

#### 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.

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.

#### Conservation Efforts and Regulatory Mechanisms

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), volume 15, title

46, chapter 564 at section 564.105 (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 Oregon Administrative Rules (OAR), chapter 603, division 73, at section 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 that are threatened species or endangered 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, which can affect the agency's 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 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, but 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). The 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 2020, pers. comm.). 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 landowner has been actively maintaining sand dune phacelia habitat through ongoing removal of European beachgrass and gorse (Gunther 2012, unpaginated; Nice 2020, pers. comm.). 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, unpaginated). 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 (12 ha) of habitat 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, unpaginated; 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.

In addition to habitat restoration activities, augmentation of sand dune phacelia populations using transplants has been carried out at several sites by the BLM in partnership with Oregon State University (Meinke 2016, entire) and the ODA (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 the 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. More information on this population, which is made up entirely of individuals that resulted from a seeding effort, can be found in the SSA report (Service 2021, p. 20, Table 3).

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 the 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.

In 2017, sand dune phacelia populations were surveyed rangewide in Oregon and California by the ODA's Plant Conservation Program (Brown 2020a, unpaginated). 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 did not include 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, unpaginated; 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 report (Service 2021, entire).

Abundance categories were defined as “low” (100 or fewer plants), “moderate” (101–500 plants), and “high” (more than 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, unpaginated) and by the 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, unpaginated) 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.

**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

**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 (see table 2, above). Therefore, resiliency is low for most populations rangewide, with 68 percent of all populations rated with low overall condition (figure 1).



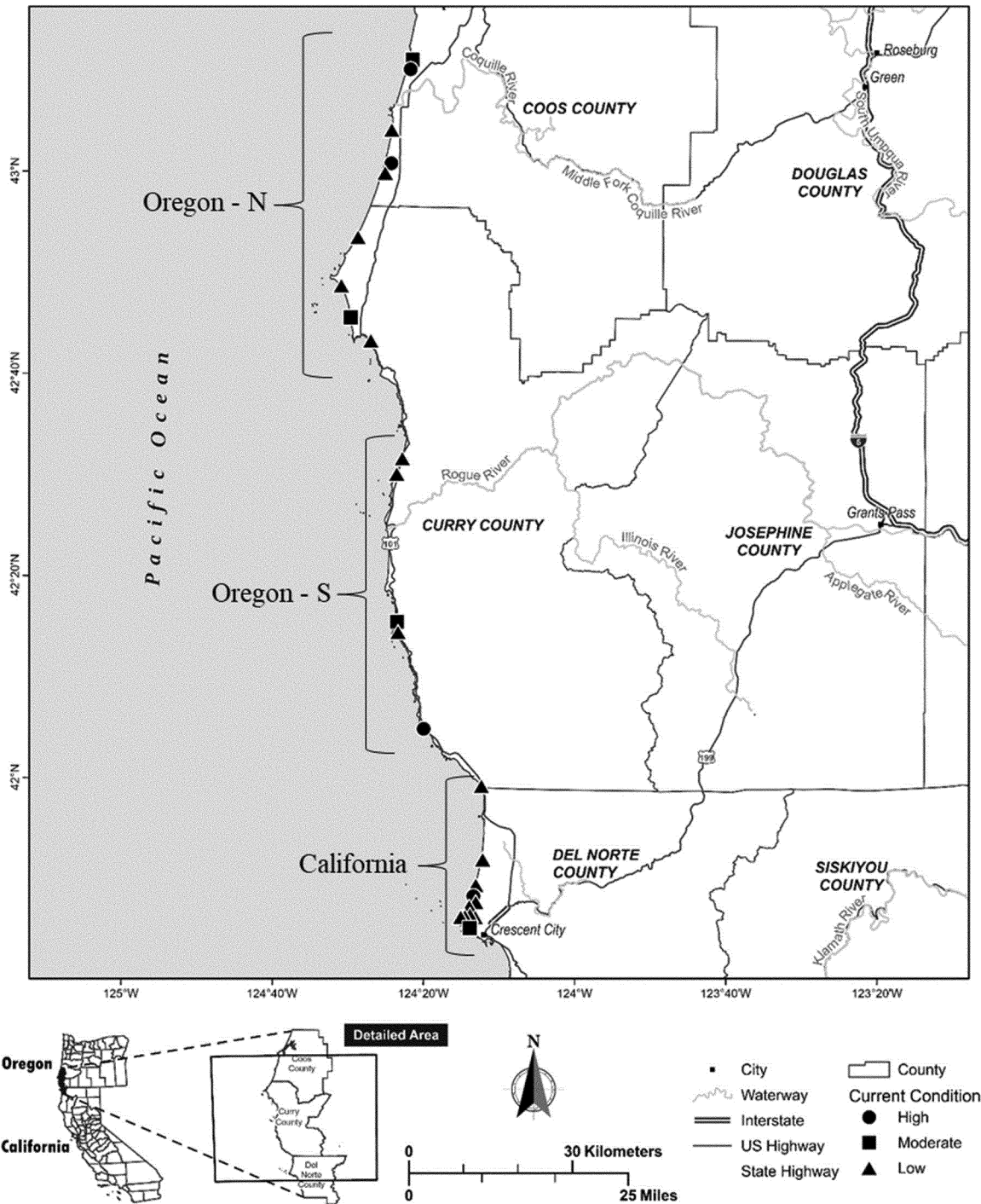


Figure 1. Current condition of extant sand dune phacelia populations across the three representation units (Oregon–North, Oregon–South, and California).

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 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 (see figure 1, above).

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 for which we could reasonably forecast the impact of the threats on the species and the species’ response to those threats, given the data and models available to us. 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 the sand dune phacelia.

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, our uncertainty in the magnitude of changes expected and the impacts of these changes on sand dune phacelia becomes much greater at this point. While we can be fairly confident in projecting drought and sea level rise out past mid-century, we found that these threats were not likely to have population-level impacts or drive sand dune phacelia viability into the future. Instead, we found that the primary threat to sand dune phacelia is habitat loss due to invasive species, and while the proliferation of invasive species will likely be influenced by climate change into the future, the impact of climate change on this threat is much less predictable. Most of the literature indicates that climate change will exacerbate the problem of invasive species in general. However, the extent to which this will occur with European beach grass and gorse (the invasive species most prevalent in sand dune phacelia habitat), and to what extent habitat management efforts will mitigate the impacts of invasive species to sand dune phacelia, are less clear into the future especially the farther out we try to predict. As such, we determined that we could confidently project the population-level threats, including that of invasive species as influenced by climate change, and the species’ response to those threats out to mid-century, or approximately 2060.

#### *Climate Change*

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).

Warming temperatures have already been documented and are expected to continue in the Pacific Northwest, although 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, although 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 future timeframe under consideration 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, unpaginated). According to the sea level rise modeling tool we used (National Oceanographic and Atmospheric Administration 2020, unpaginated), this amount of sea level rise under RCP 8.5 is not projected to inundate the areas currently occupied by sand dune phacelia. We also note that projections of two feet (0.6 meters) of sea level rise are not expected until 2080 at the earliest and were very similar to one-foot (0.3 meter) projections in terms of area inundated at sand dune phacelia sites; only a few sand dune phacelia populations would, to a very minor degree, be impacted by inundation caused by two feet of sea level rise (Service 2021, appendix 2). 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 report (Service 2021, chapter 6, appendix 2).

#### Invasive Species

As noted earlier, invasive plant species, in particular European beachgrass and gorse, unequivocally represent the primary driver of the sand dune phacelia's status presently and into the future. Although 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 nonnative species under future conditions (Gervais et al. 2020, p. 1).

Although relatively few, 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 the 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 (17 of 25, or 68 percent) becoming extirpated, and all remaining populations projected to be in low or very low condition (see table 3, below). 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 the 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 the 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.

#### **Determination of Sand Dune Phacelia's 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 (and their cumulative effect) to the 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), climate change impacts including sea level rise and drought (Factor E), small population size (Factor E), and pollinator decline (Factor E). We also evaluated existing regulations and voluntary conservation efforts (Factor D). There is no evidence that overutilization (Factor B) or disease and predation (Factor C) are impacting the 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 population-level threats to the species.

There are 25 naturally occurring, extant populations of the 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 low 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 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, the sand dune phacelia is a relatively localized endemic inhabiting a narrow ecological niche, so broad diversity is not necessarily expected. Populations of the sand dune phacelia remain distributed across the three representation units and throughout the species' 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 the 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 the sand dune phacelia is not currently in danger of extinction throughout its range.

Upon determining that the 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 out to approximately 2060, based on the timeframe for which we could most reliably project the population-level threats to sand dune phacelia and the species' response to those threats. The primary threat to sand dune phacelia is that of invasive species, which will likely be influenced in the future by both climate change (which exacerbates the threat) and by habitat management efforts (which mitigate the threat), and the influence of these factors on the impact of the primary threat to sand dune phacelia populations becomes progressively more difficult to predict the farther out into the future we project. As such, we determined that we could confidently project the population-level threats, including that of invasive species as influenced by climate change, and the species' response to those threats out to approximately 2060.

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 the 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 future scenario we considered that 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 the 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 the 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, the BLM, volunteer groups, and private landowners provide benefit to the 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 the 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 the sand dune phacelia as the result of the extirpation of multiple populations. Even in the 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 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 the 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*, 435 F.Supp.3d 69 (D.D.C. 2020) (*Everson*), 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” (Final Policy; 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 *Everson*, 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.

