DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS–R8–ES–2008–0078; 99210–1117–0000–B4]

50 CFR Part 17

RIN 1018–AV03

Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for Cirsium loncholepis (La Graciosa Thistle)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to revise the currently designated critical habitat for *Cirsium loncholepis* (La Graciosa thistle) pursuant to the Endangered Species Act of 1973, as amended (Act). In total, approximately 38,447 acres (ac) (15,559 hectares (ha)) fall within the boundaries of this proposed revised critical habitat designation. The proposed revision is to critical habitat located in San Luis Obispo and Santa Barbara Counties, California.

DATES: We will accept comments from all interested parties until October 6, 2008. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by September 22, 2008.

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

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: [FWS-R8–ES–2008–0078]; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Diane K. Noda, Field Supervisor, Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, California, 93003 (telephone 805/644–1766; facsimile 805/644–3958). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Public Comments Solicited

We intend any final action resulting from this proposal to be as accurate and as effective as possible. Therefore, we request comments or suggestions on this proposed rule. We particularly seek comments concerning:

(1) The reasons why we should or should not revise the designation of habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether the benefit of designation would outweigh threats to the species caused by the designation, such that the designation of critical habitat is prudent;

(2) Specific information on:

- The amount and distribution of *Cirsium loncholepis* habitat,
- The importance of including habitat that provides connectivity between extant populations of *C. loncholepis* to the species' conservation and recovery, and the amount and distribution of such habitat;
- Which areas within the geographical area occupied at the time of listing that contain features essential to the conservation of the species we should include in the designation and why, and
- Which areas not within the geographical area occupied at the time of listing that are essential for the conservation of the species and why;

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

(4) Any foreseeable economic, national security, or other relevant impacts resulting from the proposed revised designation, and, in particular, any impacts on small entities, and the benefits of including or excluding areas that exhibit these impacts;

(5) This proposed designation's revised criteria for determining essential features and critical habitat boundaries; and

(6) The existence of any conservation or management plans being implemented by California State Parks, Oceano Dunes State Vehicular Recreation Area; Vandenberg Air Force Base; County of Santa Barbara, Rancho Guadalupe Dunes County Park; Guadalupe-Nipomo Dunes National Wildlife Refuge; or other public or private land management agencies or owners that we should consider for exclusion from the designation pursuant to section 4(b)(2) of the Act. Please include information on any benefits (educational, regulatory, etc.) of including or excluding lands from this proposed revised designation.

(7) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments;

(8) Whether there are areas that were previously designated as critical habitat that we are now removing from designation in this proposed rule, that should remain as critical habitat in the rule.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not consider comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section.

If you submit a comment via *http://www.regulations.gov*, your entire comment—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy comments on *http://www.regulations.gov.*

Background

It is our intent to discuss only those topics directly relevant to this proposed revised designation of critical habitat. Additional background information covering the general ecology of *Cirsium loncholepis* was published in the final listing rule on March 20, 2000 (65 **Federal Register** (FR) 14888), the proposed rule to designate critical habitat published on March 30, 1998 (63 FR 15164), and the final designation of critical habitat for *C. loncholepis* on March 17, 2004 (69 FR 12553).

Species Description and Reproduction

Cirsium loncholepis is a biennial to short-lived monocarpic perennial (a plant that blooms once, then dies) (Hendrickson 1990, pp. 20–22; Teed 2003, p. 1). It is a spreading, mound-like or erect plant in the Asteraceae (sunflower family) that is well armored with spines on the leaves and flower heads. The plants range from 4 to 39 (occasionally up to 59) inches (in) (10 to 100 (occasionally up to 150) centimeters (cm)) tall, with one or more stems. The lower leaves are 4 to 12 in (10 to 30 cm) long, with spiny petioles (leaf stalks), and are usually deeply lobed with secondary lobes or teeth. The leaves are wavy-margined. The leaf bases of the middle and upper leaves form short, spiny wings along the petiole. Flowering heads are 0.8 to 1.6 in (2 to 4 cm) wide in tight clusters at the tips

of the stems. The corollas (flowers) are 1 to 1.2 in (25 to 30 millimeters (mm)) long and are nearly white with a purplish tube containing purple anthers. The achenes (fruit) are 0.01 to 0.02 in (3 to 4 mm) long and topped by an umbrella of long awns (0.6 to 1.0 in (15 to 25 mm)) that are ideal for wind dispersal (Keil and Turner 1993, pp. 232–239). Large individuals produce more flowering heads and more seeds per head (average = 473 seeds per plant) than smaller individuals (average = 168 seeds per plant), and therefore contribute disproportionately to the future seedbank of the population (Lea 2001a, unpaginated).

Taxonomy

In 2006, Dr. David Keil revised the treatment for the genus *Cirsium* in North America for the Flora of North America north of Mexico by taking a broad view of the genus and the overlap in ranges of variation in morphologic characters (visible plant characteristics) (Keil 2006a, pp. 1, 57, 66, 82, 83, 93, 95–160). Dr. Keil synonymized (lumped) *C. loncholepis* with *C. scariosum* var. *citrinum* (La Graciosa thistle, same common name as the listed entity), a more widespread taxon whose distribution encompasses the following areas: The distribution of the *C. loncholepis*, at the mouth of the Santa Maria River; *C. scariosum* populations in the San Emigdio Mountains (Kern and Ventura Counties); and *C. scariosum* populations in the uplands and lowlands of the Peninsular Ranges of southern California (Riverside and San Diego Counties) that continue down into northern Baja California, Mexico (Keil 2006a, pp. 1, 57, 66, 82, 83, 93, 95–160). Dr. Keil has since informed us that he is re-recognizing *C. loncholepis* as a distinct entity as a subtaxon of *C. scariosum* and that he will publish it in a journal article and in the upcoming second edition of The Jepson Manual: Higher Plants of California. (Keil 2007a, unpaginated; 2007b, unpaginated). We consider this to be the best available scientific and commercial information. Accordingly, we continue to recognize *C. loncholepis* as a distinct entity.

Distribution

Below, we define various terms that are used for different assemblages of plants that we use in discussing the status of *Cirsium loncholepis*. In this rule we use the term ''occurrence'' to be consistent with the definition used by the California Natural Diversity Database (CNDDB): A grouping of plants within 0.25 mile (mi) (0.4 kilometer (km)) of each other (CNDDB 2007, unpaginated). There may be (and occasionally are) one or more discrete polygons of plants within a single ''occurrence.'' We use the term ''population'' to refer to a group of interbreeding individuals, in the biological sense of the word. There may be (and usually are) one or more ''occurrences'' within a single population. Our use of the term ''location'' in previous rules for *C. loncholepis* was interchangeable with ''occurrence'' and ''population.'' In this rule ''location'' refers only to a particular site, area, or region, as in ''at that location,'' with no relation to an assemblage of plants (e.g., polygon, occurrence, population). The terms ''site,'' ''area,'' and ''region'' refer to physical places.

Cirsium loncholepis historically was found in mesic areas (areas with intermediate or medium moisture conditions that are neither very wet nor very dry) in back dune and coastal wetlands along a 32-mi (52-km) stretch of the coastal region of central California between Arroyo Grande Creek in San Luis Obispo County to the north and the Santa Ynez River in Santa Barbara County to the south. In this range, it occurred up to 16 mi (26 km) inland where it was documented at the Cañada de las Flores area on the south side of the Solomon Hills. Most of the known occurrences are associated with mesic sites in two dune complexes (the Santa Maria Valley Dune Complex and the Santa Ynez Valley Dune Complex) and along the drainages and tributaries of four major watersheds in this area (from north to south: Arroyo Grande Creek, Santa Maria River, San Antonio Creek, and Santa Ynez River).

Historically, *Cirsium loncholepis* has been reported or documented from a total of 25 occurrences that are grouped among 11 populations ranging from the dunes near Pismo Beach inland to hillside seeps at Cañada de las Flores south to the floodplains of the Santa Ynez River (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated). These 11 populations are: Oceano, northern Callender Dune Lakes, southern Callender Dune Lakes, Oso Flaco, southern Guadalupe Dunes, Santa Maria River, Guadalupe, La Graciosa (type locality—the geographical location for the collection of the type specimen or the specimen that fixes a name to a species), Cañada de las Flores, San Antonio Terrace, and Santa Ynez River. See: 63 FR 15164, March 30, 1998; 65 FR 14888, March 20, 2000; 66 FR 57560, November 15, 2001; and 69 FR 12553, March 17, 2004; and Hendrickson (1990, pp. 1–25) for more in-depth discussions on the historical habitats, distribution, and range of *C. loncholepis*.

At the time of the listing in 2000, there were 17 recorded occurrences. After reviewing the historical records, we determined that 11 of the 17 occurrences were extant (still in existence). These 11 extant occurrences were distributed among 7 populations. At the time of listing, the extant occurrences ranged from the northern Callender Dune Lakes in the Callender Dunes in the north to the seeps at Cañada de las Flores in the south (65 FR 14888, March 20, 2000; CNDDB 1998, unpaginated). Since the time of listing, *Cirsium loncholepis* has experienced considerable declines throughout its range. Currently, *C. loncholepis* is considered to be extant at seven occurrences that are distributed among four populations: Southern Callender Dune Lakes, Oso Flaco, southern Guadalupe Dunes, and Santa Maria River. The seven extant occurrences consist of five occurrences that were identified in the final listing rule in 2000 as well as two new occurrences that have been identified since that time (CNDDB 2007, unpaginated; Elvin 2006, unpaginated, 2007a, unpaginated). The extant occurrences currently range from the southern Callender Dune Lakes in the north to the Santa Maria River in the south. See Figure 1 for the current versus historical distribution of *C. loncholepis*. The points in this figure represent locations of polygons of *C. loncholepis* plants. Some *C. loncholepis* occurrences contain more than one polygon.

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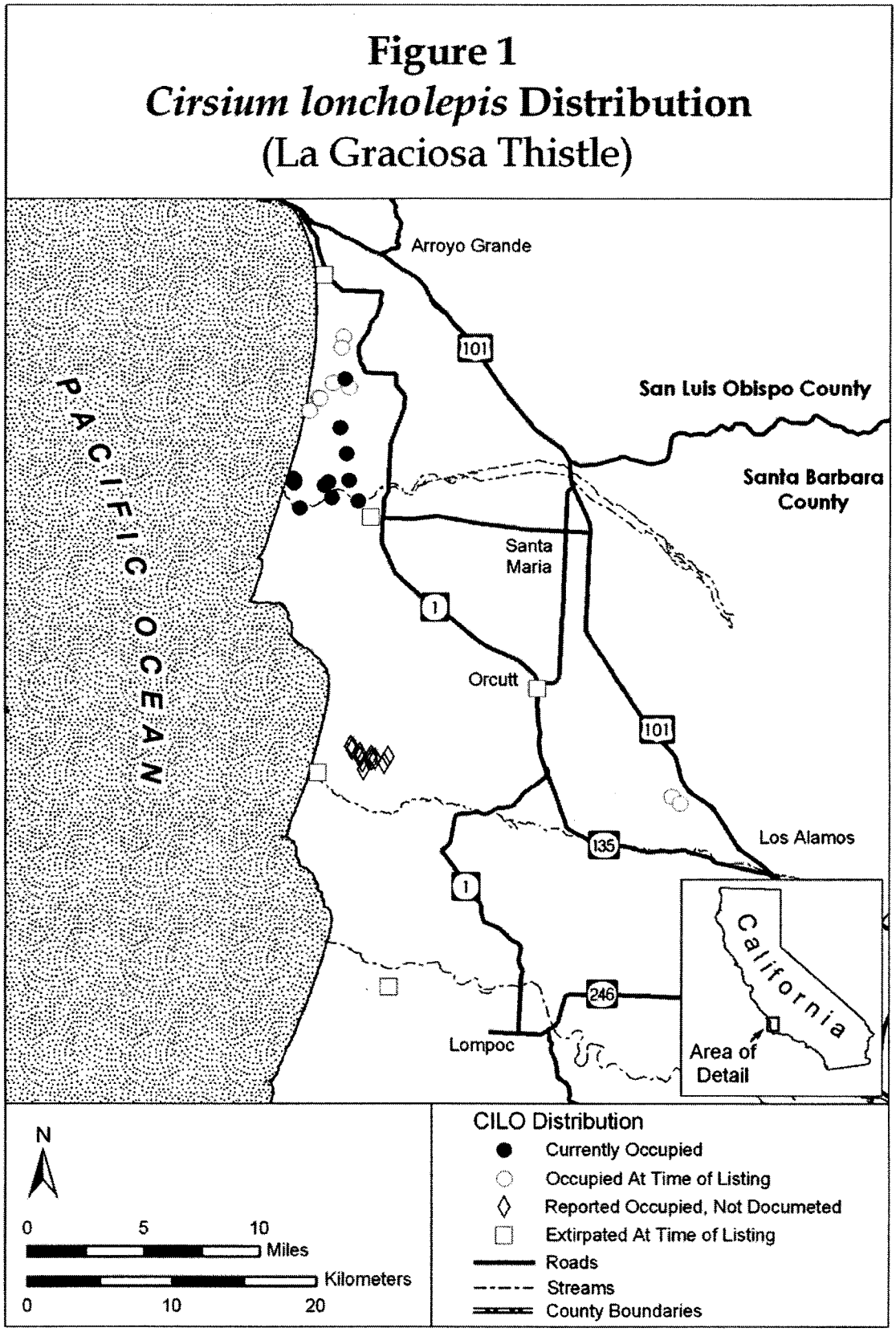

The Service has reviewed the most current information regarding occupancy at *Cirsium loncholepis* historically known to have been occupied, or occupied at time of listing. *Cirsium loncholepis* may still be extant

at Cañada de las Flores. It was last observed at this site in 1989 (Hendrickson 1990, pp. 1–25). Based on this information at the time of listing, we considered Cañada de las Flores to be occupied. Since the time of listing, there have still been no observations of *C. loncholepis* at Cañada de las Flores. No plants were observed during surveys in 1990 (Hendrickson 1990, pp. 1–25), and no plants were observed by Mark A. Elvin and Jeanette Sainz when they visited the site in November 2007. This visit was conducted outside the optimal time of year to observe this plant in a dry year, and it was not an exhaustive survey (Elvin 2007b, unpaginated). While *C. loncholepis* may still be at Cañada de las Flores, we are considering Cañada de las Flores to be unoccupied for the purposes of this rule based on the continued lack of observation of C. loncholepis since 2000. *Cirsium loncholepis* has not been observed at the northern Callender Dune Lakes population (in the dunes just south of Pismo Beach and Oceano) since 1988, but no surveys have been conducted here since 1988 to our knowledge. *Cirsium loncholepis* may still be extant at this population. *Cirsium loncholepis* has not been observed at the Santa Ynez River population since 1958 (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated; Smith 1976, p. 282, 1998, pp. 153–154; Santa Barbara Botanical Garden Herbarium 2007, unpaginated). Surveys were conducted by the Biological Sciences Department at California Polytechnic State University between 1992 and 1994, but no plants were found (Keil and Holland 1998, pp. 83–84); no other surveys are known to have been conducted. Therefore, *C. loncholepis* is not currently known to occur along the Santa Ynez River. San Antonio Terrace is centrally located within the range of *C. loncholepis.* It is south of the Guadalupe and Callender Dune Sheets and the Santa Maria River, west of Cañada de las Flores, and north of the Santa Ynez River. San Antonio Terrace supports numerous dune wetlands and swales and has the same physical and geological features, habitats, and vegetation as the Callender and Guadalupe Dune Sheets (Hunt 1993, pp. 5–72; CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated; Google Earth 2008, unpaginated). *Cirsium loncholepis* is reported from the dune swales on San Antonio Terrace, but it has never been documented here with a voucher specimen (CNDDB 2007, unpaginated; Henningson *et al.* 1980, pp. 15–120; Consortium of California Herbaria 2008, unpaginated). San Antonio Terrace is directly adjacent to the mouth of San Antonio Creek which, according to some researchers, is the most likely site for the type locality for *C. loncholepis* (Keil and Holland 1998, pp. 83–84; Oyler *et al.* 1995, pp. 1–76; Hendrickson 1990, pp. 1–25; Smith 1976, p. 282, 1998, pp. 153–154). The type locality is the geographical location for the collection of the type specimen or the specimen that fixes a name to a species. In the case of *C. loncholepis*, we do not know the exact location of the type locality of ''La Graciosa''. There is a consensus among researchers that La Graciosa was at one of two places, one of which is the mouth of San Antonio Creek and the other along Orcutt Creek (see the final listing rule for a discussion on this location). *Cirsium brevistylum* has been documented at San Antonio Terrace. Some researchers speculate that the reports of *C. loncholepis* from the San Antonio Terrace population were pre-flowering *C. brevistylum* plants, which are very similar to pre-flowering *C. loncholepis* plants (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated; Hendrickson 1990, pp. 1–25; Keil and Holland 1998, p. 82).

In addition to the apparent loss of occurrences and populations, there has been a decline in the status of the species and the number of individuals reported at the remaining extant sites identified in the listing rule (Chesnut 1998a, unpaginated; Chesnut 1998b, pp. 1–40; Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). Most notably, Service staff visited the western portion of the Santa Maria River population in November 2006, and fewer than 10 individuals were observed (Elvin 2006, unpaginated). While this was outside the optimal time of year, *Cirsium loncholepis* was fruiting and observable. This population (which includes two occurrences) was estimated to contain 6,000 individuals in 1986 (CNDDB 2007, unpaginated), more than 50,000 individuals in 1990 (Hendrickson 1990, pp. 1–25), and 500 individuals in the western portion in 2001 (CNDDB 2007, unpaginated). Specific survey conditions are not known for these reports. Reports also indicate declines in status and numbers of individuals at the northern Guadalupe Dunes population with estimates in the 25–50 range for the 1980s and early 1990s down to 7 individuals in 1998 (Chesnut 1998a, unpaginated; Chesnut 1998b, pp. 1–40; Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). Reports for the southern Guadalupe Dunes population have been fluctuating between 30 and 137 individuals with Service staff noting greater than 50 individuals in November of 2006 (CNDDB 2007, unpaginated; Elvin 2006, unpaginated; Hendrickson 1990, pp. 1–25).