We evaluated the range of the sand dune phacelia to determine if the species is in danger of extinction now in any portion of its range. The range of a species can theoretically be divided into portions in an infinite number of ways. We focused our analysis on portions of the species’ range that may meet the definition of an endangered species. For sand dune phacelia, we considered whether the threats or their effects on the species are greater in any biologically meaningful portion of the species’ range than in other portions such that the species is in danger of extinction now in that portion. We examined the threats of invasive species and of climate change, including cumulative effects.

The threat of invasive species is equally pervasive throughout the range of sand dune phacelia, and sand dune phacelia’s response to invasive species encroachment is consistent across its range. 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, and its effect on sand dune phacelia, are 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 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 and with similar effect 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, and the species’

response to 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 and effect throughout the range of the 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. Further, there is no indication that sand dune phacelia's response to small population size differs across the range of the species.

Our viability analysis incorporated the impact to sand dune phacelia of these population-level threats individually, as well as the degree to which they collectively influenced risk to the species, and as such assesses cumulative effects of these threats to the species.

While there may be some variation in the source and intensity of each individual threat at each population location, we found no portion of the sand dune phacelia's range where the threats are impacting individuals differently from how they are affecting the species elsewhere in its range, such that the status of the species in that portion differs from any other portion of the species' range. 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*, 321 F. Supp. 3d 1011, 1070–74 (N.D. Cal. 2018) and *Center for Biological Diversity v. Jewell*, 248 F. Supp. 3d, 946, 959 (D. Ariz. 2017) because, in reaching this conclusion, we did not apply the aspects of the Final Policy, including the definition of "significant" that those court decisions held to be invalid.

#### *Determination of Status*

Our review of the best available scientific and commercial information indicates that the sand dune phacelia meets the Act's definition of a threatened species. Therefore, we are listing 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/program/endangered-species>), 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.

Following publication of this final rule, 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 will 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/service/financial-assistance>.

Please let us know if you are interested in participating in recovery efforts for the sand dune phacelia. 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 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 ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered or threatened 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 BLM.

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 final listing on proposed and ongoing activities within the range of a listed species. The discussion below regarding protective regulations under section 4(d) of the Act complies with our policy.

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

Exercising this authority under section 4(d), we have developed a rule that is designed to address the sand dune phacelia's 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 the sand dune phacelia. As discussed above under Summary of Biological Status and Threats, we have concluded that the 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 4(d) rule will promote conservation of the 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 rule are one of many tools that we will use to promote the conservation of the sand dune phacelia.

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.

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 Final 4(d) Rule

This 4(d) rule will 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 or on any other area in knowing violation of any State law or regulation; delivery, receipt, carriage, 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 the 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 impacts, in addition to the protections that apply to Federal lands, the 4(d) rule prohibits 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 the 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 is prohibited by the 4(d) rule, as is any damage to the species due to criminal trespass on non-Federal lands. Regulating these activities will help preserve the species' remaining populations, slow the rate of decline, and decrease synergistic, negative effects from other stressors. The 4(d) rule will 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. The regulations that govern permits for threatened plants state that the Director may issue a permit authorizing any activity otherwise prohibited with regard to threatened species (50 CFR 17.72). Those regulations also state that the permit shall be governed by the provisions of that section unless a species-specific rule applicable to the plant is provided in sections 17.73 to 17.78. Therefore, permits for threatened plant species are governed by the provisions of § 17.72 unless a species-specific 4(d) rule provides otherwise. However, under our recent revisions to § 17.71, the prohibitions in § 17.71(a) do not apply to any plant listed as a threatened species after September 26, 2019. As a result, for threatened plant species listed after that date, any protections must be contained in a species-specific 4(d) rule. We did not intend for those revisions to limit or alter the applicability of the permitting provisions in § 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 section 17.72 unless a species-specific 4(d) rule provides otherwise would likely avoid substantial duplication. 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, will be able to conduct activities designed to conserve sand dune phacelia that may result in otherwise prohibited activities without additional authorization.

The Service recognizes the beneficial and educational aspects of activities with seeds of cultivated plants, which generally enhance the propagation of the species and, therefore, would satisfy permit requirements under the Act. The Service intends to monitor the interstate and foreign commerce and import and export of these specimens in a manner that will not inhibit such activities, providing the activities do not represent a threat to the survival of the species in the wild. In this regard, seeds of cultivated specimens will not be subject to the prohibitions above, provided that a statement that the seeds are of "cultivated origin" accompanies the seeds or their container (e.g., the seeds could be moved across State lines or between territories for purposes of seed banking or use for outplanting without additional regulations).

Nothing in this 4(d) rule changes 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 the 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.

### III. Critical Habitat Background

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate a species' critical habitat concurrently with listing the species. 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).

This critical habitat designation was proposed when the regulations defining "habitat" (85 FR 81411; December 16, 2020) and governing the 4(b)(2) exclusion process for the Service (85 FR 82376; December 18, 2020) were in place and in effect. However, those two regulations have been rescinded (87 FR 37757; June 24, 2022, and 87 FR 43433; July 21, 2022) and no longer apply to any designations of critical habitat. Therefore, for this final rule designating critical habitat for the sand dune phacelia, we apply the regulations at 424.19 and the 2016 Joint Policy on 4(b)(2) exclusions (81 FR 7226; February 11, 2016).

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 the 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).

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. For this final rule, we did not identify any unoccupied areas that may qualify as units of critical habitat.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

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

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

regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in the 4(d) rule. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

#### **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 the 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. The 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 the 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; and
- 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 the 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 the sandy open dune habitat that sand dune phacelia populations require.

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 the sand dune phacelia; and (4) recreational restrictions to prevent damage to sandy coastal dune habitat and the pollinator communities that support the species by pedestrians or equestrians.

These management activities will protect the physical or biological features essential for the conservation of the 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 designating 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, will 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 will 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 the Oregon Natural Heritage Information Center) or 0.25 miles (0.4 km) of each other in California (or as otherwise defined by the California Natural Diversity Database) (CNDDDB 2020, unpaginated).

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 estimate 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 the essential physical or biological features). We avoided including unsuitable habitat within the critical habitat units by joining patches only if the intervening habitat contained at least one essential physical or biological feature. 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 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 rule have been excluded by text in the rule and are not included in the designation as critical habitat. Therefore, a Federal action involving these lands will 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 are designating as critical habitat lands that we have determined are occupied at the time of listing (*i.e.*, currently occupied). Thirteen critical habitat units are designated based on the physical or biological features being present to support sand dune phacelia's life-history processes. All 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 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 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/office/oregon-fish-and-wildlife>.

**Final Critical Habitat Designation**

We are designating 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 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 critical habitat units and the approximate area, broken down by land ownership, for each unit.

TABLE 4—CRITICAL HABITAT UNITS FOR SAND DUNE PHACELIA

	Private (ac (ha))	Federal (ac (ha))	State (ac (ha))	County (ac (ha))	Total (ac (ha))
<b>Oregon:</b>					
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 (0.8)	0	2 (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)
<b>California:</b>					
Pacific Shores .....	7.8 (3.2)	0	13.2 (5.3)	0	21 (8.5)
Tolowa Dunes .....	0	0	69.6 (28.2)	0	69.6 (28.2)
Pt. St. George .....	0.1 (0.04)	0	0	1.0 (0.4)	1.1 (0.4)

TABLE 4—CRITICAL HABITAT UNITS FOR SAND DUNE PHACELIA—Continued

	Private (ac (ha))	Federal (ac (ha))	State (ac (ha))	County (ac (ha))	Total (ac (ha))
Pebble Beach .....	0	0	0	1.6 (0.6)	1.6 (0.6)
Totals .....	69.4 (28.1)	6.6 (2.7)	102.2 (41.4)	2.6 (1.1)	180.8 (73.2)

**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.

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 the sand dune phacelia because all of the units are occupied by the sand dune phacelia, and all units contain all of the physical or biological features essential to the species.

*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 the 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 the 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, unpaginated). 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 the 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 the 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)). Threats in Unit 3 include the persistent threat of invasive species. As such, invasive species management may be required to maintain it. The sand dune phacelia has greatly benefited from the 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 the BLM’s New River ACEC. The 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. The BLM has augmented populations in this unit 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 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 erosion and storm surge associated with sea level rise. OHV use is permitted here, but most of it occurs outside of the area occupied by sand dune phacelia. 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 a 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 21 ac (8.5 ha) in Del Norte County, California. State lands make up 13.2 ac (5.3 ha) of this unit, with the remaining 7.8 ac (3.2 ha) currently in private ownership. 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. More than 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 the 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 including European beachgrass and annual invasive grasses such as ripgut brome (*Bromus diandrus*) 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 1.6 ac (0.6 ha) in Del Norte County, California. It is managed by Del Norte County. 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.

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 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 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: (a) if the amount or extent of taking specified in the incidental take statement is exceeded; (b) 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; (c) 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 written concurrence; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action. The reinitiation requirement applies only to actions that remain subject to some discretionary Federal involvement or control. As provided in 50 CFR 402.16, the requirement to reinitiate consultations for new species listings or critical habitat designation does not apply to certain agency actions (e.g., land management plans issued by the Bureau of Land Management in certain circumstances).

#### *Application of the "Adverse Modification" Standard*

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

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may violate 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 final 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 critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. Exclusion decisions are governed by the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (hereafter, the "2016 Policy"; 81 FR 7226, February 11, 2016)—both of which were developed jointly with the National Marine Fisheries Service (NMFS). We also refer to a 2008 Department of the Interior Solicitor's opinion entitled "The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act" (M-37016). We explain each decision to exclude areas, as well as decisions not to exclude, to demonstrate that the decision is reasonable.

The Secretary may exclude any particular area if she determines that the benefits of such exclusion outweigh the benefits of including such area as part of the critical habitat, unless she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making 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.

##### *Exclusions Based on 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. In order to consider economic impacts, we prepared an incremental effects memorandum (IEM) and screening analysis which, together with our narrative and interpretation of effects, we consider our economic analysis of the critical habitat designation and related factors (Industrial Economics, Inc. 2021). The analysis, dated May 21, 2021, was made available for public review from March 22, 2022, through May 23, 2022 (Industrial Economics, 2021). The economic analysis addressed probable economic impacts of critical habitat designation for sand dune phacelia. Following the close of the comment period, we reviewed and evaluated all

information submitted during the comment period that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Additional information relevant to the probable incremental economic impacts of critical habitat designation for the sand dune phacelia is summarized below and available in the screening analysis for the sand dune phacelia (Industrial Economics, Inc. 2021), available at <https://www.regulations.gov>.

In our evaluation of the probable incremental economic impacts that may result from the 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 (Bureau of Land Management) lands management for recreational use, western snowy plover management, dune breaching, salt spray meadow restoration, and management plan updates; (2) bridge work; (3) breaching associated with 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. In areas where the sand dune phacelia is present, Federal agencies will 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. 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 the sand dune phacelia's critical habitat. Because the designation of critical habitat for the 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 likely adversely affect the essential physical or biological features of critical habitat are also likely to adversely affect the species itself. 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 designation of critical habitat.

We are designating approximately 180.8 ac (73.2 ha) of critical habitat for the sand dune phacelia in Coos and Curry Counties, Oregon, and in Del Norte County, California. The designation is divided into 13 units, and all units are occupied by the sand dune phacelia. We are not designating any units of unoccupied habitat. Approximately 57 percent of the critical habitat designation is located on State lands, 38 percent is on privately owned lands, 4 percent is on Federal lands, and 1 percent is on County lands. Any actions that may affect critical habitat would likely also affect the species or its habitat, and therefore 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 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 the 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 \$200 million of incremental administrative impacts in a single year.

As discussed above, we considered the economic impacts of the critical habitat designation, and the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the sand dune phacelia based on economic impacts.

#### *Exclusions Based on Impacts on National Security and Homeland Security*

In preparing this rule, we determined that there are no lands within the designated critical habitat for the sand dune phacelia that are owned or managed by the DoD or Department of Homeland Security, and, therefore, we anticipate no impact on national security or homeland security. We did not receive any additional information during the public comment period for the proposed designation regarding impacts of the designation on national security or homeland security that would support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19, as well as the 2016 Policy.

#### *Exclusion Based on 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 are not excluding any areas from critical habitat. In preparing this final rule, we have determined that there are currently no HCPs or other management plans for sand dune phacelia, and the designation does not include any Tribal lands or trust resources. We anticipate no impact on Tribal lands, partnerships, or HCPs from this final critical habitat designation. We did not receive any additional information during the public comment period for the proposed rule regarding other relevant impacts to support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19, as well as the 2016 Policy. Accordingly, the Secretary is not exercising her discretion to exclude any areas from this designation based on other relevant impacts.

#### Required Determinations

##### *Regulatory Planning and Review—Executive Orders 12866, 13563, and 14094*

Executive Order 14094 reaffirms the principles of E.O. 12866 and E.O. 13563 and states that regulatory analysis should facilitate agency efforts to develop regulations that serve the public interest, advance statutory objectives, and are consistent with E.O. 12866, E.O. 13563, and the Presidential Memorandum of January 20, 2021 (Modernizing Regulatory Review). Regulatory analysis, as practicable and appropriate, shall recognize distributive impacts and equity, to the extent permitted by law. 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 final rule in a manner consistent with these requirements.

E.O. 12866, as reaffirmed by E.O. 13563 and E.O. 14094, provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of

Management and Budget (OMB) will review all significant rules. OIRA has determined that this rule is not significant.

##### *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 the 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 will be directly regulated by this 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 will be directly regulated by this rulemaking, the Service certifies that this critical habitat designation will not have a significant economic impact on a substantial number of small entities.

During the development of this final rule, we reviewed and evaluated all information submitted during the comment period on the March 22, 2022 proposed rule (87 FR 16320) that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on this information, we affirm our certification that this critical habitat designation will not have a significant economic impact on a substantial number of small entities, and a 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 critical habitat designation will significantly affect energy supplies, distribution, or use. We are not aware of any energy-related activities or facilities within the boundaries of the 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 rule will 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 final rule will significantly or uniquely affect small governments because it will not produce a Federal mandate of \$200 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 the 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 designation of critical habitat for the sand dune phacelia, and it concludes that 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 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 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 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 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 will 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 will not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this rule identifies the physical or biological features essential to the conservation of the species. The areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

*Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This rule does not contain information collection requirements, and a submission to 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.)*

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

*Government-to-Government Relationship With Tribes*

In accordance with the President’s memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), 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 Secretary’s 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 critical habitat designation for the sand dune phacelia, so no Tribal lands will be affected by the 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 Fish

and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

**Authors**

The primary authors of this rule are the staff members of the Fish and Wildlife Service’s Species Assessment Team and the Oregon Fish and Wildlife Office.

**List of Subjects in 50 CFR Part 17**

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

**Regulation Promulgation**

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

**PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS**

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

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

■ 2. In § 17.12, in paragraph (h), amend the List of Endangered and Threatened Plants by adding an entry for “*Phacelia argentea*” in alphabetical order under Flowering Plants to read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*  
(h) \* \* \*

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
* <i>Phacelia argentea</i> .....	* Sand dune phacelia .....	* Wherever found .....	* T	* 88 FR [Insert <b>Federal Register</b> page where the document begins], 8/22/2023; 50 CFR 17.73(j); <sup>4d</sup> 50 CFR 17.96(a). <sup>CH</sup>
* .....	* .....	* .....	* .....	* .....

■ 3. Amend § 17.73 by adding paragraph (j) to read as follows:

**§ 17.73 Special rules—flowering plants.**

\* \* \* \* \*

(j) *Phacelia argentea* (sand dune phacelia)—(1) *Prohibitions*. The following prohibitions that apply to endangered plants also apply to the sand dune phacelia. Except as provided under paragraph (j)(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 a 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 (j)(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. In § 17.96, amend 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 follows:

**§ 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 the 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 September 21, 2023.

(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. Several units have two polygons each to include individuals that are separated

from the main populations by unsuitable or unoccupied habitat. 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/office/oregon-fish-and-wildlife>, 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.

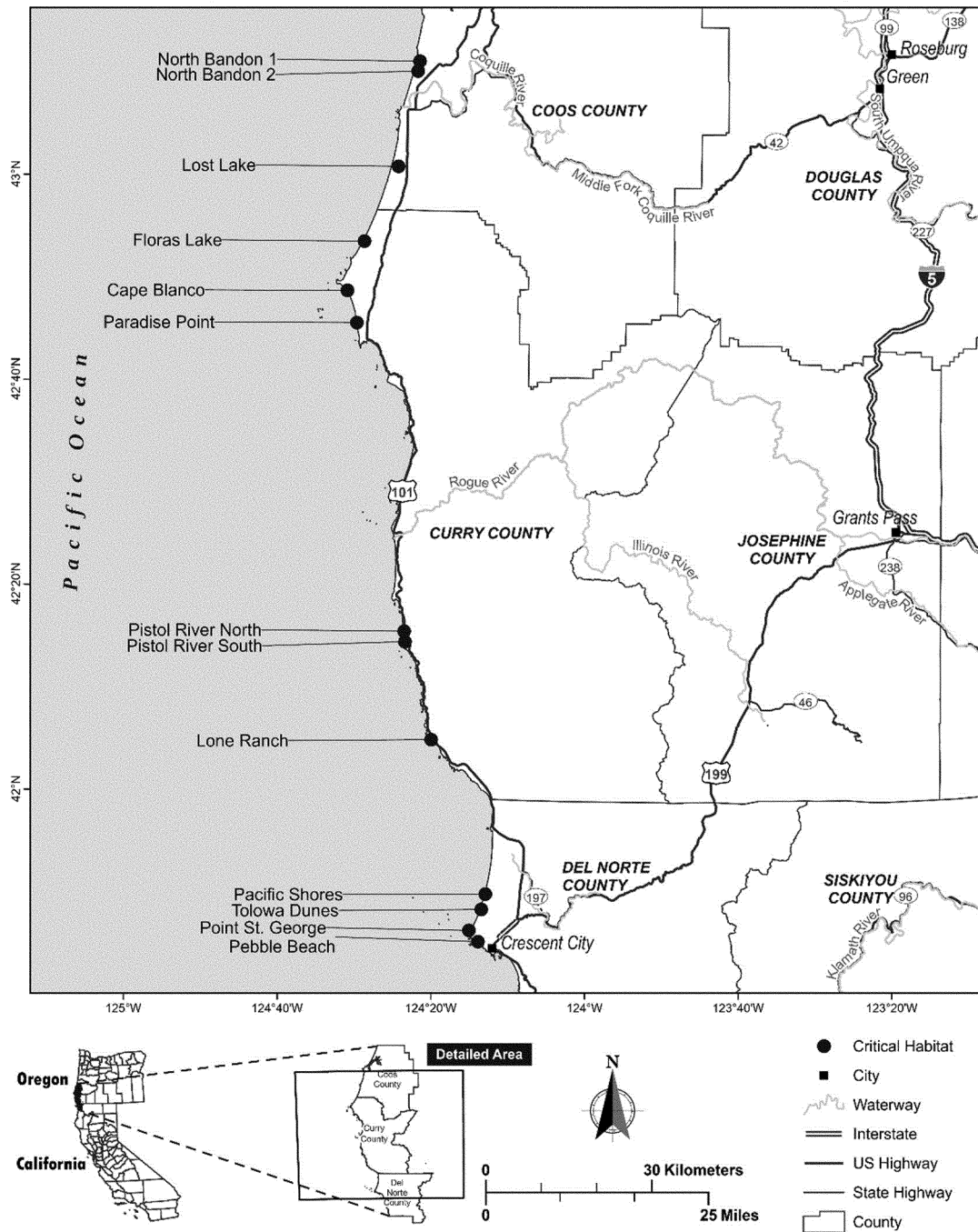
(5) Index map for *Phacelia argentea* follows:

**BILLING CODE 4333–15–P**

Figure 1 to *Phacelia argentea* (sand dune phacelia) paragraph (5)

**Critical Habitat Locations for Sand Dune Phacelia (*Phacelia argentea*)**

Oregon - Coos and Curry Counties, California - Del Norte County



(6) Unit 1: North Bandon 1, Coos County, Oregon.  
 (i) Unit 1 consists of 0.6 acres (ac) (0.2 hectares (ha)) in Coos County, Oregon,

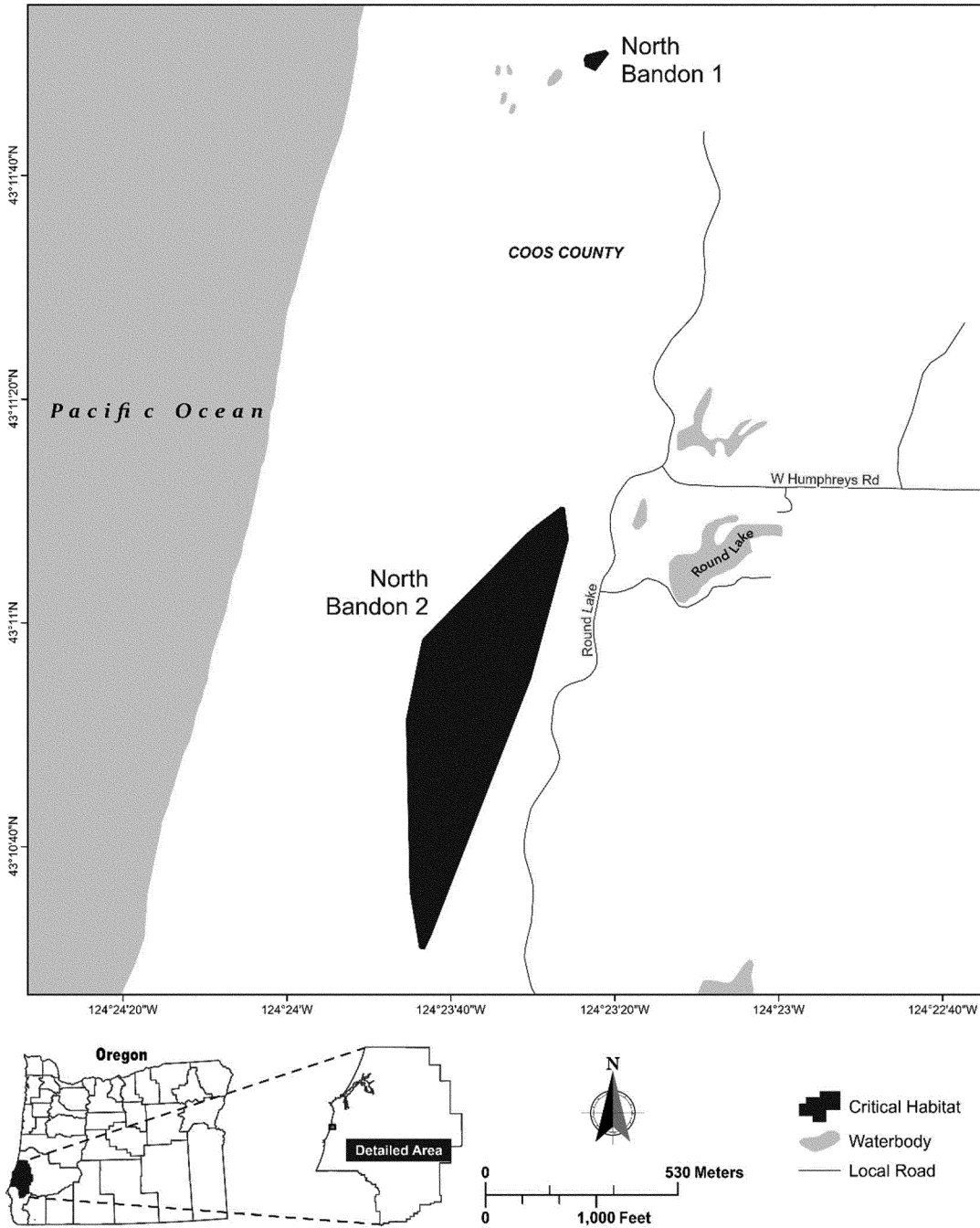
and is composed of land in private ownership.  
 (ii) Map of Units 1 and 2 follows:

Figure 2 to *Phacelia argentea* (sand dune phacelia) paragraph (6)(ii)



### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Units: North Bandon 1 and North Bandon 2



(7) Unit 2: North Bandon 2, Coos County, Oregon.

(i) 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 (54.4 ac (22 ha)) ownership.

(ii) Map of Unit 2 is provided at paragraph (6)(ii) of this entry.

(8) 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)),

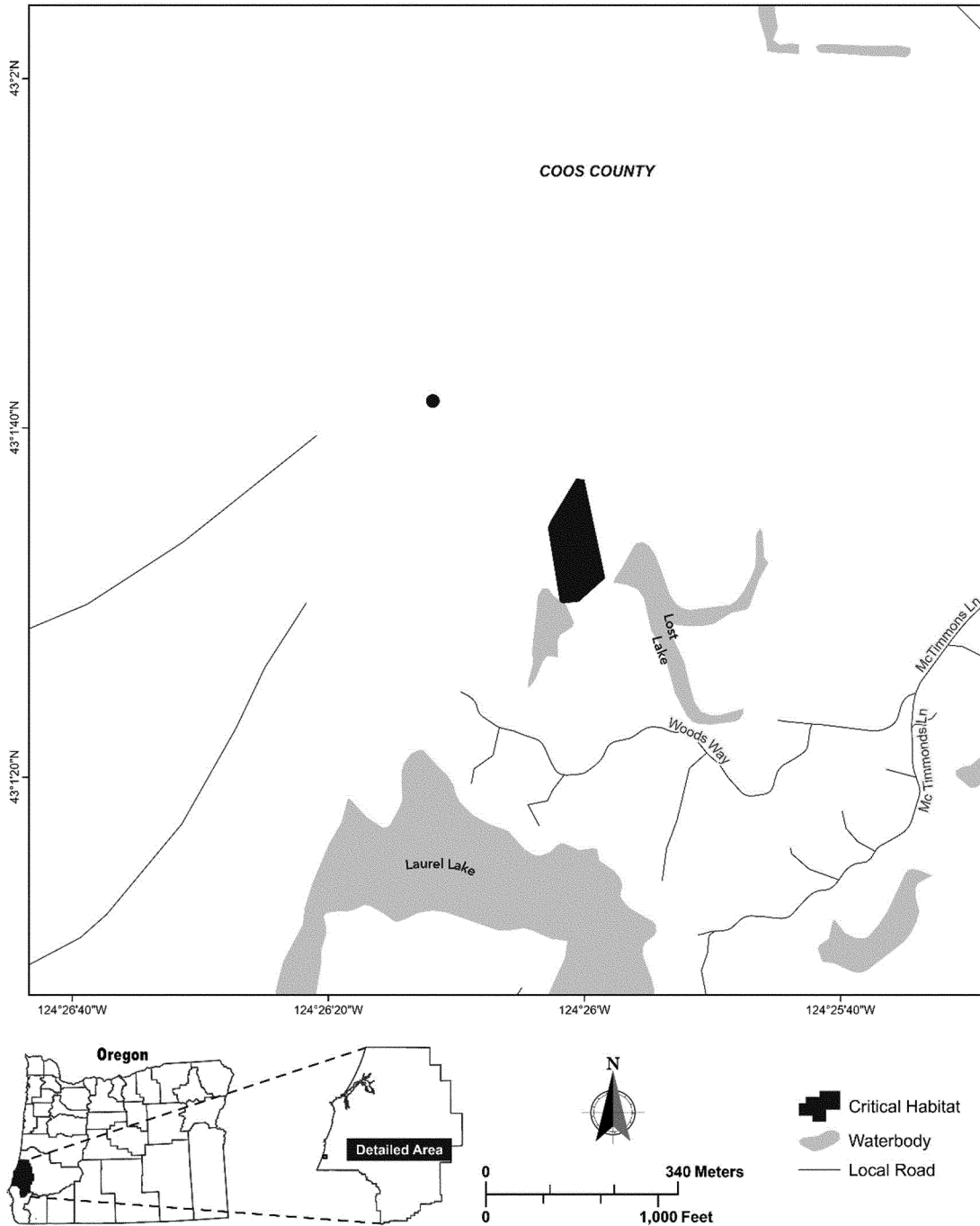
Federal (0.8 ac (0.3 ha)), and private (2.8 ac (1.1 ha)) ownership.