In summary, *Cirsium loncholepis* may not currently be present at the Oceano, northern Callender Dune Lakes, Guadalupe, La Graciosa, Cañada de las Flores, San Antonio Terrace, and Santa Ynez River populations. This species has declined from 11 extant occurrences identified at the time of listing to 7 remaining extant occurrences (in 4 populations). The seven extant occurrences consist of five occurrences that were identified in the final listing rule in 2000 as well as two new occurrences that have been identified since that time. We believe that *C. loncholepis* may not persist if the Santa Maria Valley Dune Complex occurrences (including those along the Santa Maria River) are the only ones remaining. However, we believe that *C. loncholepis* could be conserved and recovered if additional populations exist or new populations arise in habitat with features (described below) that allow the populations to remain connected throughout the two dune complexes and four major watersheds where it once was known to occur.

Previous Federal Actions

A proposed rule to list *Cirsium loncholepis* and three other species as endangered was published on March 30, 1998 (63 FR 15164). *Cirsium loncholepis* was listed as endangered under the Act in 2000 due to threats from groundwater pumping, oil field development, oil field remediation, competition from non-native plants, and grazing from cattle (Hendrickson 1990, pp. 1–25; California Department of Fish and Game (CDFG) 1992, pp. 111–112; 65 FR 14888, March 20, 2000). The State of California listed this species as threatened in 1990 (CDFG 1992, pp. 111–112). The proposed rule to designate critical habitat for *C. loncholepis* and two other species was published in the **Federal Register** on November 15, 2001 (66 FR 57560). In August 2002, we received a 1-year extension beyond the statutory time limit on the publication date of a final rule for *C. loncholepis* critical habitat due to its taxonomic uncertainty. In September 2003, we sought an additional extension due, in part, to the continued uncertainty regarding its taxonomic status, but the court denied that request. We published a final rule designating critical habitat for *C. loncholepis* on March 17, 2004 (69 FR 12553), in compliance with the court's order. Please refer to the final listing

rule published in the **Federal Register** on March 20, 2000 (65 FR 14888), and to the final designation of critical habitat published on March 17, 2004 (69 FR 12553), for additional or more complete information on previous Federal actions prior to that time. In the 2004 final critical habitat rule we designated approximately 41,089 acres (ac) (16,628 hectares (ha)) of land in San Luis Obispo and Santa Barbara Counties, California, as critical habitat for *C. loncholepis.* The final critical habitat rule also contains information regarding the litigation history related to the listing and designation of critical habitat for this species (*Southwest Center for Biological Diversity, et al.* v. *U.S. Fish and Wildlife Service et al.* (No. C99–2992 (N.D.Ca.)).

On March 30, 2005, the Homebuilders Association of Northern California, *et al.*, filed a complaint against the Service (*Home Builders Association of N. Cal., et al.* v. *U.S. Fish and Wildlife Service, et al.*, No. 2:05–01363, E.D. Cal.) alleging that the final rule designating critical habitat for *Cirsium loncholepis* (and 26 other species) violated the Act, the Administrative Procedure Act, and the National Environmental Policy Act. In March 2006, a settlement was reached to re-evaluate five final critical habitat designations, which included the 2004 critical habitat designation for *C. loncholepis.* The settlement stipulated that proposed revisions to the *C. loncholepis* designation would be submitted to the **Federal Register** on or before July 27, 2007. On May 17, 2007, the court approved a modification to the settlement timeframe to require that a proposed rule regarding any revisions to the *C. loncholepis* critical habitat designation would be submitted to the **Federal Register** on or before July 27, 2008, and a final decision regarding any proposed rule would be submitted on or before July 27, 2009. This revised proposed rule complies with the May 17, 2007, court order.

Critical Habitat

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

(1) The specific areas within the geographical area occupied by a 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 a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Act are no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7 of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by the landowner. Where the landowner seeks or requests federal agency funding or authorization that may affect a listed species or critical habitat, the consultation requirements of section 7 would apply, but even in the event of a destruction or adverse modification finding, the landowner's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must contain features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)). Occupied habitat that contains the features essential to the conservation of the species meets the definition of critical habitat only if those features may require special management considerations or protection. Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific and commercial 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 proposed as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include 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, or other unpublished materials and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may eventually determine, based on scientific data not now available to the Service, 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 required for recovery of the species.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions we implement under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. 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 to these planning efforts calls for a different outcome.

Methods

As required by section 4(b) of the Act, we used the best scientific and commercial data available in determining specific areas within the geographical area occupied at the time of listing that contain physical or biological features essential to the conservation of *Cirsium loncholepis* and specific areas outside the geographical area occupied at the time of listing that are essential for the conservation *C. loncholepis.* This includes information from the final listing rule in 2000 and final critical habitat designation in 2004; data from research and survey observations published in peer-reviewed articles; data from research and survey observations included in reports and other manuscripts (i.e., theses, monitoring reports); written and oral communications from species and other physical science experts; reports and survey forms prepared for Federal, State, and local agencies, and private corporations; regional Geographic Information System layers, including soil, species, aerial imagery, and wetlands coverages; information from herbarium specimens at the following institutions: University of California Santa Barbara Herbarium, University of California Berkeley Herbarium, the Jepson Herbarium at the University of California Berkeley, University of Minnesota Saint Paul Herbarium, Rancho Santa Ana Botanic Garden Herbarium, Herbarium of the California Academy of Sciences, California Department of Food and Agriculture Herbarium, Santa Barbara Botanical Garden Herbarium, San Diego Natural History Museum Herbarium, Robert F. Hoover Herbarium at California Polytechnic State University San Luis Obispo, University of California Riverside Herbarium, and University of California Irvine Herbarium; site visits by Service biologists to several population sites of *C. loncholepis* in 2006 and 2007; and data submitted to the CNDDB. We have also reviewed available information that pertains to the ecology, life history, and habitat requirements for this species. This material included information and data in peer-reviewed articles; reports of monitoring and habitat characterizations; reports submitted during section 7 consultations; and information received from local species experts.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied at the time of listing to propose as critical habitat, we consider the physical and biological features that are essential to the conservation of the species to be the primary constituent elements (PCEs) laid out in the appropriate quantity and spatial arrangement for conservation of the species. These include, but are not limited to:

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

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

(3) Cover or shelter;

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

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derive the specific PCEs required for the *Cirsium loncholepis* from its biological needs.

Space for Individual and Population Growth

Cirsium loncholepis generally grows in association with mesic areas on the margins of dune swales, dune lakes, marshes, estuaries, coastal meadows, seeps, springs, intermittent streams, creeks, and rivers (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated; Elvin 2006, unpaginated, 2007a, unpaginated, 2007b, unpaginated). *Cirsium loncholepis* occurs in a series of dynamic systems of dunes and riparian floodplains. *Cirsium loncholepis* can appear and disappear from particular sites appearing to ''move'' from place to place in areas with suitable habitat on a fairly regular basis (this has been observed several times over the past 50 or more years (CNDDB 2007, unpaginated; Chesnut 1998a, unpaginated; Hendrickson 1990, pp. 1–25)). New suitable sites are continuously created throughout the dynamic ecosystems where *C. loncholepis* grows over time (i.e., floods remove vegetation and create new sites; dunes move and suitable sites open up). The conservation of *C. loncholepis* depends not only on maintaining suitable sites for germination and growth as they exist at the present, but it also depends on maintaining the dynamic nature of the habitat (the dune and riparian complexes) where it grows, which will ensure that suitable sites for germination and growth will develop in the future.

Nutritional and Physiological Requirements Including Soils, Communities, and Dispersal

Soils

Soils where *Cirsium loncholepis* are found are somewhat variable, but include a large component of sand. Coastal populations occur on dune sands, Oceano sands, Camarillo sandy loams, riverwash, and sandy alluvial soils at elevations of less than 31 meters (m) (100 feet (ft)) (Hendrickson 1990, pp. 1–25; CNDDB 2001, unpaginated, 2007, unpaginated). Occasionally, individuals have been found on dune slopes or ridges, rather than in the more typical dune swale habitat; more stable dunes have been shown to act as reservoirs of moisture, and these individuals may be tapping into this moisture (Thomas 2001, unpaginated). Plants at an inland population have been found on Camarillo sandy loam at an elevation of 183 m (600 ft) (CNDDB 2001, unpaginated).

Communities

The vegetation communities associated with *Cirsium loncholepis* are rather diverse and include central dune scrub, coastal dune, coastal scrub, freshwater seeps and springs, coastal and valley freshwater marsh and fen, riparian scrub (*e.g.*, mule fat scrub, willow scrub), riparian forest, chaparral, oak woodland, intermittent streams, and other wetland communities (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). *Cirsium loncholepis* is often growing in and amongst a mat of low-growing, herbaceous, wetland plants including *Juncus* spp. (rush), *Scirpus* spp. (tule), *Carex praegracilis* (sedge), *Distichlis spicata* (salt grass), *Cynodon dactylon* (Bermuda grass), *Trifolium wormskioldii* (clover), *Anemopsis californica* (yerba mansa), *Potentilla anserina* (silverweed), and *Lotus corniculatus* (birdfoot trefoil) (Langford 2001, unpaginated; CNDDB 2007, unpaginated; Chesnut 1998b, pp. 1–40; Elvin 2006, unpaginated, 2007a, unpaginated; Reed 1988, pp. 15–51). Other closely associated riparian plants include *Salix* spp. (willow), *Rubus* (blackberry), and *Baccharis douglasii* (Douglas' baccharis) (CNDDB 2007, unpaginated; Chesnut 1998b, pp. 1–40; Elvin 2006, unpaginated, 2007a, unpaginated, 2007b, unpaginated; Reed 1988, pp. 15–51). Upland plants that occur adjacent to or nearby include *Toxicodendron diversilobum* (poison oak), *Baccharis pilularis* (coyote brush), *Solidago californica* (California goldenrod), *Isocoma menziesii* (coast goldenbush), and *Corethrogyne filaginifolia* (California aster)

(Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated; Elvin 2006, unpaginated, 2007a, unpaginated, 2007b, unpaginated). Plants at the most inland site for *Cirsium loncholepis* have been found primarily around gently sloping hillside seeps within a grassland community, at the edge of willows around a seep bordering an oak woodland community (Hendrickson 1990, pp. 1–25, Elvin 2007b, unpaginated). *Cirsium loncholepis* does occasionally occur in non-mesic conditions such as on ridges or dune tops such as in the Guadalupe Dunes (Elvin 2006, unpaginated) or throughout meadows (temporally and spatially) on flat valley bottoms, which are rather dry compared to the mesic seeps in these area (Elvin 2007b, unpaginated).

Dispersal

Genetic material can move both within a population or between different populations. In plants this can be accomplished through the movement of pollen, seeds, plants, or plant parts to other plants or sites within the same population or to another population. For *Cirsium loncholepis,* the main agents for gene flow are pollen and seeds. Pollinators move pollen from one flower to another. Most pollinators move pollen within the same population, but it can be moved to another population if it is close enough and the pollinator is capable of moving the pollen across that distance. *Cirsium loncholepis* seeds are capable of being moved within the same population and to another population by animals, wind, and water.

Pollinators: Cirsium loncholepis is capable of both self-fertilization (pollination events on the same individual) and cross-fertilization (pollination events between two individuals). Other similar, riparian, monocarpic *Cirsium* species self- and cross-pollinate (Hamzo and Jolls 2000, pp. 141–153). *Cirsium loncholepis* flowers produce nectar and copious quantities of pollen and are visited by birds and a wide variety of insects (Keil 2008, unpaginated). *Cirsium loncholepis* and other *Cirsium* taxa with similar heads are pollinated by bees (i.e., solitary, mining, (families Andrenidae and Anthophoridae), mason (*Osmia* sp.), carpenter (*Xylocopa* sp.), and leaf cutter bees (family Megachilidae) and the introduced honeybee (*Apis mellifera*)), butterflies (order Lepidoptera), flies (order Diptera), beetles (order Coleoptera (e.g., darkling ground beetles (family Tenebrionidae))), black ants (family Formicidae), and hummingbirds (family Trochilidae) (Keil 2001, unpaginated, 2008, unpaginated; Moldenke 1976, pp. 305–361; Krombein *et al.* 1979, Vol. 2, pp. 1751–2209; Lea. 2001b, unpaginated). Specialist-feeding bees (solitary bees, which are known to visit *Cirsium* species (Krombein *et al.* 1979, Vol. 2 pp. 1751–2209)) commonly develop co-evolutionary relationships with particular host plants (Moldenke 1976, pp. 305–361). While we do not have comprehensive information on the home ranges and species fidelity of these pollinators, we do have some data. A number of the insects noted above that are known to visit *Cirsium* flowers (i.e., ants, some beetles, butterflies, flies, and many bee taxa) live, nest, and reproduce in upland habitats (e.g., coastal dune scrub, coastal scrub, chaparral, oak woodland, grassland) within the range of *C. loncholepis* (Moldenke 1976, pp. 305–361; Hogue 1993, 446 pp.; Krombein *et al.* 1979, Vol. 2 pp. 1751–2209; Thorp *et al.* 1983, pp. 1–79). Alternative pollen source plants may be necessary for the persistence of these insects when *C. loncholepis* is not in flower seasonally or annually because of poor environmental conditions.

The main dispersal vectors for *Cirsium loncholepis* pollen include ants, beetles, butterflies, flies, bees, and hummingbirds. Some of these visitors (e.g., bumble bees, hummingbirds) can fly large distances and are therefore capable of transferring pollen longer distances, from plants in one population to plants in another population. Studies to quantify the distance that bees will fly to pollinate their host plants are limited in number, but the few that exist show that some bees will routinely fly from 328 to 984 ft (100 to 500 m) to pollinate plants (Thorp and Leong 1995, pp. 3–7; Schulke and Waser 2001, pp. 239–245). In a study of experimental isolation and pollen dispersal of *Delphinium nuttallianum* (Nuttall's larkspur), Schulke and Waser (2001, pp. 239–245) report that adequate pollen loads were dispersed by bumblebees within control populations and in isolated experimental ''populations'' from 328 to 1,312 ft (100 m to 400 m) distant from the control populations. One of the several pollinator taxa effective at 1,312 ft (400 m) was *Bombus* (bumblebee), which has also been documented to visit *Cirsium* (Ascher 2006, unpaginated). Studies by Steffan-Dewenter and Tscharntke (2000, pp. 288–296) demonstrated that it is possible for bees to fly as far as 3,280 ft (1,000 m) to pollinate flowers, and at least one study suggests that bumblebees may forage many kilometers from a colony (Sugden 1985, pp. 299–312). Hummingbirds can fly long distances while foraging for nectar or food or migrating. Using area rather than distance, an Anna's hummingbird (*Calypte anna*), for example, will hold a core territory of about 0.25 ac (0.1 ha) and a ''buffer zone'' of variable size, but usually 10–15 ac (4–6 ha) (Russell 1996, pp. 1–13). Hummingbirds are not restricted to these territories, but may venture greater distances crossing through neighboring territories to feed. Additionally, because extant populations of *C. loncholepis* are located within the Pacific flyway for migratory birds, while migrating, hummingbirds could forage in one population one day, and in another population later that day or the next day, thereafter, until either reaching their breeding or wintering grounds, or traveling beyond the range of *C. loncholepis*.

Seed Dispersal Vectors: According to Craddock and Huenneke (1997, pp. 215–219), *Cirsium* seeds are usually wind-dispersed, but birds and small mammals also disperse *Cirsium* seeds (Burton and Black 1978, pp. 383–390; Bent 1940, pp. 332–352, 1968, pp. 447–466). According to Keil and Turner (1993, pp. 232–239), wind is a likely dispersal vector for *C. loncholepis* seeds based on the architecture of their achenes, which are topped by an umbrella of long awns that are ideal for wind dispersal. The distribution of plants within a population (often an elongated pattern) is consistent with seed dispersal caused by the prevailing coastal winds (Lea 2002, pp. 1–84; Teed 2003, pp. 1–58). Additional dispersal vectors for *C. loncholepis* include small mammals and birds. Several small mammals that feed on seed of *Cirsium* species and move them among their seed caches live in the range of *C. loncholepis*. These include such species as kangaroo rats (*Dipodomys* spp.), pocket gophers (*Thomomys bottae*), California ground squirrels (*Spermophilus beecheyi*), and pocket mice (*Perognathus* spp.) (Blecha *et al.* 2007, pp. 1–354; Burton and Black 1978, pp. 383–390). Some small mammals, such as mice, use *Cirsium* tufts or down (the achene and pappus) as nest material (Root 2008, unpaginated). Various mammals such as mule deer (*Odocoileus hemionus*) and cattle occur in the Callender-Guadalupe Dunes and have been documented grazing on thistle here (Nellis and Ross 1969, pp. 191–195; Theo *et al.* 2000, pp. 73–80; Blecha *et al.* 2007, pp. 1–354; Elvin 2007a, unpaginated). Some bird species, such as American Goldfinch (*Carduelis tristis*) and hummingbirds, some of which live within the range of *C.*

loncholepis, use its tufts (or down) for nest construction (Bent 1940, pp. 332–352, 1968, pp. 447–466; Weydemeyer 1923, pp. 117–118; Blecha *et al.* 2007, pp. 1–354).