(ii) Map of Unit 3 follows:

Figure 3 to *Phacelia argentea* (sand dune phacelia) paragraph (8)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Unit: Lost Lake



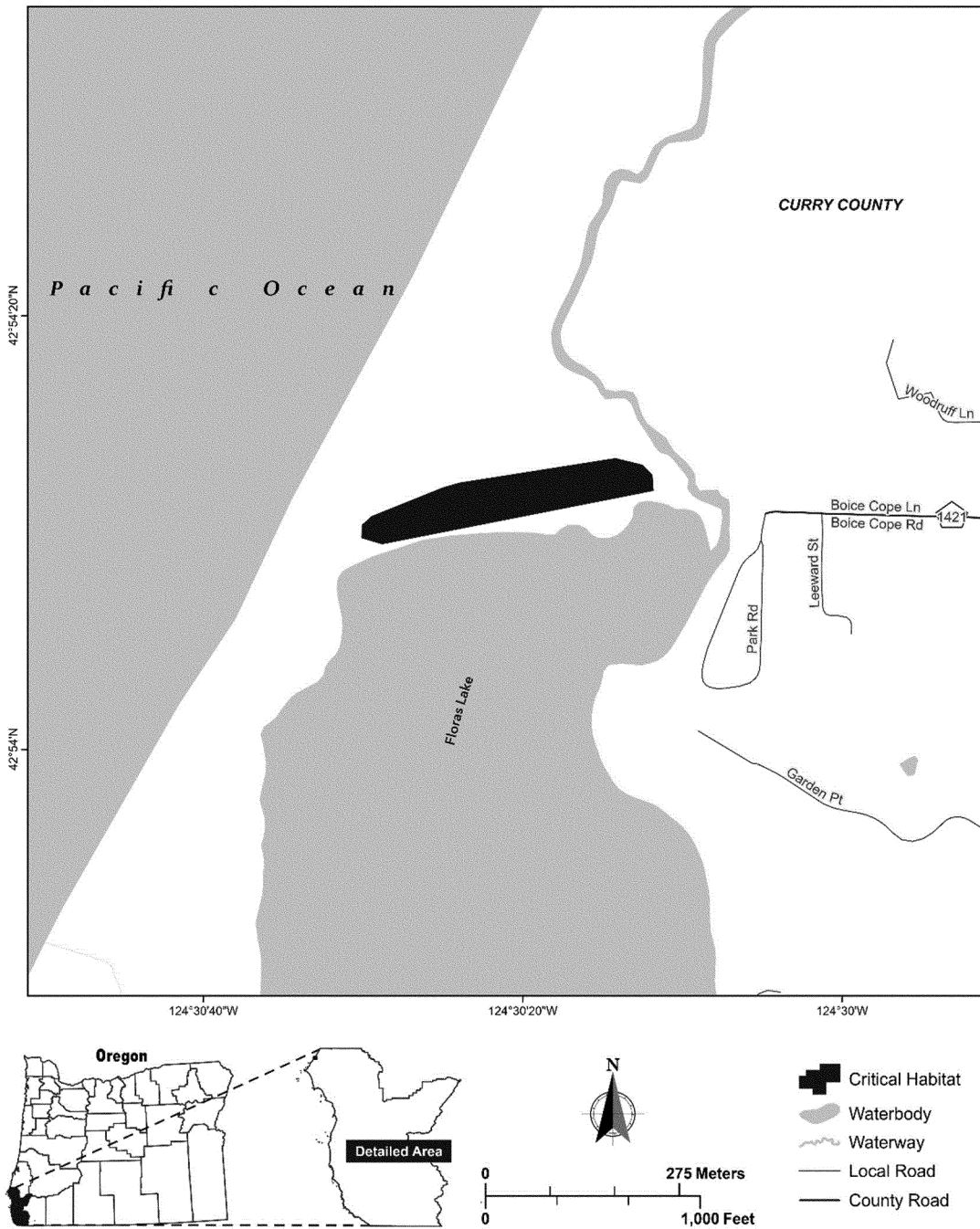
(9) Unit 4: Floras Lake, Curry County, Oregon.

(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: Figure 4 to *Phacelia argentea* (sand dune phacelia) paragraph (9)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Unit: Floras Lake



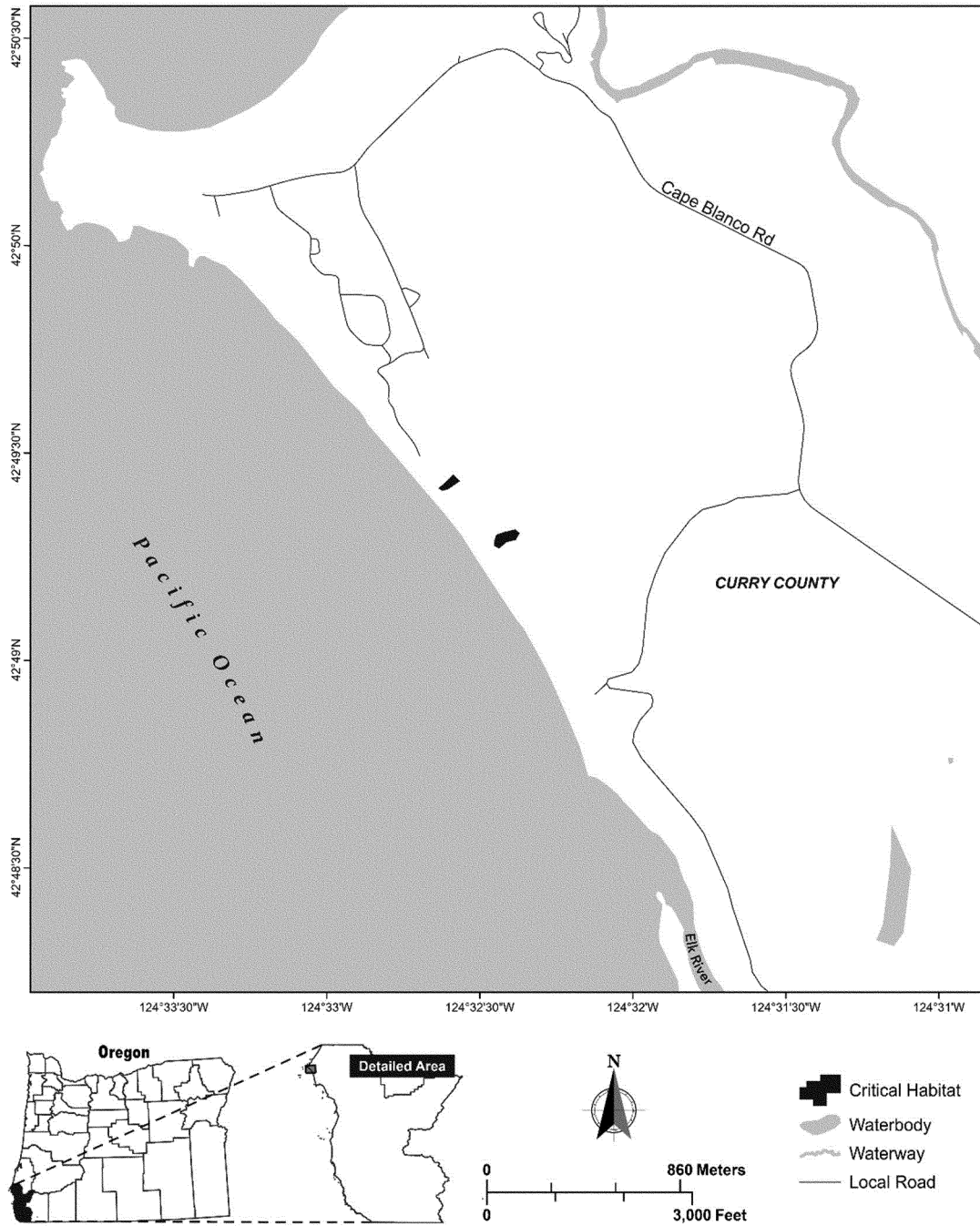
(10) Unit 5: Cape Blanco, Curry County, Oregon.

(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: Figure 5 to *Phacelia argentea* (sand dune phacelia) paragraph (10)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Unit: Cape Blanco