Water has been shown to be an important dispersal vector for seeds in another thistle, *C. vinaceum*, which also occurs in spring and streamside habitats (Craddock and Huenneke 1997, pp. 215–219). *Cirsium* seeds disperse via water ''considerable distances along streams'' (Craddock and Huenneke 1997, pp. 215–219). *Cirsium loncholepis* populations have been documented from the upper reaches of drainages and watersheds outlined below to suitable sites near the mouths of the rivers and creeks (within 1,000 ft (300 m)) of the Pacific Ocean (CNDDB 2007, unpaginated; Santa Barbara Botanic Garden Herbarium 2007, unpaginated; University of California Santa Barbara Herbarium 2007, unpaginated).

Sites for Reproduction, Population Growth, and Dispersal

Cirsium loncholepis has been reported from one or more polygons within 25 occurrences that are part of 11 populations distributed throughout 2 dune complexes and 4 drainages. All of these groupings are connected to each other in one or more ways. *Cirsium loncholepis* is closely associated with wetlands and mesic sites on the margins along four drainages that end in the Pacific Ocean (Arroyo Grande Creek, Santa Maria River, San Antonio Creek, and Santa Ynez River) (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated). *Cirsium loncholepis* has not been seen along Arroyo Grande Creek since 1910, so this area is not considered to be essential and will not be discussed further in this rule. The dynamic nature of these drainages is an essential part of the life cycle for *C. loncholepis*. The habitat along these creeks and rivers is constantly changing. It is under a constant state of succession and renewal. A mosaic of habitat occurs along these drainages with new suitable sites being created with every storm or flow event. The flows of water are also an important mechanism to move seeds from currently occupied sites to these newly created suitable sites.

Orcutt Creek runs from the southeast to the northwest parallel with wind direction in the area. The headwaters for Orcutt Creek are southeast of the town of Orcutt on the northwest face of Graciosa Ridge. The stretch of Orcutt Creek near the town of Orcutt is one of the two likely sites where the type specimens were collected (see discussion in Background section). Orcutt Creek flows to the northwest and enters into the Santa Maria River near the Pacific Ocean. *Cirsium loncholepis* seeds that are deposited in the waters of Orcutt Creek would flow downstream from Orcutt toward the Santa Maria River. This stretch of the Santa Maria River has historically contained the largest population of *C. loncholepis*. Most of the records for *C. loncholepis* are from within the historical boundaries of the Santa Maria River floodplain.

Graciosa Ridge is the dividing line between the headwaters of Orcutt Creek (in the Santa Maria River watershed) and Cañada de las Flores (in the San Antonio Creek watershed). Because the prevailing winds in this area are from the northwest, *Cirsium loncholepis* seed in the Orcutt area would likely be blown over Graciosa Ridge toward Cañada de las Flores, which is southeast of the headwaters of Orcutt Creek. Cañada de las Flores, which flows south, is the headwaters for one of the tributaries of San Antonio Creek which flows to the Pacific Ocean. The estuary system (lagoon) at the mouth of San Antonio Creek was described by Fray Juan Crespi as La Graciosa in 1769 (Smith 1976, p. 282, 1998, pp. 153–154) and is the other of the two most likely sites where the type specimen of *C. loncholepis* was collected (see discussion in **Background** section).

The Santa Ynez River flows from east to west where it empties into the Pacific Ocean. The prevailing, strong winds in this area, from the west, would move *Cirsium loncholepis* seeds eastward, which is further upriver. Any resulting seed from upriver *C. loncholepis* populations that are deposited in the waters of the Santa Ynez River would then flow downstream toward the estuary system at the mouth of the river. Seed from any occurrence in the Santa Ynez River population would likely be dispersing to other occurrences in the Santa Ynez River (e.g., seed from upriver plants dispersing to the estuary plants via water and seed from estuary plants dispersing to the upriver plants via wind).

Habitats That Are Representative of the Historical, Geographical, and Ecological Distributions of Cirsium loncholepis

Cirsium loncholepis has throughout time had a limited distribution in southwestern San Luis Obispo County and northwestern Santa Barbara County, California, within a unique geomorphic area known as the Santa Maria Basin (Hunt 1993, pp. 5–72). See Figure 2 for a map containing the locations of place and feature names in this region. The Santa Maria Basin stretches along a 39-mi (63-km) section of the coastal region of central California that is dominated by a system of dune complexes that are interspersed with several major drainages. The Santa Maria Basin is comprised of the Santa Maria Valley, in the north, and the Santa Ynez Valley, in the south. The Santa Maria Valley is located between the hills northeast of Pismo and the Casmalia and Solomon Hills that end at Point Sal in the west. The Santa Ynez Valley is located between the Casmalia and Solomon Hills and the Santa Ynez Mountains (on the south side of the Santa Ynez River). The Santa Maria Basin is dominated by moderate to strong winds from the northwest (categorized as greater than 7.47 miles per hour (mph) (12.02 kilometers per hour (kph))) most of the time and throughout the year (USDA NRCS 2008, unpaginated; National Oceanic and Atmospheric Administration Western Regional Climate Center (NOAA) 2007, unpaginated; Hendrickson 1990, pp. 1–25). These prevailing northwest winds are a major factor in shaping the terrain and creating the dunes such that the active dune and swale systems are aligned with these winds (Hunt 1993, pp. 5–72). Deflation areas (the swales between two parallel dunes and behind the foredunes) are often at or near the water table, creating the wetlands and back-dune lakes (Hunt 1993, pp. 5–72). This terrain, the parallel ridges and swales, and the physical features that created and maintain it are essential for the conservation of *C. loncholepis*.

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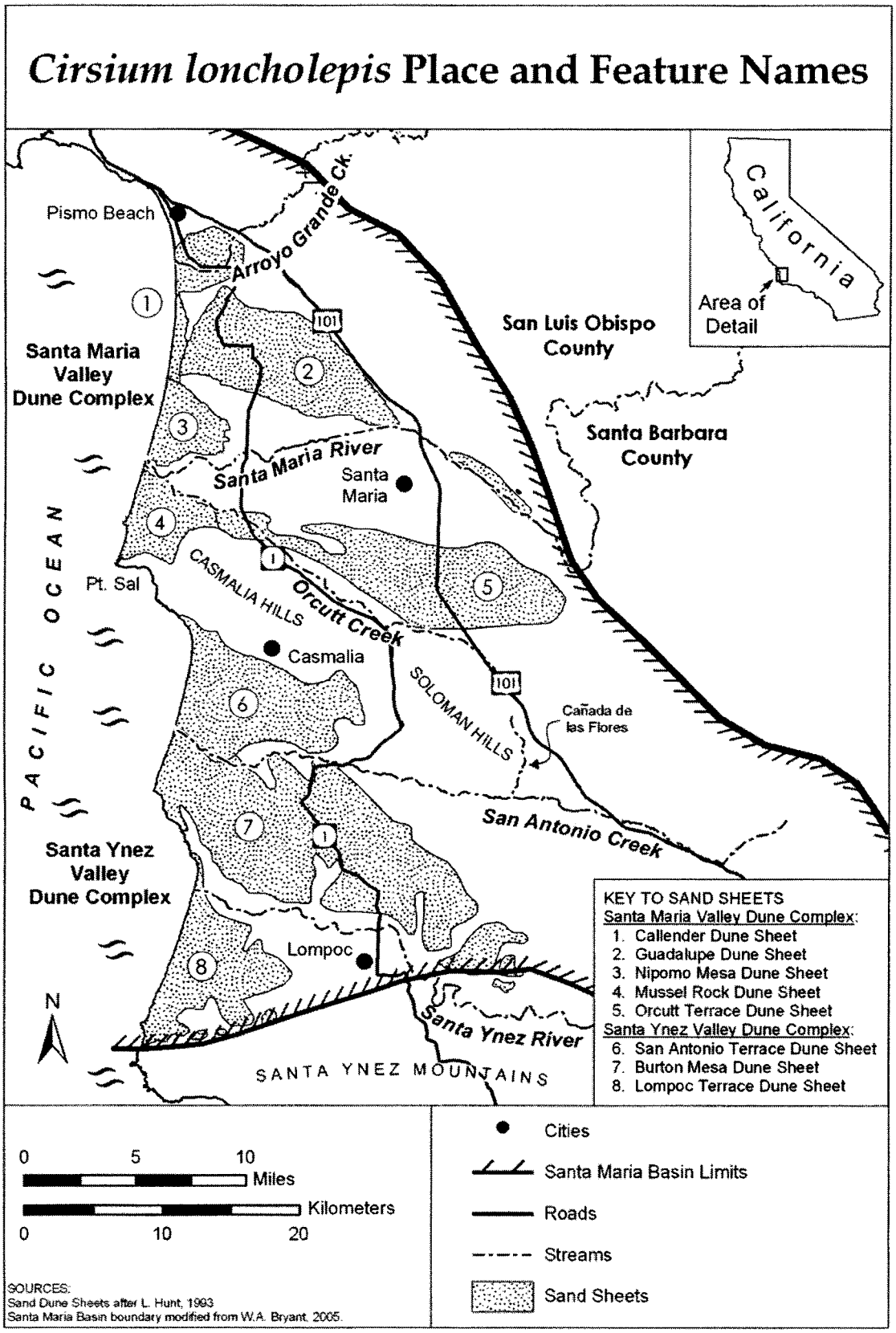

Cirsium loncholepis Place and Feature Names
Pismo Beach
Arroyo Grande Ck.
San Luis Obispo County
Santa Barbara County
California
Area of Detail
Santa Maria Valley Dune Complex
Santa Maria River
Santa Maria
Pt. Sal
PACIFIC OCEAN
CASMALIA HILLS
Orcutt Creek
Casmalia
SOLOMAN HILLS
Cañada de las Flores
San Antonio Creek
Santa Ynez Valley Dune Complex
Lompoc
Santa Ynez River
SANTA YNEZ MOUNTAINS
N
KEY TO SAND SHEETS
Santa Maria Valley Dune Complex:
1. Callender Dune Sheet
2. Guadalupe Dune Sheet
3. Nipomo Mesa Dune Sheet
4. Mussel Rock Dune Sheet
5. Orcutt Terrace Dune Sheet
Santa Ynez Valley Dune Complex:
6. San Antonio Terrace Dune Sheet
7. Burton Mesa Dune Sheet
8. Lompoc Terrace Dune Sheet
0 5 10
Miles
Kilometers
0 10 20
SOURCES:
Sand Dune Sheets after L. Hunt, 1993
Santa Maria Basin boundary modified from W.A. Bryant, 2005.
Cities
Santa Maria Basin Limits
Roads
Streams
Sand Sheets

Santa Maria Valley

The Santa Maria Valley contains one major dune complex (the Santa Maria Valley Dune Complex) and three major riparian systems (or drainages): Arroyo Grande Creek, the Santa Maria River, and Orcutt Creek. The Santa Maria Valley Dune Complex contains five Dune Sheets (or associated sand depositional episodes): Callender, Nipomo Mesa, Guadalupe, Mussel Rock, and Orcutt Terrace. Individual dune sheets represent sequential and spatially overlapped depositional episodes within contiguous areas of any particular dune complex. Arroyo Grande Creek and its floodplain are at the northern edge of the Callender Dune Sheet (specifically) and the Santa Maria Valley Dune Complex (in general) (Hunt 1993, pp. 5–72). The junction of Arroyo Grande Creek and the Callender Dune Sheet also marks the northern limit for *Cirsium loncholepis*, which occurred here in the low ''grassy'' areas among the sand hills at the junction of the dunes and Arroyo Grande Creek (University of California [Berkeley] Herbarium 2007, unpaginated). The Callender Dune Sheet reaches Oso Flaco Creek and Oso Flaco Lake at its southern extent. *Cirsium loncholepis* has occurred at numerous sites throughout the Callender Dunes (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). The Guadalupe Dune Sheet extends from Oso Flaco Lake to the Santa Maria River. *Cirsium loncholepis* has occurred at numerous sites throughout the Guadalupe Dunes (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). The Santa Maria Valley is a broad floodplain that is bounded by Orcutt Creek along its southern edge and by the Callender Dune Sheet and the Nipomo Dune Sheet (including Nipomo Mesa) along its northern edge. Between the city of Santa Maria and the coast 12 mi (19 km) to the west, the valley floor has historically been dotted with small settlements and a few oil fields, but the vast majority of the land has been converted to agriculture. A member of the Gaspar de Portola expedition to Monterey in 1769 noted that the expedition had difficulty getting through the Santa Maria Valley because of all the marshes (Companys 1983, pp. 105–344). As has been typical along the central coast of California, however, many of the valley's wetlands have been drained or filled to maximize agricultural production; old maps show lakes such as Lake Guadalupe that no longer exist. *Cirsium loncholepis* has occurred at numerous mesic sites throughout the Santa Maria River floodplain and the Guadalupe Dunes (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). Orcutt Creek and the Santa Maria River mark the northern edge of the Mussel Rock Dune Sheet, which has had multiple *C. loncholepis* occurrences (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated). *Cirsium loncholepis* most likely had a more widespread distribution within this area, but may have been eliminated from most of the locations in this area by the vast conversion of this area to agriculture before it could be documented. However, even with such conversion, current aerial photos and topographic maps show the persistence of numerous, small marshes, wetlands, and drainages in this area; some of these may still harbor small populations of *C. loncholepis.*

Santa Ynez Valley

The Santa Ynez Valley contains one major dune complex (the Santa Ynez Valley Dune Complex) and two major riparian systems (or drainages): San Antonio Creek and the Santa Ynez River. The Santa Ynez Valley Dune Complex contains three Dune Sheets: San Antonio, Burton Mesa, and Lompoc Terrace. The San Antonio Terrace Dune Sheet is at the northern edge of the Santa Ynez Valley Dune Complex. It supports numerous dune wetlands and swales and is very similar in habitat, physical, and geological features to the Callender and Guadalupe Dune Sheets (Hunt 1993, pp. 5–72; Google Earth 2008, unpaginated). San Antonio Creek is downwind on the southern edge of the San Antonio Terrace Dune Sheet. The mouth of San Antonio Creek is one of the two most likely sites for the type locality (La Graciosa) for *Cirsium loncholepis* (Keil and Holland 1998, pp. 83–84; Oyler *et al.* 1995, pp. 1–76; Hendrickson 1990, pp. 1–25; Smith 1976, p. 282, 1998, pp. 153–154) and still harbors numerous small marshes and wetlands that are apparent in aerial imagery (Google Earth 2008, unpaginated). Historical collections indicate that *C. loncholepis* used to occur along the Santa Ynez River, somewhere between the towns of Surf and Lompoc, at the current edge of Vandenberg Air Force Base (University of Minnesota Saint Paul Herbarium 2007, unpaginated; Rancho Santa Ana Botanic Garden Herbarium 2007, unpaginated; Santa Barbara Botanical Garden Herbarium 2007, unpaginated; University of California Riverside Herbarium 2007, unpaginated). Collections of the plant were made here in 1958; however, by 1988 when surveys were conducted to relocate this population, none could be found (Hendrickson 1990, pp. 1–25). Over the years, some, but not all, habitat for *C. loncholepis* in the floodplain for the river has been altered. According to Smith's notes, agricultural fields have been plowed to the banks of the drainage, willows have been bulldozed, and herbicides were sprayed to eradicate *C. vulgare* (bull thistle) (Smith 1976, p. 282, 1998, pp. 153–154). Because this area historically supported the southernmost, documented *C. loncholepis* populations and because some habitat still remains today, it is considered to be an important area for the conservation of *C. loncholepis* (Morey 1990, pp. 1–13; U.S. Fish and Wildlife Service 2008, unpaginated).

Historically, *Cirsium loncholepis* has been reported or documented from a total of 25 occurrences as parts of 11 populations ranging from the dunes near Pismo Beach inland to hillside seeps at Cañada de las Flores south to the floodplains of the Santa Ynez River (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated). At the time of the listing in 2000, there were 17 known occurrences of which 11 were extant. These 11 extant occurrences were distributed among 7 populations (65 FR 14888, March 20, 2000; CNDDB 1998, unpaginated). Since the time of listing in 2000, *C. loncholepis* has experienced considerable declines throughout its range in the number of both occurrences and populations and in the number of individuals within each of the remaining occurrences and populations. Currently, *C. loncholepis* is considered to be extant at seven occurrences that are distributed among four populations. The seven extant occurrences consist of five occurrences that were identified in the final listing rule in 2000 as well as two new occurrences that have been identified since that time (CNDDB 2007, unpaginated; Elvin 2006, unpaginated, 2007a, unpaginated). *Cirsium loncholepis* does not currently occur at the following populations: Oceano, northern Callender Dune Sheet Lakes, Guadalupe, La Graciosa, Cañada de las Flores, San Antonio Terrace Dune Sheet, and Santa Ynez River. Since the time of listing, the loss of known polygons, occurrences, and populations has outpaced the discovery of new polygons, occurrences, and populations.

In habitats that are fragmented and/or isolated, the trend for native plant species is one of decline (Soule *et al.* 1992, pp. 39–47). This supports the equilibrium theory of island biogeography (MacArthur and Wilson, 1963, pp. 373–387, 1967) that predicts that species with populations that are isolated and have more extirpation events than re-colonization events will

decline to zero (extinction). Recent research on species that are long-distance dispersers (such as *Cirsium loncholepis*) determined that when the distances between suitable habitat sites for a species become greater than its dispersal distance (such as due to habitat fragmentation); its long-term survival will be threatened unless the long-distance dispersal between the sites can be re-established (Trakhtenbrot *et al.* 2005, pp. 173–181). The study by Trakhtenbrot *et al.* (2005, pp. 173–181) regarding long-distance dispersal species supports the study by Soule *et al.* (1992, pp. 39–47) and the equilibrium theory of island biogeography (MacArthur and Wilson 1963, pp. 373–387, 1967). Based on these studies and our current understanding of this species and its decline, we believe that conserving solely the areas with the remaining known occurrences and populations of *C. loncholepis* is not sufficient to conserve or recover the species. The additional habitat that would provide connectivity between occurrences and populations is essential for the conservation and recovery of *C. loncholepis.* This is supported by Damschen *et al.* (2006, pp. 1284–1286), who showed that habitat patches that were connected by corridors benefitted wildlife and plants.