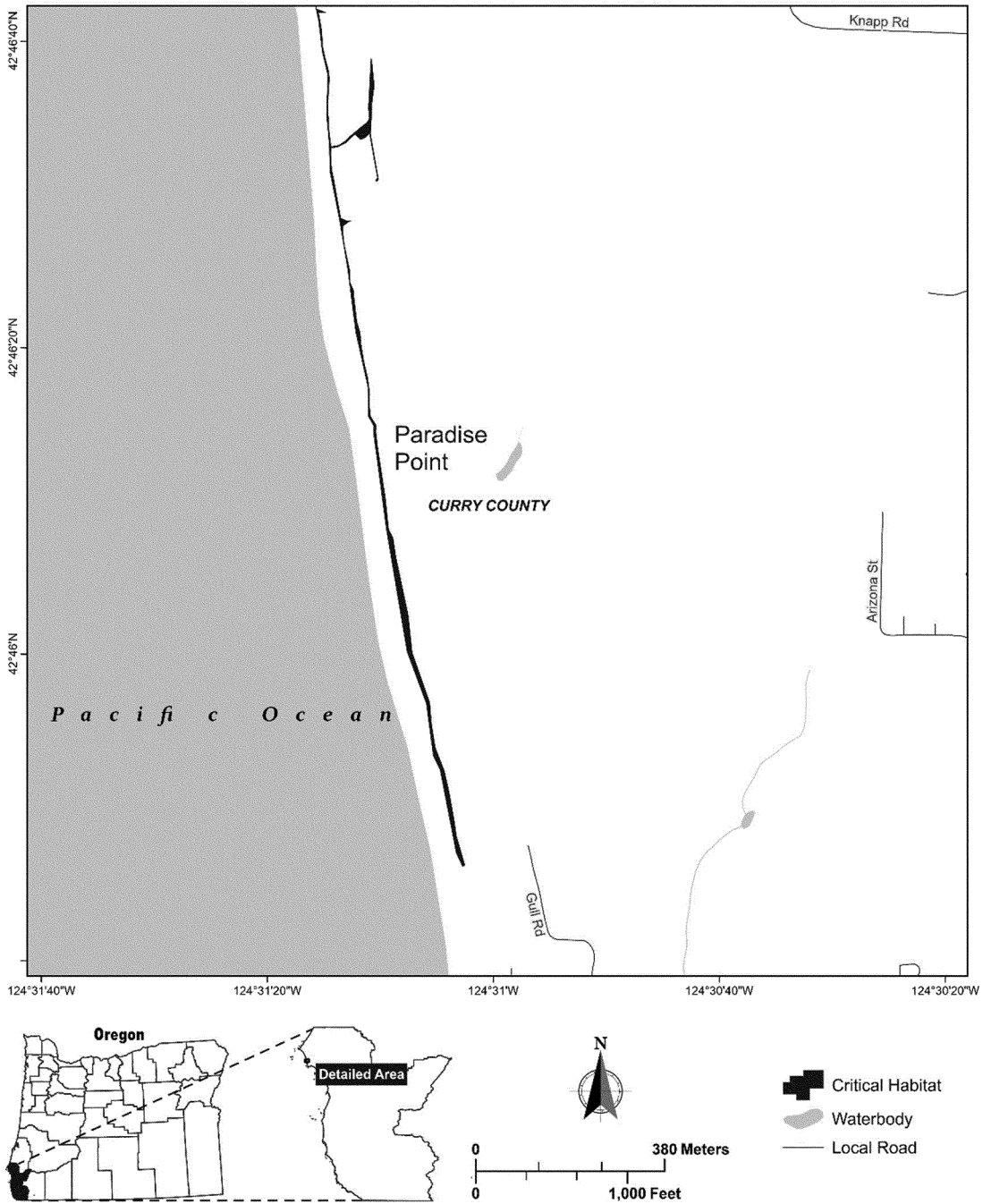
(11) Unit 6: Paradise Point, Curry County, Oregon.

(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: Figure 6 to *Phacelia argentea* (sand dune phacelia) paragraph (11)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Units: Paradise Point



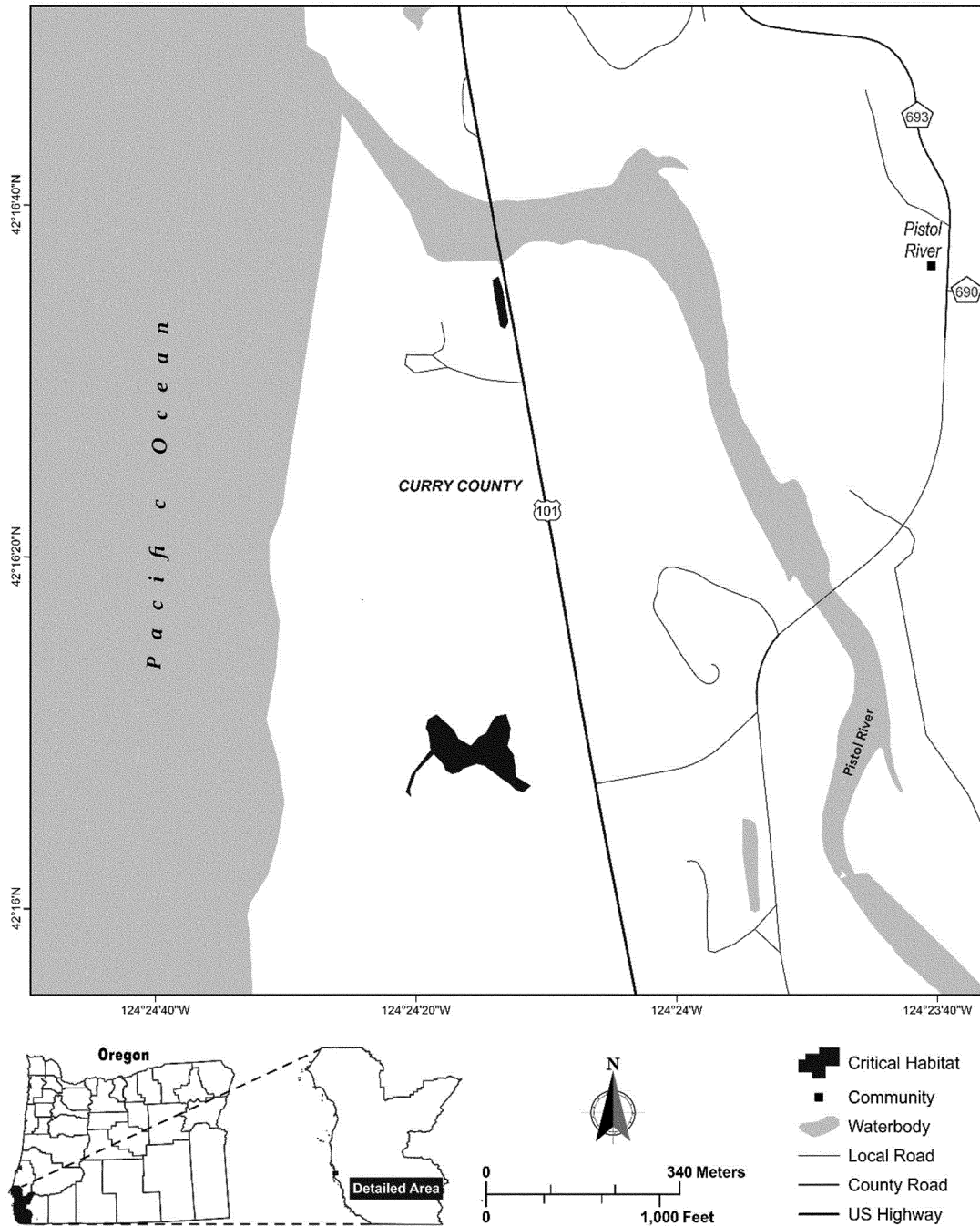
(12) Unit 7: Pistol River North, Curry County, Oregon.

(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: Figure 7 to *Phacelia argentea* (sand dune phacelia) paragraph (12)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - North, Units: Pistol River North



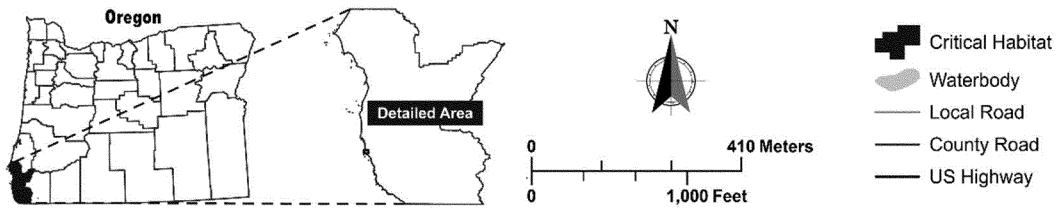
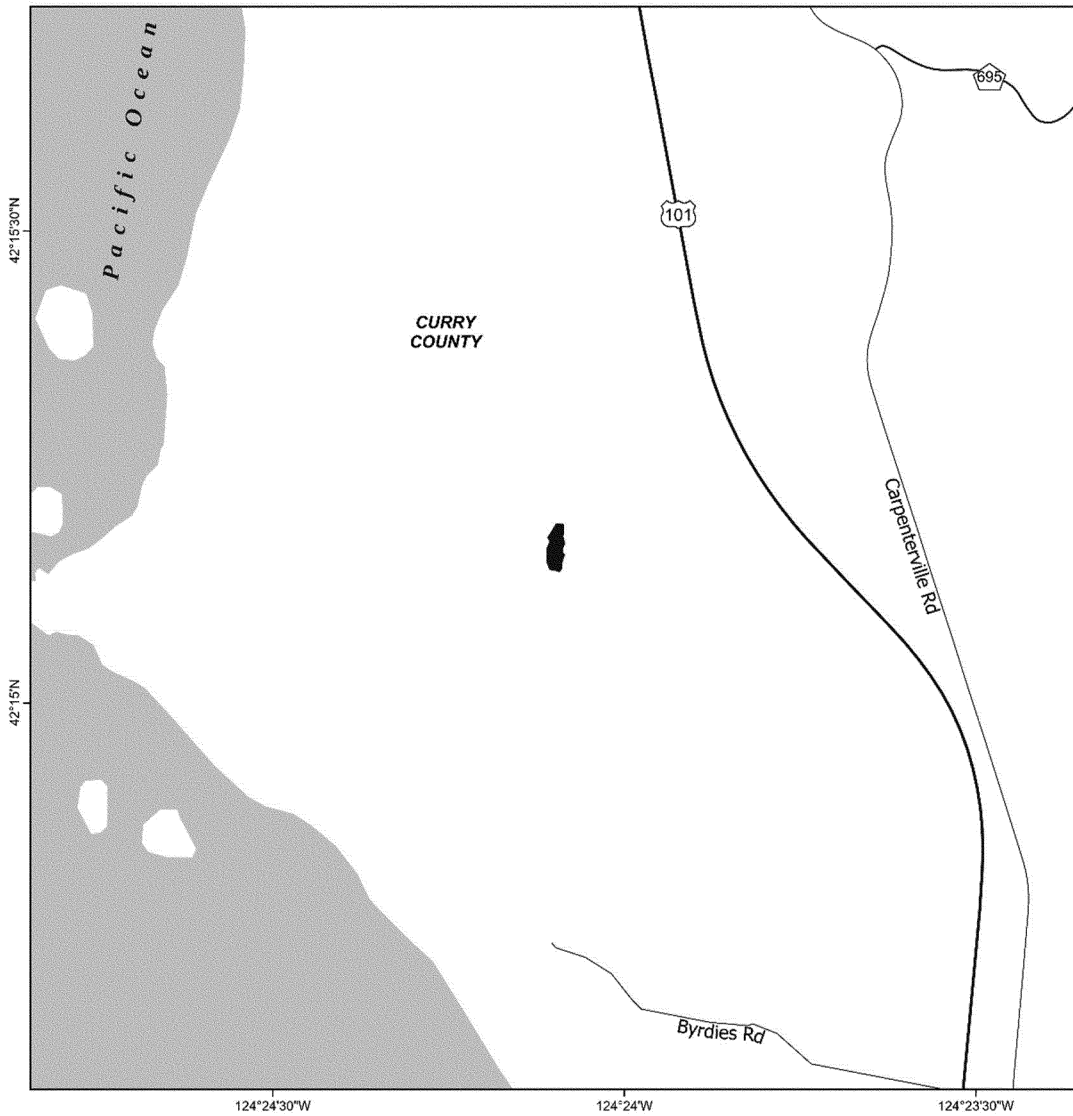
(13) Unit 8: Pistol River South, Curry County, Oregon.