Primary Constituent Elements for Cirsium loncholepis

For areas within the geographical area occupied by *Cirsium loncholepis* at the time of listing, we must identify the PCEs that may require special management considerations or protection. Based on the above needs and our current knowledge of the life history, biology, and ecology of the species, we have determined the PCEs for *C. loncholepis* are:

1. Mesic areas associated with: (a) Margins of dune swales, dune lakes, marshes, and estuaries that are associated with dynamic (changing) dune systems including the Santa Maria Valley Dune Complex and Santa Ynez Valley Dune Complex; (b) margins of dynamic riparian systems including the Santa Maria and Santa Ynez Rivers and Orcutt and San Antonio Creeks; and (c) freshwater seeps and intermittent streams found in other habitats, including grassland, meadow, coastal scrub, chaparral, and oak woodland. These areas provide space needed for individual and population growth including sites for germination, reproduction, seed dispersal, seed bank, and pollination.

2. Associated plant communities including: Central dune scrub, coastal dune, coastal scrub, freshwater seep, coastal and valley freshwater marsh and fen, riparian scrub (e.g., mule fat scrub, willow scrub), chaparral, oak woodland, intermittent streams, and other wetland communities, generally in association with the following species: *Juncus* spp. (rush), *Scirpus* spp. (tule), *Salix* spp. (willow), *Toxicodendron diversilobum* (poison oak), *Distichlis spicata* (salt grass), *Baccharis pilularis* (coyote brush), and *B. douglasii* (Douglas' baccharis).

3. Soils with a sandy component including but not limited to dune sands, Oceano sands, Camarillo sandy loams, riverwash, and sandy alluvial soils.

4. Features that allow dispersal and connectivity between populations, particularly: (a) Natural riparian drainages in Santa Maria River, Orcutt Creek, San Antonio Creek, and Santa Ynez River that are not channelized or confined by barriers or dams, such that they have soft bottoms and sides and a natural flood plain (allowing uninterrupted water flows); and (b) natural aeolian geomorphology in the Santa Maria Dune Complex and Santa Ynez Dune Complex, and along the Santa Maria River, Orcutt Creek, San Antonio Creek, and Santa Ynez River drainages that is not confined by barriers or wind-blocks such as large man-made structures, tree rows, or wind-breaks (allowing uninterrupted winds across these areas).

We believe that *C. loncholepis* could be conserved and recovered if populations in habitat with essential features remain connected throughout the two dune complexes and four major watersheds where it once was known to occur. With this proposed revision of critical habitat, we intend to identify the physical and biological features that are essential to the conservation of the species, through the identification of the appropriate quantity and spatial arrangement of the PCEs sufficient to support the life history functions of the species. Each of the areas proposed in this rule have been determined to contain at least one PCE to provide for the life history functions of *C. loncholepis.* Units are proposed for designation based on one or more PCEs being present to support one or more of the species' life history functions.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the occupied areas contain the physical or biological features essential to the conservation of the species, and whether these features may require special management considerations or protection. It is recognized that numerous activities in and adjacent to the unit designated as critical habitat, as described in this proposed rule, may affect one or more of the PCEs found in that unit. These activities include, but are not limited to, those listed in the Application of the ''Adverse Modification'' Standard section as activities that may destroy or adversely modify critical habitat. We summarize here the primary threats to the physical and biological features essential to the conservation of the species.

Many of the known occurrences of *Cirsium loncholepis* are threatened by direct and indirect effects from energy-related operations (*i.e.*, maintenance activities, hazardous waste cleanup); development that results in additional habitat modification (*i.e.*, agricultural and urban development); facility accidents by oil companies or Vandenberg Air Force Base; groundwater extraction in the Guadalupe Dunes and vicinity; hydrological alterations; direct and indirect effects from off highway vehicle (OHV) activity; and small population size; and habitat fragmentation and loss through the invasion of aggressive nonnative weeds such as *Ammophila arenaria* (European beach grass), *Carpobrotus* spp. (iceplant), *Ehrharta calycina* (veldt grass), and *Mesembryanthemum crystallinum* (crystalline iceplant) (Davis *et al.* 1988, pp. 169–195; Zedler and Schied 1988, pp. 196–201; Morey 1989, pp. 1–16; Odion *et al.* 1992, pp. 1–2; CNDDB 1998, unpaginated, 2008, unpaginated; Chesnut 1998a, unpaginated, 1998b, pp. 1–40; Smith 1976, p. 282; Smith 1998, pp. 153–154; Hendrickson 1990, pp. 1–25; CDFG 1992, pp. 111–112; Keil 2006b, unpaginated). These threats may require special management to ensure the long-term conservation of *C. loncholepis.* Threats specific to individual units are described in the unit descriptions below.

Criteria Used To Identify Critical Habitat

We analyzed the biology, life history, ecology, and distribution (historical, at the time of listing, and current) of *Cirsium loncholepis.* Based on this information, we are proposing to designate critical habitat in areas within the geographical area occupied by *C. loncholepis* at the time of listing in 2000. We also propose some specific areas outside the geographical area occupied by *C. loncholepis* at the time of listing, which although are currently unoccupied, are within the historical range of the species, and because we have determined that such areas are

essential for the conservation of *C. loncholepis.*

To delineate proposed revised critical habitat, we first determined occupancy within the extant range of *Cirsium loncholepis.* Occupancy status was determined using occurrence data from research and survey observations included in reports and other manuscripts (i.e., theses, monitoring reports); data from research and survey observations published in peer-reviewed articles; data submitted to the CNDDB; reports and survey forms prepared for Federal, State, and local agencies, and private corporations; written and oral communications from species and physical science experts; information from herbarium specimens; scientific information in our draft recovery outline for *C. loncholepis* (U.S. Fish and Wildlife Service 2008, unpaginated); and visits by Service biologists to *C. loncholepis* populations. Areas or sites containing data indicating occupancy from 1988 or later (within approximately the past 20 years) were considered currently occupied. We then determined which areas were occupied at the time of listing by comparing survey and collection information to descriptions of occupied areas in the final listing rule published in the **Federal Register** on March 20, 2000 (65 FR 14888).

Based on these studies, our current understanding of the status of *Cirsium loncholepis* since the time of listing is that it continues to decrease in the number of populations, in the number of occurrences within populations, and in the number of individuals within the remaining occurrences and populations. Therefore, we determined that the areas in which the extant populations are distributed are alone not sufficient to conserve or recover it. Based on its decline, its biology, and new scientific information on the biological conditions necessary for long-distance dispersal species (such as *C. loncholepis*), we have determined that habitat providing connectivity between the areas containing the extant populations is also essential for its conservation and recovery.

Once we determined the extant range of the species, we analyzed areas outside the geographical area occupied by *Cirsium loncholepis* at the time of listing, but within the historical range of the species, for areas that are essential. We first looked for large, continuous blocks of suitable habitat, such as the numerous mesic areas and seeps in and surrounding the lower reaches of the Santa Ynez River. We then looked for important corridors of suitable habitat that connect the large, continuous areas based on their abilities to disperse seed or pollen, such as the area along Orcutt Creek between the Guadalupe Dunes and Cañada de las Flores. We then analyzed the presence and characteristics of other features that are important to maintain the metapopulation dynamics for *C. loncholepis* in these areas (e.g., winds and their relationship to the formation of geographic features, movement patterns for various dispersal agents, watersheds, geology). Using all the information above, we were able to discern areas that are potentially important for the recovery of *C. loncholepis.* From this, we then selected the extent of those areas that we consider to be essential to the conservation and recovery of the species. All of the areas that we are proposing to designate as critical habitat that are currently not known to be occupied by the species are essential for its conservation.

To map the proposed revised critical habitat units (both those occupied at the time of listing and those outside the geographical area occupied by the species at the time of listing), we overlaid *Cirsium loncholepis* occurrences (current and historical) on soil series, vegetation types, and watershed/wetland data to determine appropriate polygons that would contain one or more PCEs in the quantity and spatial arrangement necessary to provide the features essential to the conservation of *C. loncholepis.* This taxon is closely associated with dynamic ecosystems such as dune and riparian watershed systems and with the presence of sandy soil types and mesic conditions, but it also occurs in adjacent upland habitats and areas. Units were delineated by first mapping the occurrences (current and historical) and continuous and intervening suitable habitat, then considering other geographical features such as developed, urban, and agriculture (e.g., row crops) areas that are continuously maintained or utilized and removing areas with these features that did not contain the appropriate quantity and spatial arrangement of the PCEs essential to the conservation of the species.

When determining the proposed revisions to critical habitat boundaries within this proposed rule, we made every effort to avoid including developed areas, such as buildings, paved areas, and other structures, as well as tilled fields and row crops that lack the PCEs for *Cirsium loncholepis.* The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such areas inadvertently left inside critical habitat boundaries shown on the maps of this proposed revision to critical habitat have been excluded by text in the proposed revision and are not proposed for designation as critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action may affect adjacent critical habitat.

Using the above criteria, we identified six units that contain the necessary features essential to the conservation of *Cirsium loncholepis.* These six units are located near the Pacific Coast in southwestern San Luis Obispo and northwestern Santa Barbara Counties. The northern-most unit consists of the dune system from Pismo Beach to the Santa Maria River in San Luis Obispo County. The second unit consists of the lower reaches of the Santa Maria River in San Luis Obispo and Santa Barbara Counties and of Orcutt Creek in Santa Barbara County. The remaining units are all within Santa Barbara County: one at Cañada de las Flores, one along the lower reaches of San Antonio Creek, one that encompasses the San Antonio Dunes, and one along the lower reaches of the Santa Ynez River.

We are proposing to revise the critical habitat designation on lands that meet the first prong of the definition of critical habitat and, therefore, were determined to be occupied at the time of listing and contain the physical and biological features essential for the conservation of the species. We are also proposing to revise the critical habitat designation to include lands that meet the second prong of the definition of critical habitat and, therefore, consist of specific areas outside the geographical area occupied by the species at the time it is listed that are essential for the conservation of the species. The proposed revision to critical habitat is designed to provide sufficient habitat to maintain self-sustaining populations of *Cirsium loncholepis* throughout its range and provide the necessary features that are essential for the conservation of the species. The essential features include: (1) Space for individual and population growth, including sites for germination, pollination, reproduction, pollen and seed dispersal; (2) areas that allow gene flow and provide connectivity between occupied areas; and (3) areas that provide basic requirements for growth, such as appropriate soil type and openings within vegetation cover. All proposed revised critical habitat units were

delineated based on the appropriate quantity and spatial arrangement of PCEs being present to support *C. loncholepis* life processes essential to the conservation of the species.

Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed animal species incidental to otherwise lawful activities. An incidental take permit application must be supported by a habitat conservation plan (HCP) that identifies conservation measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the requested incidental take. We often exclude non-Federal public lands and private lands that are covered by an existing operative HCP and incidental take permit under section 10(a)(1)(B) of the Act from designated critical habitat because the benefits of exclusion outweigh the benefits of inclusion as discussed in section 4(b)(2) of the Act. We are currently unaware of any areas within this critical habitat proposal that fall into this category.

Summary of Changes From Previously Designated Critical Habitat

The areas identified in this proposed rule constitute a proposed revision from the areas we designated as critical habitat for *Cirsium loncholepis* on March 17, 2004 (69 FR 12553). The main differences include the following:

1. The 2004 critical habitat rule consisted of two units comprising a total of 41,090 acres (16,629 ha). This proposed revision includes six units comprising a total of 38,447 ac (15,559 ha). Units 4, 5, and 6 are considered to be unoccupied currently and at the time of listing. In the 2004 final designation, Unit 2 Cañada de las Flores (Unit 3 in the current revised proposed designation) was considered to be occupied at the time of listing and occupied in the final designation of critical habitat in 2004. For this revised proposed designation, we are considering it to currently be unoccupied All six units are within the historical range of the species. The decrease in acreage is due primarily to the removal of large areas of agriculture fields under private ownership that do not contain the appropriate spatial arrangement, quantity, or quality of the features essential to the conservation of the species.

2. We revised the PCEs. The 2004 critical habitat rule listed three PCEs that we determined were important to maintaining populations of *Cirsium loncholepis* where they occur (soils, plant communities, low cover of non-native species, and physical processes that support natural dune dynamics). In our proposed revision of critical habitat, we list five PCEs in an effort to emphasize areas that are important for the long-distance dispersal of this species and for its metapopulation dynamics.

3. We included three areas in this proposal that were not included in the final designation. These areas include San Antonio Creek, San Antonio Terrace Dunes, and Santa Ynez River. They are outside of the geographical area occupied by the species at the time of listing, but are within the historical range of the species (See Figure 1 and Index Map), and are essential to the conservation and recovery of the species because the current areas where extant populations of *Cirsium loncholepis* are distributed are not sufficient to conserve or recover it. The resulting proposed critical habitat is more accurately mapped to include those areas that contain the PCEs and that are essential for the conservation and recovery of *C. loncholepis.*

Proposed Revisions to the Critical Habitat Designation

We are proposing six critical habitat units for *Cirsium loncholepis.* These units, if finalized, would entirely replace the current critical habitat designation for *C. loncholepis* in 50 CFR 17.95(a). The critical habitat units described below constitute our best assessment at this time of: (1) Specific areas within the geographical area determined to be occupied by *C. loncholepis* at the time of listing that contain the physical and biological features that may require special management, and (2) additional specific areas outside the geographical area occupied by *C. loncholepis* at the time of listing that are essential for its conservation. The six proposed critical habitat units are: Callender-Guadalupe Dunes Unit 1, Santa Maria River-Orcutt Creek Unit 2, Cañada de las Flores Unit 3, San Antonio Creek Unit 4, San Antonio Terrace Dunes Unit 5, and Santa Ynez River Unit 6.

The approximate area encompassed within each proposed critical habitat unit is shown in Table 1.

TABLE 1—CRITICAL HABITAT UNITS PROPOSED FOR CIRSIUM LONCHOLEPIS.

[Area estimates reflect all land within critical habitat unit boundaries] [1]

Unit name	State lands		Private lands		County and other local jurisdictions		Federal lands		Estimate of total acreages	
	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares	Acres	Hectares
1. Callender-Guadalupe Dunes	2,414	977	5,138	2,079	349	141	2,428	983	10,329	4,180
2. Santa Maria River-Orcutt Creek	329	133	12,433	5,032	465	188	0	0	13,227	5,353
3. Cañada de las Flores	0	0	740	299	0	0	0	0	740	299
4. San Antonio Creek	0	0	186	75	0	0	4,149	1,679	4,335	1,754
5. San Antonio Terrace Dunes	0	0	52	21	0	0	7,282	2,947	7,334	2,968
6. Santa Ynez River	0	0	43	18	38	15	2,401	972	2,482	1,005
Approximate Total	2,743	1,110	18,592	7,524	852	344	16,260	6,581	38,447	15,559

[1] Approximate acres have been converted to hectares (1 ha = 2.47 ac). Totals are sums of units.

TABLE 2—OCCUPANCY OF CRITICAL HABITAT UNITS PROPOSED FOR CIRSIUM LONCHOLEPIS

Unit Name	Within areas occupied at the time of listing?	Occupied at the time critical habitat designated?	Known to be occupied currently?
1. Callender-Guadalupe Dunes	Yes	Yes	Yes
2. Santa Maria River-Orcutt Creek	Yes	Yes	Yes
3. Cañada de las Flores	Yes	Yes	No [1]
4. San Antonio Creek	No	No	No
5. San Antonio Terrace Dunes	No	No	No
6. Santa Ynez River	No	No	No

[1] We are not considering this unit to be occupied, but the population may still be extant. Plants have not been seen since 1989, but sufficient surveys have not been conducted since 1990.

We present descriptions of all units, and reasons why they meet the definition of critical habitat for *Cirsium loncholepis* below.

Unit 1: Callender-Guadalupe Dunes (10,329 ac (4,180 ha))

Unit 1 is located in the southwestern corner of San Luis Obispo County, California. It stretches along 8.5 mi (13.5 km) of coast from Arroyo Grande Creek south to the Santa Maria River. This unit is south of Pismo Beach, west of Nipomo and north of Guadalupe. Unit 1 was occupied at the time of listing, is currently occupied, and contains the physical and biological features essential to the conservation of the species (CNDDB 2007, unpaginated; Elvin 2006, unpaginated, 2007b, unpaginated; 65 FR 14888, March 20, 2000). Unit 1 is essential because it contains three of the four remaining *C. loncholepis* populations, the populations represent the northern-most occurrences of the species, and it includes the largest block of native habitat still occupied by *C. loncholepis*. While maintaining all of these three remaining populations (six occurrences) and the 10,329 ac (4,180 ha) of habitat in this unit is essential for this species to survive, it does not appear to be sufficient to maintain this species for the long term because four occurrences (of eight known at the time of listing) within the three populations in this unit have been lost since the listing of this plant in 2000.

Unit 1 is comprised of 2,428 ac (983 ha) of Federal lands; 2,414 ac (977 ha) of State lands; 349 ac (141 ha) of County and other local jurisdiction land; and 5,138 ac (2,079 ha) of private land (162 ac (65 ha) of which belongs to non-governmental organizations (NGOs)). Unit 1 includes a portion of the Guadalupe-Nipomo Dunes National Wildlife Refuge, Pismo Dunes State Preserve, Oceano Dunes State Vehicular Recreation Area, and privately owned lands. Unit 1 is located within the Santa Maria Valley Dune Complex (Hunt 1993, pp. 5–72). This dune complex contains numerous mesic areas on the margins of dune swales, dune lakes, marshes, and estuaries within the dynamic (changing) Callender and Guadalupe Dune Sheets (PCE 1). Unit 1 is dominated by moderate to strong winds from the northwest most of the time throughout the year. These winds are a major factor in creating the dunes and shaping the terrain, such as the parallel ridges and swales that are essential for the conservation of *Cirsium loncholepis* (PCE 4).

The geomorphological processes that shaped/developed the terrain features in the Santa Maria Valley Dune Complex are intact and continue to rejuvenate and maintain the dynamic dune and riparian features and processes of the constantly shifting mosaic of terrain, vegetation, and wetlands (PCE 4). The vegetation in the dunes includes central dune scrub, coastal dune, coastal scrub, coastal freshwater marsh and fen, riparian scrub, chaparral, and oak woodland (PCE 2) (Cooper 1967, pp. 75–90; Hunt 1993, pp. 5–72; CNDDB 2007, unpaginated; CNPS 2008, unpaginated; Holland 1986, pp. 1–156). The soils throughout the dunes are dominated by sand (PCE 3). The dunes support a wide diversity of flora and fauna including numerous insects, many of which are pollinators for *Cirsium loncholepis,* and hummingbirds (Keil 2008, unpaginated; Martin *et al.* 1951, pp. 92–277; Krombein *et al.* 1979, Vol. 2 pp. 1751–2209; Blecha *et al.* 2007, pp. 1–354). The dunes also support numerous small mammal and bird species (Blecha *et al.* 2007, pp. 1–354) that act as dispersal vectors for *C. loncholepis* seed (PCE 4). This unit contains large tracts of undeveloped land including dunes, wetlands, and upland areas occupied by the species and its pollinators (PCEs 1, 2, 3, and 4). The dynamic geomorphological processes, mosaic of habitats, and diversity of flora and fauna provide for and enhance the dispersal of genetic material of *C. loncholepis* between and among the various populations (and occurrences) within this dune complex and provide adjacent uplands for pollinators (PCEs 1, 3, and 4).

The prevailing, strong wind patterns blow southeast across the lower Santa Maria River Valley, up Orcutt Creek, past the town of Orcutt, and beyond Graciosa Ridge to Cañada de las Flores. These winds are an essential dispersal vector that help move plants/seeds from the *Cirsium loncholepis* populations in the Callender and Guadalupe Dunes to populations in the Santa Maria River, Orcutt Creek, and Cañada de las Flores and are essential in maintaining connectivity between populations in the Santa Maria River Valley and those in the San Antonio Creek and Santa Ynez River Valleys.

The essential features found in Unit 1 may require special management considerations or protection in Unit 1 resulting from: (1) Direct and indirect effects from energy-related operations (*i.e.*, maintenance activities, hazardous waste cleanup, facility accidents); (2) ground water extraction which lowers the water table and dries the wetlands; (3) stochastic (i.e., random) extirpation/extinction events that occur because the population size is small or isolated; (4) trampling and grazing from trespass of cattle; (5) competition from invasive, aggressive, nonnative weeds (e.g., *Ammophila arenaria, Carpobrotus* spp., *Ehrharta calycina, Mesembryanthemum crystallinum*); and (6) direct and indirect effects from OHV activity (Davis *et al.* 1988, pp. 169–195; Zedler and Schied 1988, pp. 196–201; Morey 1989, pp. 1–16; Odion *et al.* 1992, pp. 1–2; CNDDB 1998, unpaginated, 2008, unpaginated; Chesnut 1998a, unpaginated, 1998b, pp. 1–40; Smith 1976, p. 282, 1998, pp. 153–154; Hendrickson 1990, pp. 1–25; CDFG 1992 pp. 111–112; Elvin 2006, unpaginated; Keil 2006b, unpaginated).

Unit 2: Santa Maria River-Orcutt Creek (13,227 ac (5,353 ha))

Unit 2 is located along the lower 5 mi (8 km) of the Santa Maria River and along the length of Orcutt Creek (approximately 13 mi (21 km)) in San Luis Obispo and Santa Barbara Counties, California. Unit 2 was occupied at the time of listing, is currently occupied, and contains the physical and biological features essential to the conservation of the species (CNDDB 2007; 65 FR 14888, March 20, 2000). Unit 2 is essential because it contains the last *Cirsium loncholepis* population in riparian habitat. Unit 2 also contains what has historically been recognized as the largest *C. loncholepis* population with an estimated 54,000 individuals being reported in 1990 (CNDDB 2007, unpaginated; Hendrickson 1990, pp. 1–25). However, only about 25 plants were observed in the lower 0.9 mi (1.5 km) stretch of the Santa Maria River when visited in November 2006 (Elvin 2006, unpaginated). This unit contains large blocks of intact riparian habitat along the Santa Maria River and the southwest side of Orcutt Creek. Unit 2 is also essential as a dispersal corridor between the Santa Maria Valley and the Santa Ynez Valley.

Unit 2 is comprised of 329 ac (133 ha) of State land; 465 ac (188 ha) of County and other local jurisdiction land; and 12,433 ac (5,032 ha) of private lands. Unit 2 includes Rancho Guadalupe Dunes Park in Santa Barbara County. Unit 2 is located within the broad Santa Maria Valley, in the floodplains of the lower Santa Maria River and Orcutt Creek. Unit 2 is also within the Santa Maria Valley Dune Complex (Hunt 1993, pp. 5–72). It skirts the edges of the Guadalupe Dune Sheet to the north of the Santa Maria River, the Mussel Rock Dune Sheet to the southeast of Orcutt Creek and the Santa Maria River, and the Orcutt Terrace Dune Sheet to the northeast of the upper reaches of Orcutt Creek (Hunt 1993, pp. 5–72). These drainages and the adjacent dune sheets contain numerous mesic areas on the margins and floodplains of the river and creek and freshwater seeps and in grasslands, coastal scrub, and chaparral in the adjacent dune sheets (PCEs 1, 2, 3 and 4).

The geomorphological processes (fluvial and aeolian) that shaped and developed the terrain features in the Santa Maria Valley Dune Complex are intact and continue to affect the dynamic dune and riparian features and processes and their associated habitats in this unit (PCEs 1, 2, 3, and 4). The more interior portions of this unit are primarily within the lower portion of the Santa Maria River Valley where conversion to agricultural production to the edges of the river and the northeastern edge of the creek has occurred. The lower 5 mi (8 km) of the Santa Maria River remain intact with riparian scrub vegetation, sandy alluvial soils (PCEs 2 and 3), and dynamic fluvial geomorphological processes, which allow it to operate as a dynamic riparian system with uninterrupted water flows (PCEs 1 and 4). Pockets of numerous small marshes, wetlands, and drainages are still interspersed within the agricultural fields along Orcutt Creek, and the dynamic processes that rejuvenate and maintain the ever-changing mosaic of coastal scrub and riparian habitats are still largely intact (PCEs 1, 2, and 3). Additionally, areas to the southwest of Orcutt Creek contain large blocks of intact habitat (PCEs 1, 2, and 3) including suitable upland habitat areas between the intermittent streams and freshwater seeps (PCE 1) that provide habitat for pollinators and other dispersal vectors (PCE 4) such as birds and small mammals that move *Cirsium* seed. The vegetation in this unit includes central dune scrub, coastal dune, coastal scrub, freshwater seep, coastal and valley freshwater marsh and fen, riparian scrub (e.g., mule fat scrub, willow scrub), chaparral, oak woodland, and intermittent streams (PCE 2) (CNDDB 2007, unpaginated; CNPS 2008, unpaginated; Holland 1986, pp. 1–156; Elvin 2006, unpaginated). The soils in this unit are predominantly sandy (U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS) 2000, unpaginated; 2005, unpaginated) (PCE 3).

Unit 2 is dominated by the prevailing, moderate to strong winds from the northwest that blow southeast along the length of Orcutt Creek, which would then function as a dispersal corridor for *Cirsium loncholepis* seed from the dunes to Cañada de las Flores. These winds help move seeds from the populations in the Callender and Guadalupe Dunes to pocket wetlands along Orcutt Creek, to seeps and intermittent drainages southwest of the creek (along the Mussel Rock Dune Sheet), and eventually to the *C. loncholepis* population at Cañada de las Flores (PCEs 1 and 4). Orcutt Creek also acts as a dispersal vector by carrying seed from upstream plants down to the Santa Maria River population (PCE 1 and 4). These intermittent wetland sites or ''pocket wetlands'' and the intervening habitat areas are essential to maintain connectivity between more distant populations (Trakhtenbrot *et al.* 2005, pp. 173–181; Higgins and Richardson 1999, pp. 464–475), particularly between those in the Santa Maria Valley and those in the San Antonio Creek and Santa Ynez Valleys. These pocket wetlands also act as important core areas for *C. loncholepis*.

The essential features found in Unit 2 may require special management considerations for or protection from: (1) Nutrient inputs in the water systems that are above concentrations known to adversely affect freshwater ecosystems and cause adverse ecological effects including altering the composition of the plant community and inducing biostimulation; (2) stochastic (i.e., random) extirpation/extinction events that occur because the population size of some occurrences is small or isolated; (3) trampling and grazing from cattle; or (4) competition from invasive, aggressive, nonnative weeds (e.g., *Ammophila arenaria, Carpobrotus* spp., *Ehrharta calycina, Mesembryanthemum crystallinum*) (California State Water Resources Control Board 2006, pp. 1–71; Central Coastal Ambient Monitoring Program 2002, pp. 1–60; Dodds *et al.* 1998, pp. 1455–1462; Davis *et al.* 1988, pp. 169–195; Zedler and Schied 1988, pp. 196–201; Morey 1989, pp. 1–16; Odion *et al.* 1992, pp. 1–2; CNDDB 1998, unpaginated, 2007, unpaginated; Chesnut1998a, unpaginated, 1998b, pp. 1–40; Smith 1976, p. 282, 1998, pp. 153–154; Hendrickson 1990, pp. 1–25; CDFG 1992, pp. 111–112; Elvin 2006, unpaginated; Keil 2006b, unpaginated).

Unit 3: Cañada de las Flores (740 ac (299 ha))

Unit 3 is located approximately 5 mi (8 km) northwest of the town of Los Alamos and southwest of the Solomon Hills in Santa Barbara County, California. Unit 3 was considered to be occupied at the time of the listing and at the time critical habitat was designated for this species in 2004. *Cirsium loncholepis* may still be extant at Cañada de las Flores. It was last observed at this site in 1989 (Hendrickson 1990, pp. 1–25). Since the time of listing and at the time critical habitat was designated, there have still been no observations of *C. loncholepis* here. While *C. loncholepis* may still be at Cañada de las Flores, we are considering Cañada de las Flores to be unoccupied for the purposes of this rule based on the continued lack of observation of *C. loncholepis* since 2000 (Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated; Elvin 2007a, unpaginated; 65 FR 14888, March 20, 2000). The population in Unit 3 represents the eastern-most and

farthest-inland location at which *Cirsium loncholepis* has been documented. Additionally, Unit 3 occurs at a pivotal location for the species as a whole; it is down-wind from populations in the Santa Maria Valley and upstream from populations in the San Antonio Valley (e.g., the mouth of San Antonio Creek (one of the potential type locality sites for *C. loncholepis*) and San Antonio Terrace Dunes). Therefore, the Cañada de las Flores location is essential to maintain connectivity between populations in the Santa Maria Valley and populations in the San Antonio Creek and Santa Ynez Valleys (PCE 4)

Unit 3 is comprised of 740 ac (299 ha) of private land at the head of La Cañada de las Flores in Santa Barbara County, California. Unit 3 contains mesic areas at the edge of freshwater seep, marsh, meadow, grassland, chaparral, and oak woodland habitats (PCEs 1 and 2). We consider the two *Cirsium loncholepis* occurrences that have been recorded (and may still occur) here to be part of one population that has expanded at times to represent one large polygon of plants (CNDDB 2007, unpaginated; Elvin 2007b, unpaginated). Cañada de las Flores has slightly different environmental conditions than the coastal areas; specifically, it is at a higher elevation (200 ft (61 m)) and has a warmer climate. Preserving any genetic variability within the species that has allowed it to adapt to these slightly different environmental conditions would be important for the long-term survival and conservation of the species. Cañada de las Flores is mapped as Camarillo sandy loam with sand visible on the surface throughout the floor and lower portions of the surrounding hills/ridges in the canyon (PCE 3) (U.S. Soil Conservation Service 1972, unpaginated; Hendrickson 1990, pp. 1–25; CNDDB 2007, unpaginated; Elvin 2007b, unpaginated).

Unit 4: San Antonio Creek (4,335 ac (1,754 ha))

Unit 4 is located in the northwestern portion of Santa Barbara County, California. Unit 4 stretches along the lower 11 mi (17 km) of San Antonio Creek. Unit 4 was not considered to be occupied at the time of listing, and is currently considered to be unoccupied, although it is within the historical distribution of the species. The mouth of San Antonio Creek is one of the two most likely locations for the type locality for *Cirsium loncholepis* (Smith 1976, p. 282, 1998, pp. 153–154; Hendrickson 1990, pp. 1–25; Oyler *et al.* 1995, pp. 1–76; California Academy of Sciences Herbarium 2007, unpaginated).

Unit 4 is comprised of 4,149 ac (1,679 ha) of Federal lands and 186 ac (75 ha) of private lands. The majority of Unit 4 lands occur on Vandenberg Air Force Base. Most of the mission-critical projects and activities on Vandenberg Air Force Base are confined to areas outside of wetlands in general, and San Antonio Creek in particular. The few known land uses in and immediately adjacent to San Antonio Creek consist of agriculture leases and transportation and communications crossings (SRS Technologies 2007, pp. 1–35). There are many sensitive resources along San Antonio Creek including jurisdictional wetlands, cultural resources, and sensitive species (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35). Management activities for these resources may also benefit *Cirsium loncholepis.* Unit 4 is located within the Santa Ynez Valley Dune Complex, and San Antonio Creek is one of the two major drainages in it (Hunt 1993, pp. 5–72). San Antonio Creek is the geological feature that separates the San Antonio Dune Sheet and the Burton Mesa Dune Sheet. This drainage and the adjacent dune sheets contain numerous mesic areas on the margins of the creek and its floodplain; in freshwater marshes (e.g., Barka Slough); and in freshwater seeps in adjacent grasslands, coastal scrub, chaparral, and the adjacent dune sheets that allow for dispersal (PCEs 1, 3, and 4) (Dial 1980, pp. 1–100; Cooper 1967, pp. 75–90; Hunt 1993, pp. 5–72; CNDDB 2007, unpaginated).

The geomorphological processes (fluvial and aeolian) that shaped and developed the terrain features in the San Antonio Valley are intact and continue to affect the dynamic riparian and adjacent dune features and processes in this unit (PCEs 1 and 4). The lower 10 mi (16 km) of San Antonio Creek remain intact with riparian scrub, woodland, and forest vegetations (PCE 2); sandy alluvial soils (PCE 3); and dynamic fluvial geomorphological processes, which allow it to operate as a dynamic riparian system with uninterrupted flows of water (PCEs 1 and 4). Numerous small marshes, wetlands, and intermittent tributary drainages still occur naturally along this stretch of San Antonio Creek and the dynamic processes that rejuvenate and maintain the riparian habitats are still largely intact here (PCEs 1 and 4) (Keil 1997, pp. 1–12; Dial 1980, pp. 1–100; SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007 pp. 1–35; Google Earth 2008, unpaginated). Additionally, areas adjacent to the creek on both sides still contain large blocks of intact habitat (PCEs 1, 2 and 4) including suitable upland habitat areas between the intermittent streams and freshwater seeps (PCEs 1 and 2) that provide habitat for pollinators and other dispersal vectors (PCE 4) such as birds and small mammals that move *Cirsium* seed (SRS Technologies 2007, pp. 1–35). The vegetation in this unit includes central dune scrub, coastal dune, coastal scrub, freshwater seep, coastal and valley freshwater marsh and fen, riparian scrub (e.g., mule fat scrub, willow scrub), chaparral, oak woodland, and intermittent streams (PCE 2) (SRS Technologies 2007, pp. 1–35; Keil 1997, pp. 1–12; CNDDB 2007, unpaginated; CNPS 2008, unpaginated; Holland 1986, pp. 1–156; Elvin 2007c, unpaginated). The soils in this unit are predominantly sandy (USDA NRCS 2005, unpaginated; SRS Technologies 2003, pp. 1–1 to 9–14) (PCE 3).

This unit is dominated by the prevailing, moderate to strong winds from the northwest that blow southeast across the San Antonio Dune Sheet and up San Antonio Creek (USDA NRCS 2008, unpaginated; NOAA 2007, unpaginated). These winds are an essential dispersal vector that help disperse seeds from the San Antonio Dunes and the estuary at the mouth of San Antonio Creek to suitable habitat sites upstream along San Antonio Creek (PCE 4). The uninterrupted flow of water from the headwaters of San Antonio Creek and its tributaries down to its mouth is essential to facilitate the dispersal of *Cirsium loncholepis* seeds from and maintain connectivity between upstream populations such as Cañada de las Flores to other suitable mesic habitat sites downstream along San Antonio Creek and to mesic areas in the adjacent dune sheets (PCE 4).

While this unit was not occupied at the time of listing, Unit 4 is essential to the conservation of the species because it contains lands along San Antonio Creek that can function as a core area and dispersal corridor for *Cirsium loncholepis*. Unit 4 is essential as a core area for *C. loncholepis* and would decrease fragmentation for the species. It contains many intermittent wetlands along the length of the creek and in the estuary at the mouth of the San Antonio Creek and is capable of supporting populations for long periods of time. These intermittent wetland sites (PCE 1) and the intervening habitat areas are also essential to maintain connectivity between more distant *C. loncholepis* populations (Trakhtenbrot *et al.* 2005, pp. 173–181; Higgins and Richardson 1999, pp. 464–475), such as those in the upper watershed of San Antonio Creek and those in the lower reaches of the

creek and the adjacent San Antonio Terrace Dunes. Unit 4 is more easily managed for the species than many other areas in the historical distribution of the species because there are fewer pressures for commercial or agricultural development.