(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: Figure 8 to *Phacelia argentea* (sand dune phacelia) paragraph (13)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

Oregon - South, Unit: Pistol River South



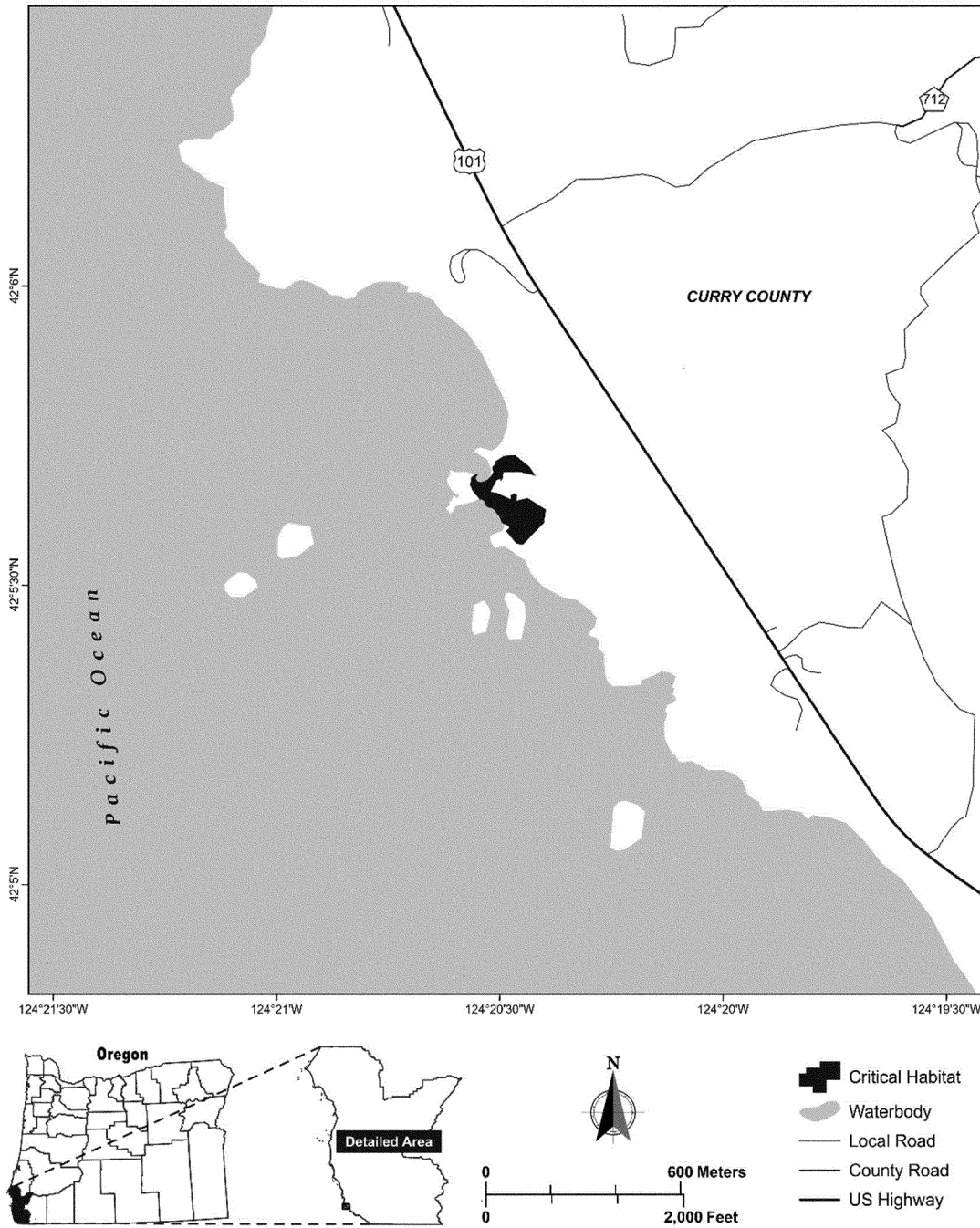
(14) Unit 9: Lone Ranch, Curry County, Oregon.

(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: Figure 9 to *Phacelia argentea* (sand dune phacelia) paragraph (14)(ii)



### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*) Oregon - South, Unit: Lone Ranch



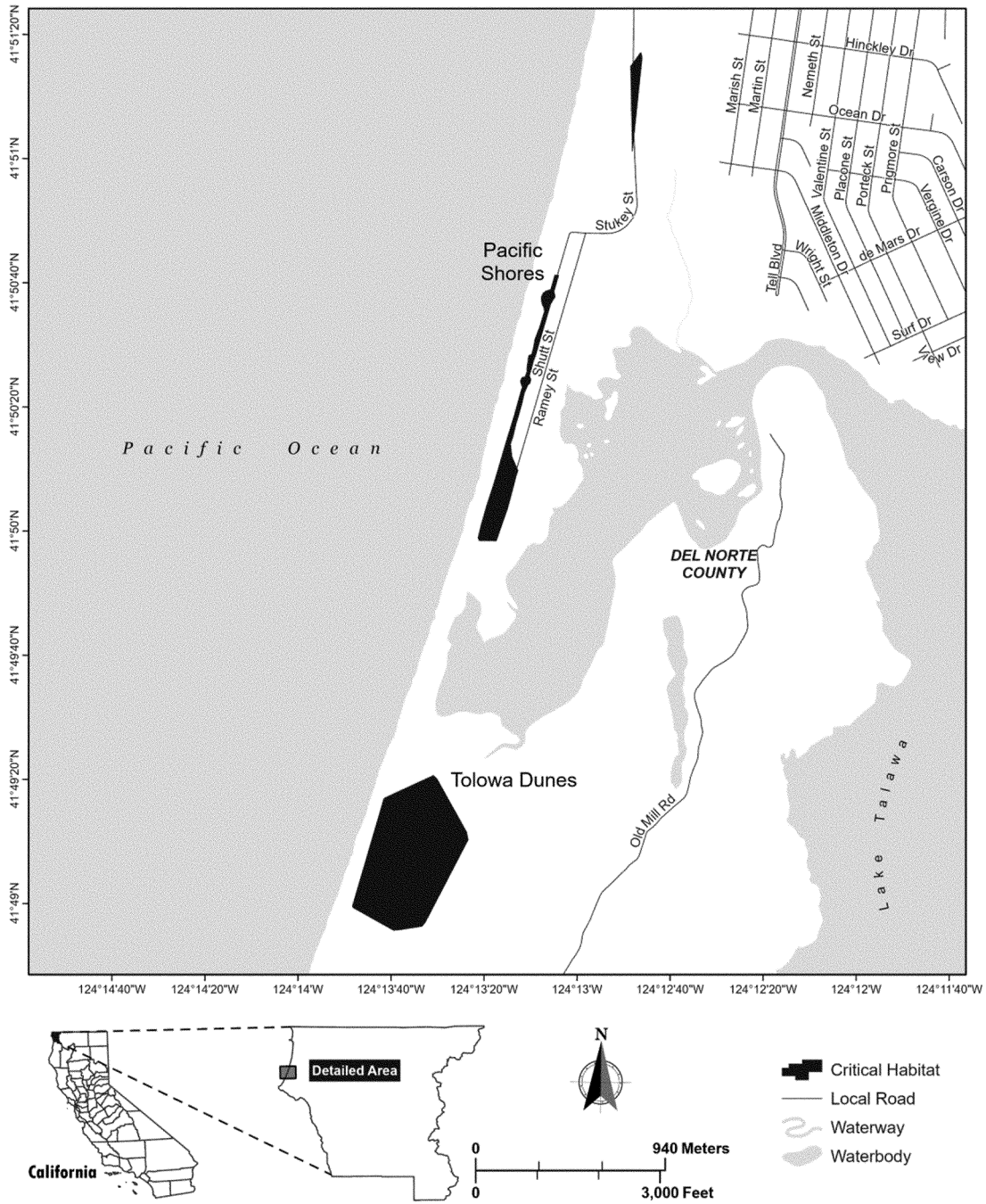
(15) Unit 10: Pacific Shores, Del Norte County, California.  
(i) Unit 10 consists of 21 ac (8.5 ha) in Del Norte County, California, and is

composed of land in State (13.2 ac (5.3 ha)) and private (7.8 ac (3.2 ha)) ownership.  
(ii) Map of Units 10 and 11 follows:

Figure 10 to *Phacelia argentea* (sand dune phacelia) paragraph (15)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

California, Units: Pacific Shores and Tolowa Dunes



(16) Unit 11: Tolowa Dunes, Del Norte County, California.