Unit 5: San Antonio Terrace Dunes (7,334 ac (2,968 ha))

Unit 5 is located in western Santa Barbara County, California. Unit 5 stretches along 4 mi (6.5 km) of the coast north from San Antonio Creek. This unit is southwest of the town of Casmalia. Unit 5 was not considered to be occupied at the time of listing and is currently considered to be unoccupied; it is within the historical distribution of the species. *Cirsium loncholepis* has been reported from wetlands in the San Antonio Terrace Dunes, but has not been officially documented with a herbarium specimen (CNDDB 2007, unpaginated; Consortium of California Herbaria 2008, unpaginated).

Unit 5 is comprised of 7,282 ac (2,947 ha) of Federal lands on Vandenberg Air Force Base and 52 ac (21 ha) of private lands. Most of the projects and activities on Vandenberg Air Force Base are confined to areas outside of wetlands. The few known land uses in the San Antonio Terrace consist of ''improved areas,'' launch facilities, transportation and communications facilities, recreational activities, and remediation and restoration programs (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35). There are numerous sensitive resources on San Antonio Terrace including jurisdictional wetlands, cultural resources, and sensitive species (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35). Management activities for some of the resources may also benefit *Cirsium loncholepis.* Unit 5 is located within the Santa Ynez Valley Dune Complex (Hunt 1993, pp. 5–72). The San Antonio Terrace Dune Sheet is the primary physiographic feature in Unit 5. San Antonio Creek is one of the two major drainages in the Santa Ynez Valley Dune Complex (Hunt 1993, pp. 5–72). This dune complex contains numerous mesic areas on the margins of dune swales, dune lakes, and marshes within the dynamic (changing) San Antonio Terrace Dune Sheet (PCEs 1 and 3). Unit 5 is dominated by strong winds from the northwest throughout the majority of the year that are a major factor in creating the dunes and shaping the terrain, such as the parallel ridges and the swales and other dune wetlands that are so important for *Cirsium loncholepis* (PCE 4) (USDA NRCS 2008, unpaginated; NOAA 2007, unpaginated; Hendrickson 1990, pp. 1–25).

The geomorphological processes that shaped and developed the terrain features in the Santa Ynez Valley Dune Complex are intact and continue to rejuvenate and maintain the dynamic dune and riparian features and processes of the constantly shifting mosaic of terrain, vegetation, and wetlands (PCEs 1, 2, 3, and 4). The vegetation in the dunes includes central dune scrub, coastal dune, coastal strand, coastal scrub, coastal freshwater marsh and fen, riparian scrub, chaparral, and oak woodland (PCE 2) (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35; Cooper 1967, pp. 75–90; CNDDB 2007, unpaginated; CNPS 2008, unpaginated; Holland 1986, pp. 1–156). The soils throughout these dunes are dominated by sand (PCE 3) (Cooper 1967, pp. 75–90; Hunt 1993, pp. 5–72; USDA NRCS 2005, unpaginated). Dunes in the vicinity of Vandenberg Air Force Base support a wide diversity of flora and fauna including numerous insects and hummingbirds, many of which are pollinators for *Cirsium loncholepis* (SRS Technologies 2003, pp. 1–1 to 9–14; Keil 2008, unpaginated; Martin *et al.* 1951, pp. 92–277; Krombein *et al.* 1979, Vol. 2 pp. 1751–2209; Blecha *et al.* 2007, pp. 1–354). The dunes also support numerous small mammal and bird species (SRS Technologies 2003, pp. 1–1 to 9–14; Blecha *et al.* 2007, pp. 1–354) that act as dispersal vectors for *C. loncholepis* seed (PCE 4). This unit contains large tracts of undeveloped land including dunes, wetlands, and upland areas utilized by the species and its pollinators (PCEs 1, 2, 3, and 4). The dynamic geomorphological processes, mosaic of habitats, and diversity of flora and fauna provide for and enhance the dispersal of genetic material of *Cirsium loncholepis* between and among the various wetlands within this dune complex and provide adjacent uplands for pollinators (PCEs 1, 2, 3, and 4).

The prevailing, strong wind patterns from the northwest, greater than 7.47 mph (12.02 kph) most of the time throughout the year, blow southeast across the San Antonio Terrace Dunes to areas up San Antonio Creek, across the Burton Mesa Dune Sheet, and along the Santa Ynez River. These winds are an essential dispersal vector that would help disperse *Cirsium loncholepis* seeds from the San Antonio Dunes to suitable habitat sites upstream along San Antonio Creek, in the Burton Mesa Dunes, and along the Santa Ynez River (PCE 4). The uninterrupted flow of these winds is essential to facilitate this dispersal and to maintain connectivity between *C. loncholepis* populations that might occur in these areas (PCEs 1 and 3) (USDA NRCS 2008, unpaginated; NOAA 2007, unpaginated; SRS Technologies 2003, pp. 1–1 to 9–14).

While this unit was not occupied at the time of listing, Unit 5 is essential as a core area for *C. loncholepis* in that the many mesic areas and intermittent wetlands within the dune system are capable of supporting *C. loncholepis* populations for long periods of time. The San Antonio Terrace Dune Sheet supports numerous dune wetlands and swales and is very similar in habitat, physical, and geological features to the Callender and Guadalupe Dune Sheets (Cooper 1967, pp. 75–90; Hunt 1993, pp. 5–72; Google Earth 2008, unpaginated). These wetland sites and the intervening upland habitat areas are essential to maintain connectivity within this dune system and between more distant *C. loncholepis* populations (Trakhtenbrot *et al.* 2005, pp. 173–181; Higgins and Richardson 1999, pp. 464–475), such as along San Antonio Creek and those in and along the Santa Ynez River or those between the Santa Maria Valley (specifically in the Santa Maria Valley Dune Complex and the Santa Maria River drainage system) and those downwind in the Santa Ynez Valley. Unit 5 is more easily managed for the species than many other areas in the historical distribution of the species because there are fewer pressures for commercial or agricultural development.

Unit 6: Santa Ynez River (2,482 ac (1,005 ha))

Unit 6 is located in the western portion of Santa Barbara County, California. This unit consists of the lower 4 mi (3.5 km) of the Santa Ynez River, most of which is on Vandenberg Air Force Base. Unit 6 is west of Lompoc and east of Surf. Unit 6 was not considered to be occupied at the time of listing, and is currently considered to be unoccupied. Unit 6 is within the historical distribution of the species.

Unit 6 is comprised of 2,401 ac (972 ha) of Federal lands, 38 ac (15 ha) of county and other local jurisdiction land, and 43 ac (18 ha) of private land. The majority of Unit 6 lands occur on Vandenberg Air Force Base. Most of the mission-critical projects and activities on Vandenberg Air Force Base are confined to areas outside of wetlands in general, and the Santa Ynez River in particular. The few known land uses in and immediately adjacent to the Santa Ynez River consist of grazing and agriculture programs, transportation and communications facilities, recreational programs, and several restoration

programs (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35). There are many sensitive resources along San Antonio Creek including jurisdictional wetlands, cultural resources, and sensitive species (SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35). Management activities for these resources may also benefit *Cirsium loncholepis*. The Santa Ynez River is one of the two major drainages in the Santa Ynez Valley Dune Complex (Hunt 1993, pp. 5–72). The Santa Ynez River is the geological feature that separates the Burton Mesa Dune Sheet and the Lompoc Terrace Dune Sheet. This drainage and the adjacent uplands contain numerous mesic areas on the margins of the river and its floodplain; in freshwater marshes; in intermittent streams that are tributaries; and in freshwater seeps in adjacent grasslands, coastal scrub, and chaparral (PCEs 1, 2, and 3) (Google Earth 2008, unpaginated; CNDDB 2007, unpaginated; Elvin 2008, unpaginated).

The geomorphological processes (fluvial and aeolian) that shaped and developed the terrain features in the Santa Ynez Valley are intact and continue to affect the dynamic dune and riparian features and processes and their associated habitats in this unit (PCEs 1 and 4). The lower 4 mi (6.4 km) of the Santa Ynez River remains mostly intact with some adjacent agriculture; adjacent riparian scrub vegetation and sandy alluvial soils (PCE 2); and dynamic fluvial geomorphological processes, which allow it to operate as a dynamic riparian system with uninterrupted water flows (PCEs 1 and 4). Additionally, areas to the north and south of the river contain large blocks of intact habitat (PCEs 1 and 4), including suitable upland habitat areas between the intermittent streams and freshwater seeps (PCE 1) that provide habitat for pollinators and other dispersal vectors (PCE 4) such as birds and small mammals that move *Cirsium* seed. The vegetation in this unit includes central dune scrub, coastal dune, coastal scrub, freshwater seep, coastal and valley freshwater marsh and fen, riparian scrub (e.g., mule fat scrub, willow scrub), chaparral, and intermittent streams (PCEs 1, and 2) (Cooper 1967, pp. 75–90; Hunt 1993, pp. 5–72; CNDDB 2007, unpaginated; CNPS 2008, unpaginated; Holland 1986, pp. 1–156; SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35; Elvin 2007c, unpaginated; Elvin 2008, unpaginated). The soils in this unit are predominantly sandy (USDA NRCS 2008, unpaginated; SRS Technologies 2003, pp. 1–1 to 9–14; SRS Technologies 2007, pp. 1–35; Elvin 2007c, unpaginated; Elvin 2008, unpaginated) (PCE 3).

In Unit 6, as in Unit 5, the prevailing, strong wind patterns from the northwest, greater than 7.47 mph (12.02 kph) most of the time throughout the year, blow southeast across the San Antonio Terrace Dunes to areas up San Antonio Creek, across the Burton Mesa Dune Sheet, and along the Santa Ynez River. These winds are an essential dispersal vector that would help disperse *Cirsium loncholepis* seeds from the San Antonio Dunes to suitable habitat sites upstream along San Antonio Creek, in the Burton Mesa Dunes, and along the Santa Ynez River (PCE 4). The uninterrupted flow of these winds is essential to facilitate this dispersal and to maintain connectivity between *C. loncholepis* populations that might occur in these areas (PCEs 1 and 4) (USDA NRCS 2008, unpaginated; NOAA 2007, unpaginated; SRS Technologies 2003, pp. 1–1 to 9–14). These strong winds also blow from the lower portion of the Santa Ynez River along the north base of the Santa Ynez Mountains, more or less upstream along the Santa Ynez River and to the numerous seeps along the north base of the Santa Ynez Mountains. These winds are an essential dispersal vector that would help move any *Cirsium loncholepis* seeds from San Antonio Terrace Dunes to the Santa Ynez River (and its ancillary, adjacent wetlands) and from the lower reaches of the Santa Ynez River to the pocket wetlands along the river and upstream. These uninterrupted winds are essential to maintain connectivity between population areas in the Santa Ynez Valley (PCEs 1 and 4) (USDA NRCS 2008, unpaginated; NOAA 2007, unpaginated; SRS Technologies 2003, pp. 1–1 to 9–14). The Santa Ynez River also acts as a dispersal vector by carrying seed from upstream plants down to the mouth (PCE 1 and 4). The uninterrupted flow of water from up-river along the Santa Ynez River to the wetlands at its mouth is essential to maintain the connectivity between occurrences in Unit 6 (PCE 4). The lower reaches of the Santa Ynez River contain numerous pocket wetlands, intermittent streams/tributaries, marshes, and estuaries. Several hillside seeps also occur in this stretch of the river (PCE 1).

While this unit was not occupied at the time of listing, Unit 6 is essential as a core area for *C. loncholepis* in that the many intermittent wetlands and freshwater seeps within the dynamic river system are capable of supporting *C. loncholepis* populations for long periods of time. The wetlands and the intervening upland habitat areas in Unit 6 are essential to maintain connectivity within and throughout this riparian system as a core area for *C. loncholepis*. Unit 6 is more easily managed for the species than many other areas in the historical distribution of the species because a large part of this unit has fewer pressures for commercial or agricultural development.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our definition of ''destruction or adverse modification'' (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 443 (5th Cir 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve its intended conservation role for the species.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the critical habitat is designated, if no significant new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). The conservation recommendations in a conference report are advisory.

If we list a species or designate critical habitat, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7(a)(2) consultation process. 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, do not require section 7(a)(2) consultations. 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. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) 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 or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. 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 Director's opinion, avoid jeopardizing the continued existence of the listed species or 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.

When we issue a biological opinion concluding that a project is not likely to jeopardize a listed species or adversely modify critical habitat, but may result in incidental take of listed animals, we provide an incidental take statement that specifies the impact of such incidental taking on the species. We then define ''Reasonable and Prudent Measures'' considered necessary or appropriate to minimize the impact of such taking. Reasonable and prudent measures are binding measures the action agency must implement to receive an exemption to the prohibition against take contained in section 9 of the Act. These reasonable and prudent measures are implemented through specific ''Terms and Conditions'' that must be followed by the action agency or passed along by the action agency as binding conditions to an applicant. Reasonable and prudent measures, along with the terms and conditions that implement them, cannot alter the basic design, location, scope, duration, or timing of the action under consultation and may involve only minor changes (50 CFR 402.14). The Service may provide the action agency with additional conservation recommendations, which are advisory and not intended to carry binding legal force.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies may sometimes need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the ''Adverse Modification'' Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or would retain its current ability for the PCEs to be functionally established. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features, or other conservation role and function of the affected designated area, to an extent that appreciably reduces the conservation value of critical habitat for *Cirsium loncholepis*. Generally, the conservation role of C. *loncholepis* critical habitat units is to support viable core populations and corridors, which support temporal populations that maintain connectivity between core area populations.

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 destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore should result in consultation for *Cirsium loncholepis* include, but are not limited to:

(1) Actions that would degrade or destroy native maritime chaparral, dune, and oak woodland communities, including but not limited to, livestock grazing, clearing, disking, introducing or encouraging the spread of non-native plants, and heavy recreational use;

(2) Actions that would appreciably diminish habitat value or quality through indirect effects (e.g., edge effects, invasion of non-native plants or animals, or fragmentation), such as livestock grazing; clearing vegetation; disking; introducing or encouraging the spread of non-native plants; heavy recreational use; fragmentation of habitat blocks, the creation of barriers or dams; channelizing rivers, creeks, or drainages; or the introduction or creation of barriers or wind-blocks such as large man-made structures, developments, tree rows, or windbreaks.

(3) Actions that would appreciably interrupt or alter water flows in the Santa Maria River, Orcutt Creek, San Antonio Creek, or Santa Ynez River (such as channelization or confinement of the water flows by barriers or dams or converting them from soft bottoms and sides to a lined, channelized drainage).

(4) Actions that would appreciably interrupt or alter winds across the Santa Maria Valley and Santa Ynez Dune Complexes and along the Santa Maria River, Orcutt Creek, San Antonio Creek, and Santa Ynez River watershed areas such that the natural aeolian geomorphology in the Santa Maria Dune Complex and Santa Ynez Dune Complex, and along the Santa Maria

River, Orcutt Creek, San Antonio Creek, and Santa Ynez River drainages would be blocked or altered by barriers or wind-blocks such as large man-made structures, developments, tree rows, or windbreaks.

Exemptions and Exclusions

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

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 670a of this title, if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.''

The Sikes Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete, by November 17, 2001, an INRMP. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes an assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species; a statement of goals and priorities; a detailed description of management actions to be implemented to provide for these ecological needs; and a monitoring and adaptive management plan. Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management, fish and wildlife habitat enhancement or modification, wetland protection, enhancement, and restoration where necessary to support fish and wildlife and enforcement of applicable natural resource laws.

Lands at Vandenberg Air Force Base are not discussed in this section because Vandenberg Air Force Base only has a draft INRMP for 2003–2008 (SRS Technologies 2003, pp. 1–1 to 9–14). This draft does not currently include management guidelines for *Cirsium loncholepis.* We are currently working with Vandenberg Air Force Base on a programmatic consultation for base-wide activities.

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

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

Pursuant to section 4(b)(2) of the Act, we must consider relevant impacts in addition to economic ones. We anticipate no impact to national security, Tribal lands, or HCPs from this proposed revision to the current critical habitat designation. Based on the best available information, we believe that all of the proposed revised units contain the features essential to *Cirsium loncholepis* or are otherwise essential for the conservation of this species. As such, we have considered but are not proposing to exclude any lands from this designation based on the potential impacts to these or other factors. However, during the development of a final designation, we will be considering economic impacts, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) and our implementing regulations at 50 CFR 424.19.

Economic Analysis

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for economic reasons if the Secretary determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat. However, this exclusion cannot occur if it will result in the extinction of the species concerned.

We are preparing an analysis of the economic impacts of this proposed revision to critical habitat for *Cirsium loncholepis.* We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.regulations.gov,* or by contacting the Ventura Fish and Wildlife Office directly (see **ADDRESSES** section). We may exclude areas from the final rule based on the information in the economic analysis.

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we are requesting the expert opinions of at least three appropriate independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed revised designation of critical habitat.

We will consider all comments and information we receive during the comment period on this proposed rule during our preparation of a final determination. Accordingly, our final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if we receive any requests for hearings. We must receive your request for a public hearing within 45 days after the date of this **Federal Register** publication. Send your request to the person named in the **FOR FURTHER INFORMATION CONTACT** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the first hearing.

Required Determinations

Regulatory Planning and Review—Executive Order 12866

The Office of Management and Budget (OMB) has determined that this rule is not significant and has not reviewed this rule under Executive Order (E.O.) 12866. OMB bases its determination upon the following four criteria:

(1) Whether the rule will have an annual effect of $100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

(2) Whether the rule will create inconsistencies with other Federal agencies' actions.

(3) Whether the rule will materially affect entitlements, grants, user fees,

loan programs, or the rights and obligations of their recipients.

(4) Whether the rule raises novel legal or policy issues.

At this time, we lack the available economic information necessary to determine whether the rule would have an annual effect on the economy of $100 million or more or affect the economy in a material way.