(i) 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 11 is provided at paragraph (15)(ii) of this entry.

(17) 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

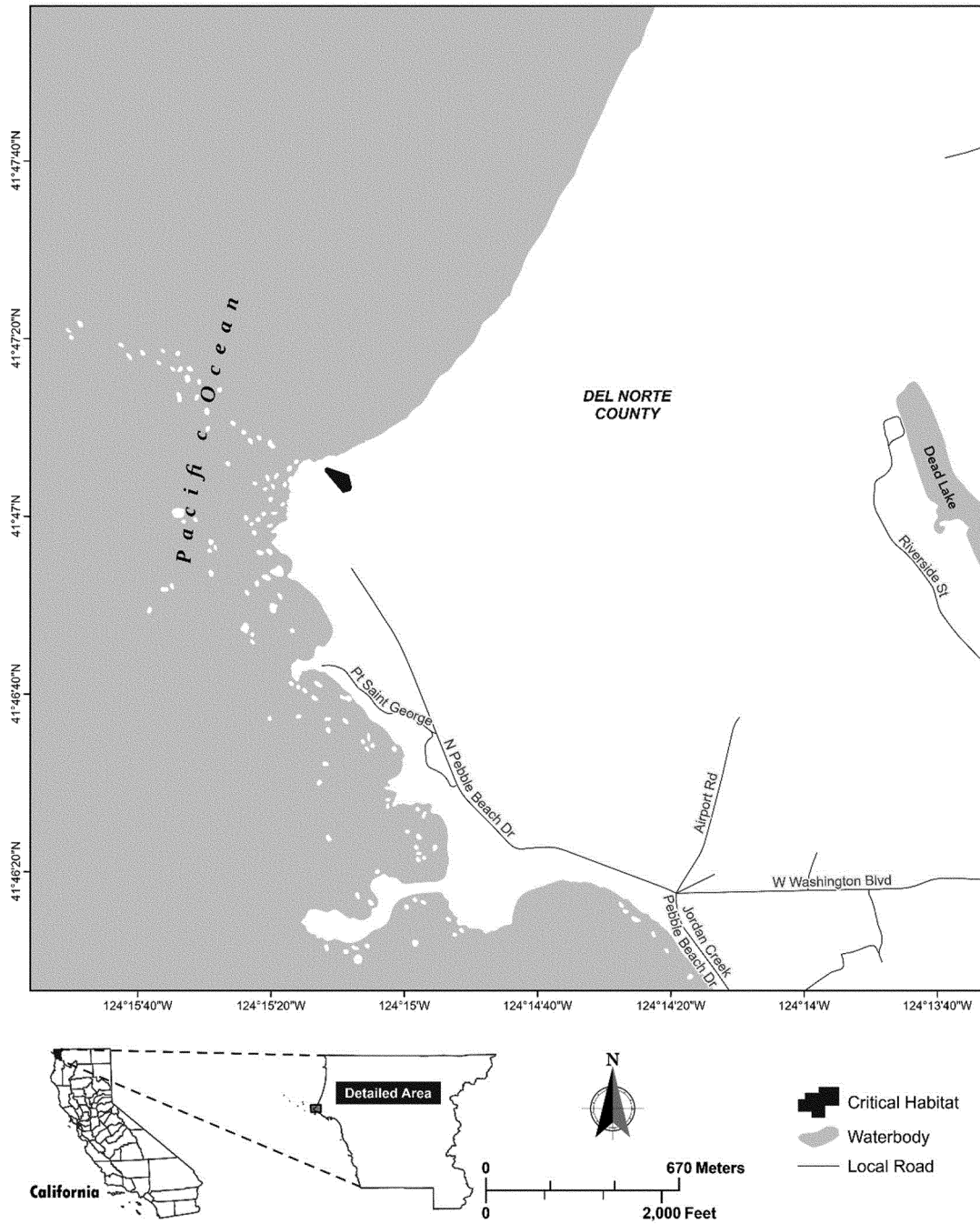
composed of land in county (1 ac (0.4 ha)) and private (0.1 ac (0.04 ha)) ownership.

(ii) Map of Unit 12 follows:

Figure 11 to *Phacelia argentea* (sand dune phacelia) paragraph (17)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*)

California, Unit: Point St. George

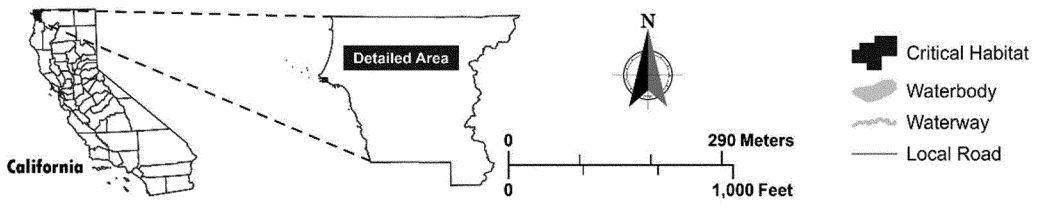
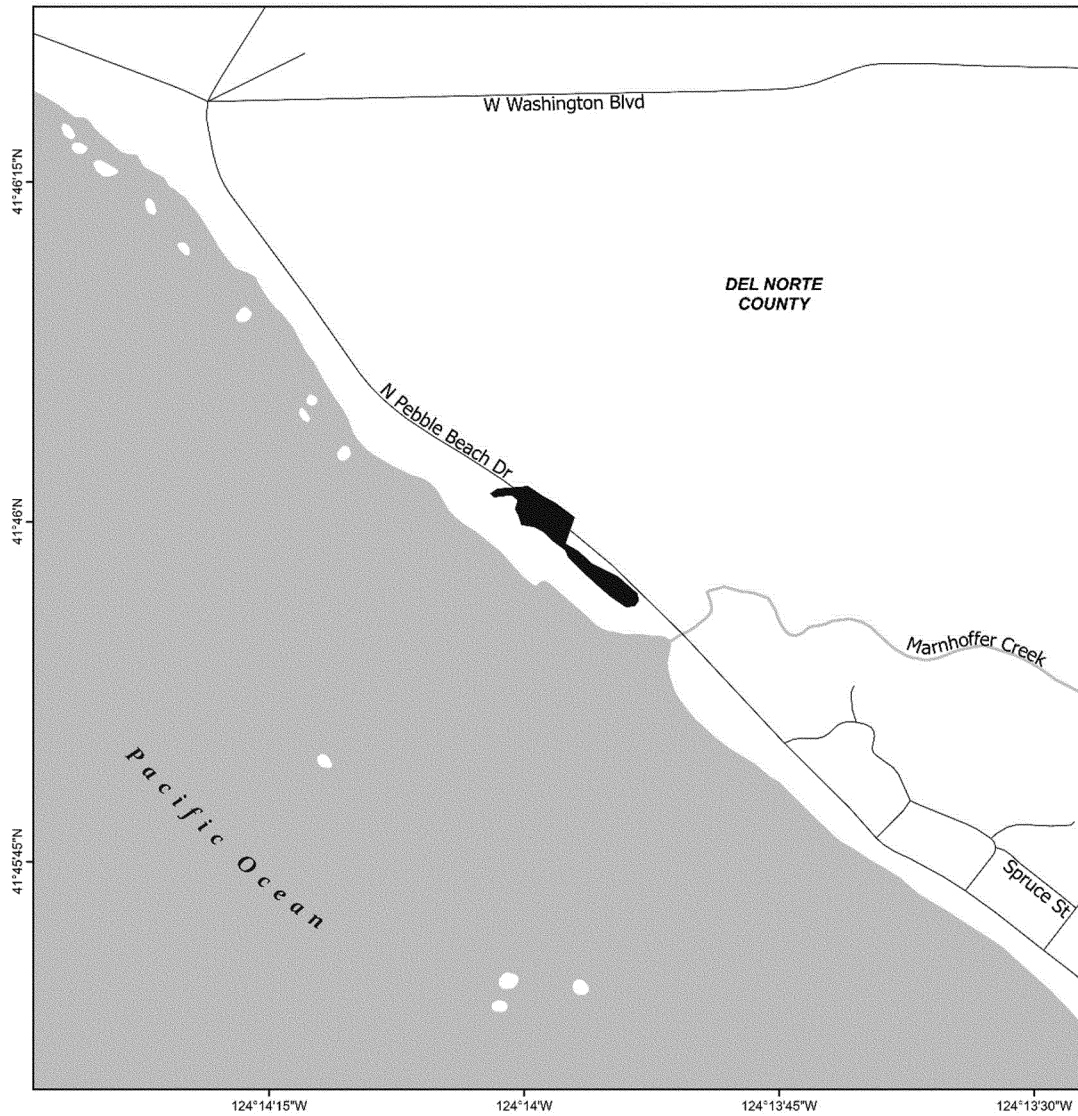


(18) Unit 13: Pebble Beach, Del Norte County, California.

(i) Unit 13 consists of 1.6 ac (0.6 ha) in Del Norte County, California, and is under county ownership.

(ii) Map of Unit 13 follows: Figure 12 to *Phacelia argentea* (sand dune phacelia) paragraph (18)(ii)

### Critical Habitat for Sand Dune Phacelia (*Phacelia argentea*) California, Unit: Pebble Beach



\* \* \* \* \*

**Wendi Weber,**  
*Acting Director, U.S. Fish and Wildlife Service.*

[FR Doc. 2023-17669 Filed 8-21-23; 8:45 am]

**BILLING CODE 4333-15-C**