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 (SBREFA) of 1996), whenever an agency must 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 (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. SBREFA amended RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, we lack the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, we defer the RFA finding until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and E.O. 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, we will announce availability of the draft economic analysis of the proposed designation in the **Federal Register** and reopen the public comment period for the proposed designation. We will include with this announcement, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. We have concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provide the necessary opportunity for public comment.

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

In accordance with the Unfunded Mandates Reform Act, we make the following findings:

(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 [T]ribal 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 [T]ribal 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; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

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

(2) We do not believe that this rule will significantly or uniquely affect small governments because small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. Therefore, a Small Government Agency Plan is not required. However, as we conduct our economic analysis, we will further evaluate this issue and revise this assessment if appropriate.

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 revised critical habitat for the *Cirsium loncholepis* in a takings implications assessment. The takings implications assessment concludes that this designation of revised critical habitat for the *C. loncholepis* does not pose significant takings implications for lands within or affected by the revised designation.

Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed revised critical habitat designation with appropriate State resource agencies in California. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the subspecies are more clearly defined, and the primary constituent elements of the habitat necessary to the conservation of the subspecies are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-

by-case section 7 consultations to occur).

Civil Justice Reform—Executive Order 12988

In accordance with E.O. 12988 (Civil Justice Reform), it has been determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed revision to critical habitat uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of *Cirsium loncholepis.*

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

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

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

It is our position that, outside the jurisdiction of the Circuit Court of the United States for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld by the Circuit Court of the United States for the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Clarity of the Rule

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

(1) Be logically organized;

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

(3) Use clear language rather than jargon;

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

(5) Use lists and tables wherever possible.

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

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, and Secretarial Order 3206, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We have determined that there are no Tribal lands occupied by *Cirsium loncholepis* at the time of listing or currently occupied that contain the features essential for the conservation of the species, and no Tribal lands that are in unoccupied areas that are essential for the conservation of the species. Therefore, in this proposed revised rule, critical habitat for *C. loncholepis* has not been proposed for designation on Tribal lands.

Energy Supply, Distribution, or Use—Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. We do not expect this proposed rule to designate critical habitat for *Cirsium loncholepis* to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

References Cited

A complete list of all references cited in this rulemaking is available on *http://www.regulations.gov* and upon request from the Field Supervisor, Ventura Fish and Wildlife Office (see **ADDRESSES** section).

Author(s)

The primary author of this package is the staff of the Ventura Fish and Wildlife Office.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.96(a), revise the entry for ''Family Asteraceae: *Cirsium loncholepis* (La Graciosa thistle)'' to read as follows:

§ 17.96 Critical habitat—plants.

(a) *Flowering plants.*

* * * * *

Family Asteraceae: *Cirsium loncholepis* (La Graciosa thistle)

(1) Critical habitat units are depicted for San Luis Obispo and Santa Barbara counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for *Cirsium loncholepis* are:

(i) Mesic areas associated with:

(A) Margins of dune swales, dune lakes, marshes, and estuaries that are associated with dynamic (changing) dune systems including the Santa Maria Valley Dune Complex and Santa Ynez Valley Dune Complex;

(B) Margins of dynamic riparian systems including the Santa Maria and Santa Ynez Rivers and Orcutt and San Antonio Creeks; and

(C) Freshwater seeps and intermittent streams found in other habitats, including grassland, meadow, coastal scrub, chaparral, and oak woodland.

These areas provide space needed for individual and population growth including sites for germination, reproduction, seed dispersal, seed bank, and pollination;

(ii) associated plant communities including: Central dune scrub, coastal dune, coastal scrub, freshwater seep, coastal and valley freshwater marsh and fen, riparian scrub (e.g., mule fat scrub, willow scrub), chaparral, oak woodland, intermittent streams, and other wetland communities, generally in association with the following species: *Juncus* spp. (rush), *Scirpus* spp. (tule), *Salix* spp. (willow), *Toxicodendron diversilobum* (poison oak), *Distichlis spicata* (salt grass), *Baccharis pilularis* (coyote brush), and *B. douglasii* (Douglas' baccharis);

(iii) soils with a sandy component including but not limited to dune sands, Oceano sands, Camarillo sandy loams, riverwash, and sandy alluvial soils; and

(iv) features that allow dispersal and connectivity between populations, particularly:

(A) Natural riparian drainages in Santa Maria River, Orcutt Creek, San Antonio Creek, and Santa Ynez River that are not channelized or confined by barriers or dams, such that they have soft bottoms and sides and a natural flood plain (allowing uninterrupted water flows); and

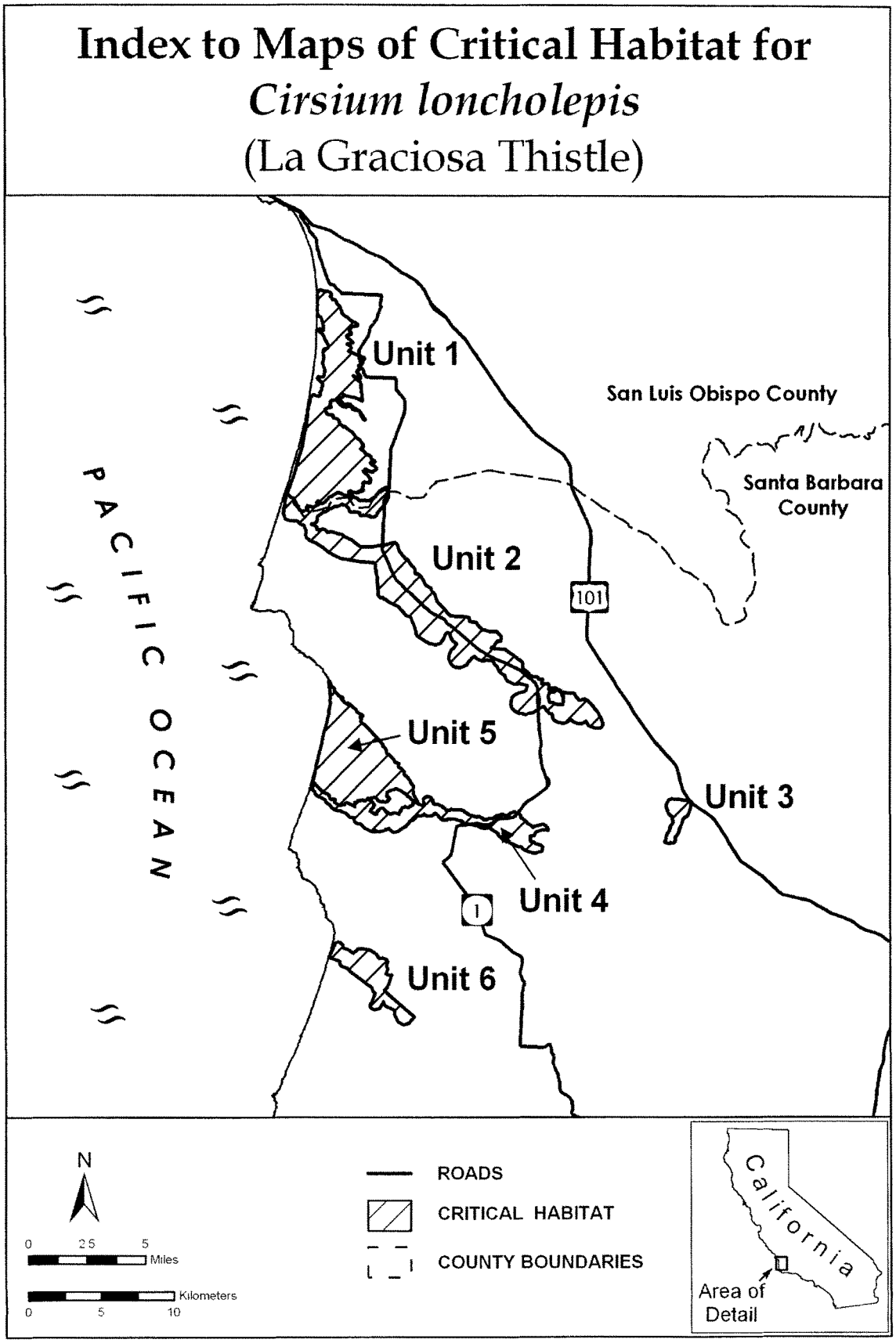
(B) Natural aeolian geomorphology in the Santa Maria Dune Complex and Santa Ynez Dune Complex, and along the Santa Maria River, Orcutt Creek, San Antonio Creek, and Santa Ynez River drainages that is not confined by barriers or wind-blocks such as large man-made structures, tree rows, or wind-breaks (allowing uninterrupted winds across these areas).

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

(4) Critical habitat map units. Data layers defining map units were created on base maps using aerial imagery from the National Agricultural Imagery Program (aerial imagery captured June 2005). Data were projected to Universal Transverse Mercator (UTM) zone 11, North American Datum (NAD) 1983.

(5) Note: Index map of *Cirsium loncholepis* critical habitat follows:

BILLING CODE 4310–55–P


Index to Maps of Critical Habitat for
Cirsium loncholepis
(La Graciosa Thistle)
Unit 1
San Luis Obispo County
Santa Barbara County
Unit 2
101
PACIFIC OCEAN
Unit 5
Unit 3
Unit 4
1
Unit 6
N
0 2.5 5
Miles
0 5 10
Kilometers
ROADS
CRITICAL HABITAT
COUNTY BOUNDARIES
California
Area of Detail

(6) *Unit 1:* Callender-Guadalupe Dunes Unit, San Luis Obispo County, California.

(i) From USGS 1:24,000 scale quadrangle Oceano, Point Sal, and Guadalupe. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N) 715180, 3874101; 715375, 3875018; 715578, 3875772; 715692, 3876690; 715789, 3877362; 715834, 3878096; 715838, 3878233; 715830, 3878381; 715855, 3878453; 715865, 3878522; 715862, 3878600; 715870, 3878713; 715887, 3878818; 715904, 3878906; 715935, 3878974; 715954, 3879081; 715968, 3879368; 715989, 3879384; 716000, 3879418; 716079, 3879449; 716119, 3879497; 716172, 3879522; 716240, 3879505; 716347, 3879451; 716435, 3879446; 716542, 3879446; 716604, 3879485; 716627, 3879528; 716624, 3879570; 716602, 3879635; 716602, 3879703; 716616, 3879779; 716647, 3879827; 716715, 3879884; 716709, 3880002; 716689, 3880047; 716686, 3880092; 716751, 3880170; 716751, 3880235; 716731, 3880317; 716689, 3880391; 716610, 3880473; 716545, 3880526; 716398, 3880611; 716373, 3880673; 716373, 3880738; 716418, 3880780; 716466, 3880783; 716602, 3880754; 716669, 3880769; 716746, 3880769; 716792, 3880847; 716821, 3880916; 716822, 3881238; 716816, 3881323; 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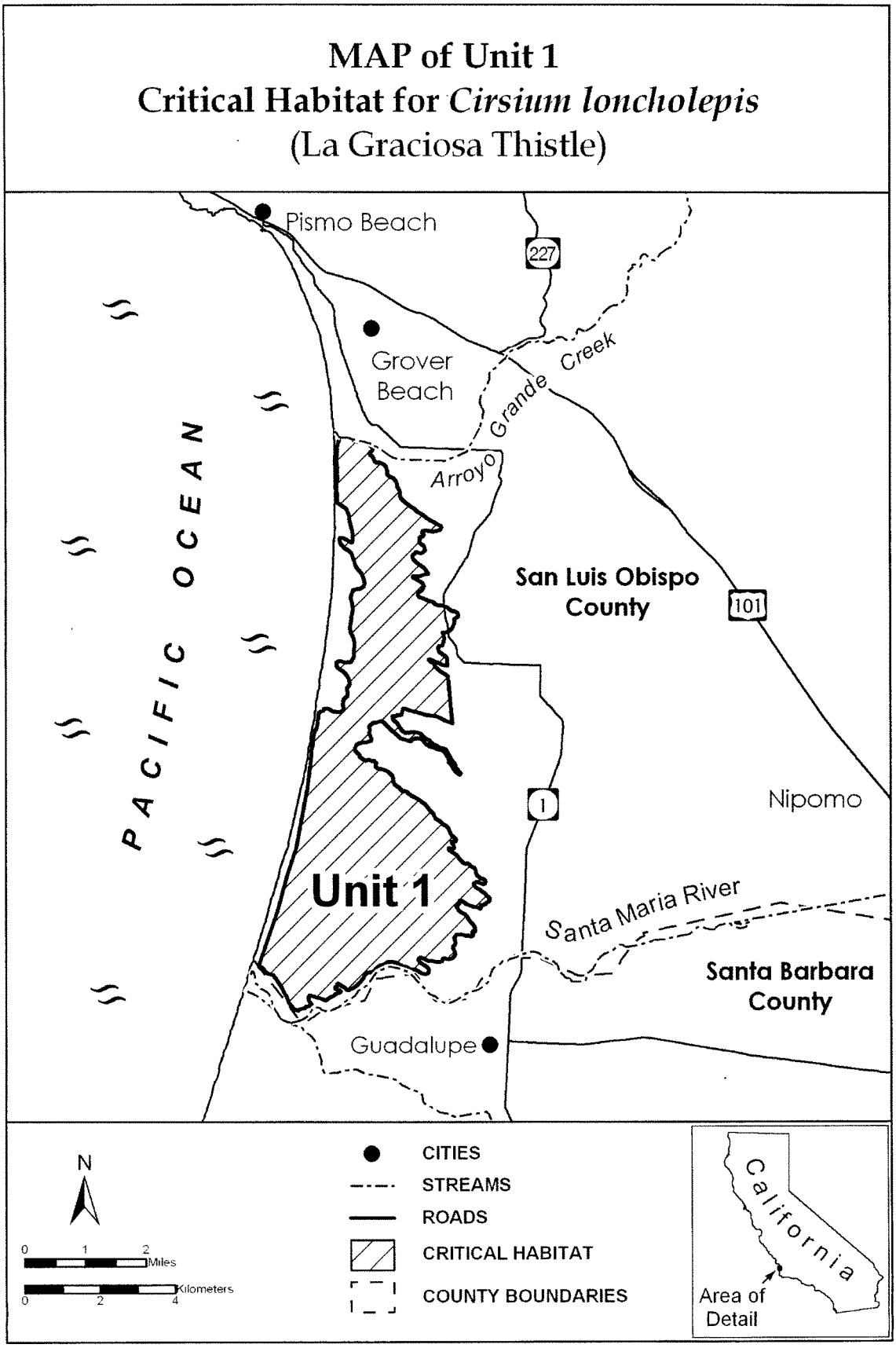
(ii) Note: Map of Unit 1 follows:

BILLING CODE 4310–55–P


MAP of Unit 1
Critical Habitat for *Cirsium loncholepis*
(La Graciosa Thistle)
Pismo Beach
227
Grover Beach
Grande Creek
Arroyo
PACIFIC OCEAN
San Luis Obispo County
101
1
Nipomo
Unit 1
Santa Maria River
Santa Barbara County
Guadalupe
N
0 1 2 Miles
0 2 4 Kilometers
CITIES
STREAMS
ROADS
CRITICAL HABITAT
COUNTY BOUNDARIES
California
Area of Detail

(7) Unit 2: Santa Maria River-Orcutt Creek Unit, San Luis Obispo and Santa Barbara Counties, California.

(i) From USGS 1:24,000 scale quadrangles Orick and Rodgers Peak. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N):
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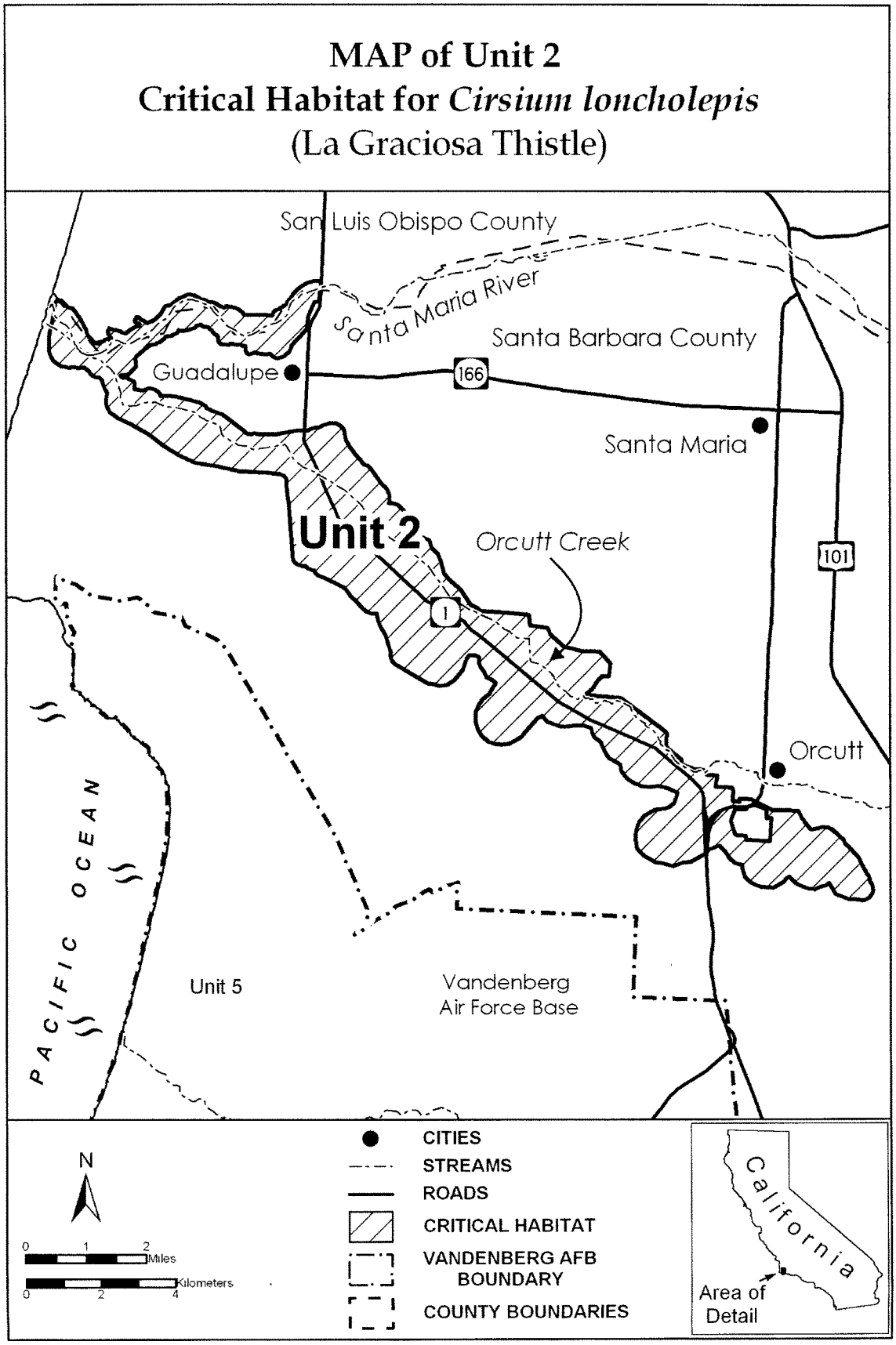
(ii) Note: Map of Unit 2 follows:

BILLING CODE 4310–55–P



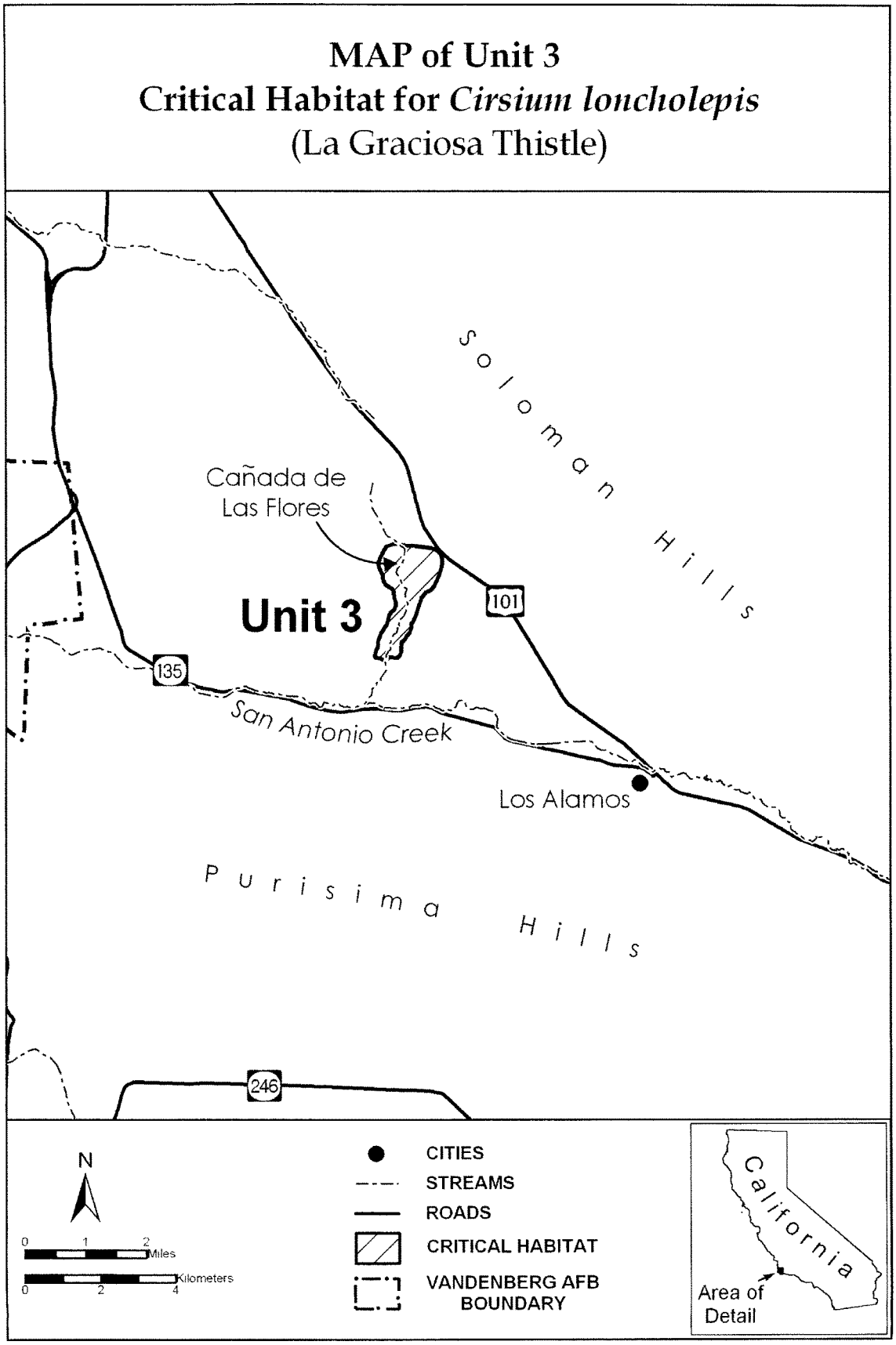
(8) Unit 3: Cañada de las Flores Unit, Santa Barbara County, California.

(i) From USGS 1:24,000 scale quadrangle Sisquoc. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N): 742558, 3850507;

742481, 3850424; 742403, 3850419; 742326, 3850452; 742181, 3850480; 742176, 3850556; 742180, 3850605; 742197, 3850665; 742245, 3850766; 742232, 3850832; 742235, 3850902; 742246, 3850958; 742266, 3851007; 742271, 3851048; 742281, 3851084; 742301, 3851131; 742335, 3851182; 742363, 3851243; 742394, 3851292; 742429, 3851332; 742438, 3851375; 742456, 3851419; 742461, 3851457; 742471, 3851496; 742471, 3851532; 742476, 3851569; 742483, 3851600; 742497, 3851635; 742515, 3851669; 742541, 3851704; 742572, 3851735; 742608, 3851761; 742624, 3851815; 742650, 3851865; 742652, 3851886; 742641, 3851924; 742625, 3851999; 742612, 3852029; 742601, 3852065; 742583, 3852157; 742579, 3852210; 742552, 3852255; 742534, 3852302; 742527, 3852316; 742442, 3852346; 742392, 3852375; 742342, 3852419; 742306, 3852466; 742285, 3852506; 742270, 3852553; 742262, 3852604; 742263, 3852655; 742203, 3852734; 742141, 3852858; 742121, 3852916; 742111, 3852978; 742193, 3853224; 742288, 3853414; 742484, 3853503; 742816, 3853484; 742812, 3853488; 743060, 3853489; 743066, 3853483; 743067, 3853489; 743247, 3853474; 743454, 3853451; 743454, 3853446; 743490, 3853449; 743535, 3853447; 743585, 3853438; 743625, 3853424; 743659, 3853408; 743694, 3853384; 743727, 3853356; 743756, 3853321; 743780, 3853284; 743796, 3853249; 743808, 3853208; 743817, 3853159; 743819, 3853115; 743800, 3852934; 743754, 3852734; 743649, 3852472; 743561, 3852342; 743421, 3852276; 743316, 3852119; 743278, 3851942; 743218, 3851742; 743193, 3851646; 743172, 3851599; 743164, 3851565; 743151, 3851530; 743105, 3851444; 743086, 3851416; 743094, 3851372; 743096, 3851328; 743092, 3851290; 743082, 3851247; 743058, 3851187; 743037, 3851148; 743010, 3851113; 742982, 3851087; 742955, 3851028; 742931, 3850990; 742906, 3850962; 742866, 3850925; 742864, 3850869; 742852, 3850819; 742862, 3850709; 742860, 3850678; 742854, 3850640; 742840, 3850598; 742821, 3850559; 742795, 3850522; 742769, 3850495; returning to 742558, 3850507.

(ii) Note: Map of Unit 3 follows:

BILLING CODE 4310–55–P



(9) Unit 4: San Antonio Creek Unit, Santa Barbara County, California.

(i) From USGS 1:24,000 scale quadrangles Casmalia and Orcutt. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N): 721762,

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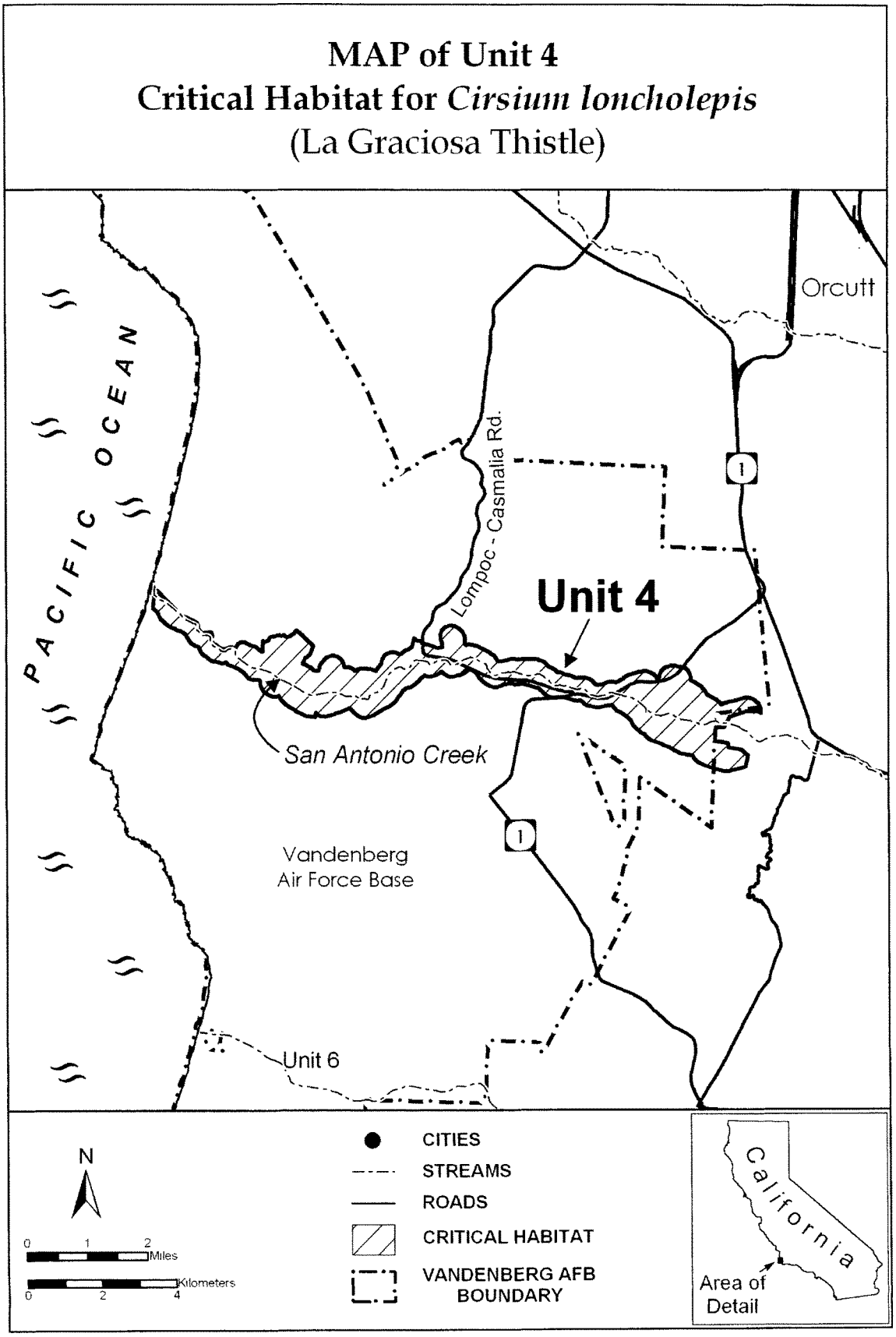
(ii) Note: Map of Unit 4 follows:

BILLING CODE 4310-55-P


MAP of Unit 4
Critical Habitat for *Cirsium loncholepis*
(La Graciosa Thistle)
PACIFIC OCEAN
Orcutt
Lompoc - Casmalia Rd.
Unit 4
San Antonio Creek
Vandenberg
Air Force Base
Unit 6
N
0 1 2
Miles
0 2 4
Kilometers
CITIES
STREAMS
ROADS
CRITICAL HABITAT
VANDENBERG AFB
BOUNDARY
California
Area of
Detail

(10) Unit 5: San Antonio Terrace Dunes Unit, Santa Barbara County, California.

(i) From USGS 1:24,000 scale quadrangles Casmalia and Orcutt. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N): 718605, 3859659; 718632, 3859657; 718697, 3859669; 718778, 3859567; 718777, 3859481; 718786, 3859450; 718804, 3859422; 718947, 3859267; 719023, 3859199; 719113, 3859092; 719153, 3859066; 719188, 3859055; 719261, 3859047; 719299, 3859037; 719351, 3859008; 719388, 3858974; 719406, 3858946; 719403, 3858923; 719379, 3858912; 719331, 3858928; 719316, 3858929; 719306, 3858919; 719307, 3858893; 719320, 3858877; 719349, 3858862; 719382, 3858836; 719537, 3858692; 719596, 3858642; 719718, 3858573; 719756, 3858523; 719783, 3858510; 719808, 3858517; 719815, 3858530; 719808, 3858550; 719759, 3858603; 719749, 3858631; 719751, 3858639; 719756, 3858643; 719767, 3858640; 719874, 3858594; 719969, 3858523; 720074, 3858429; 720185, 3858366; 720238, 3858305; 720289, 3858264; 720330, 3858247; 720368, 3858204; 720373, 3858187; 720389, 3858168; 720387, 3858160; 720418, 3858106; 720442, 3858084; 720458, 3858063; 720561, 3858017; 720700, 3857948; 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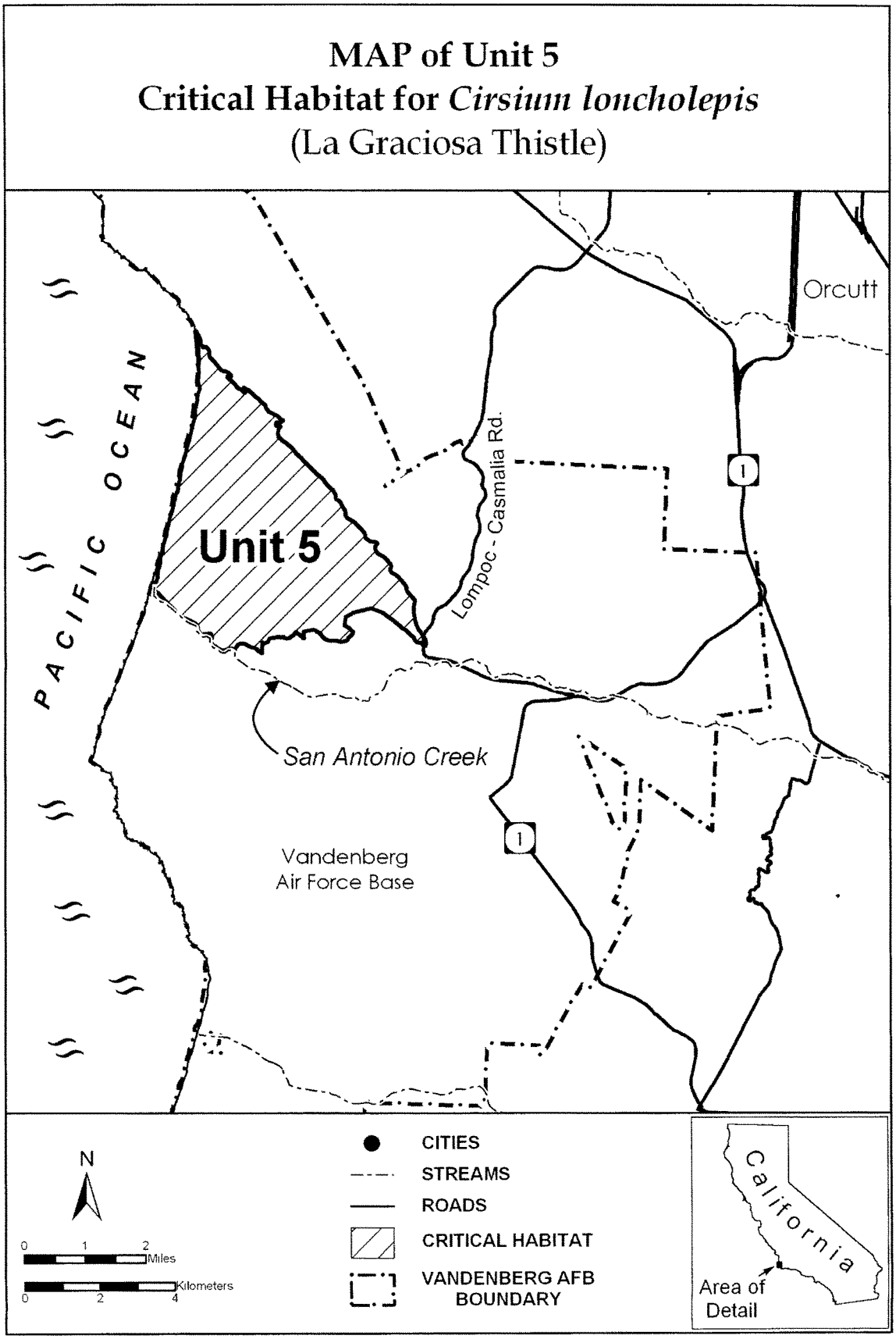
(ii) Note: Map of Unit 5 follows:

BILLING CODE 4310–55–P



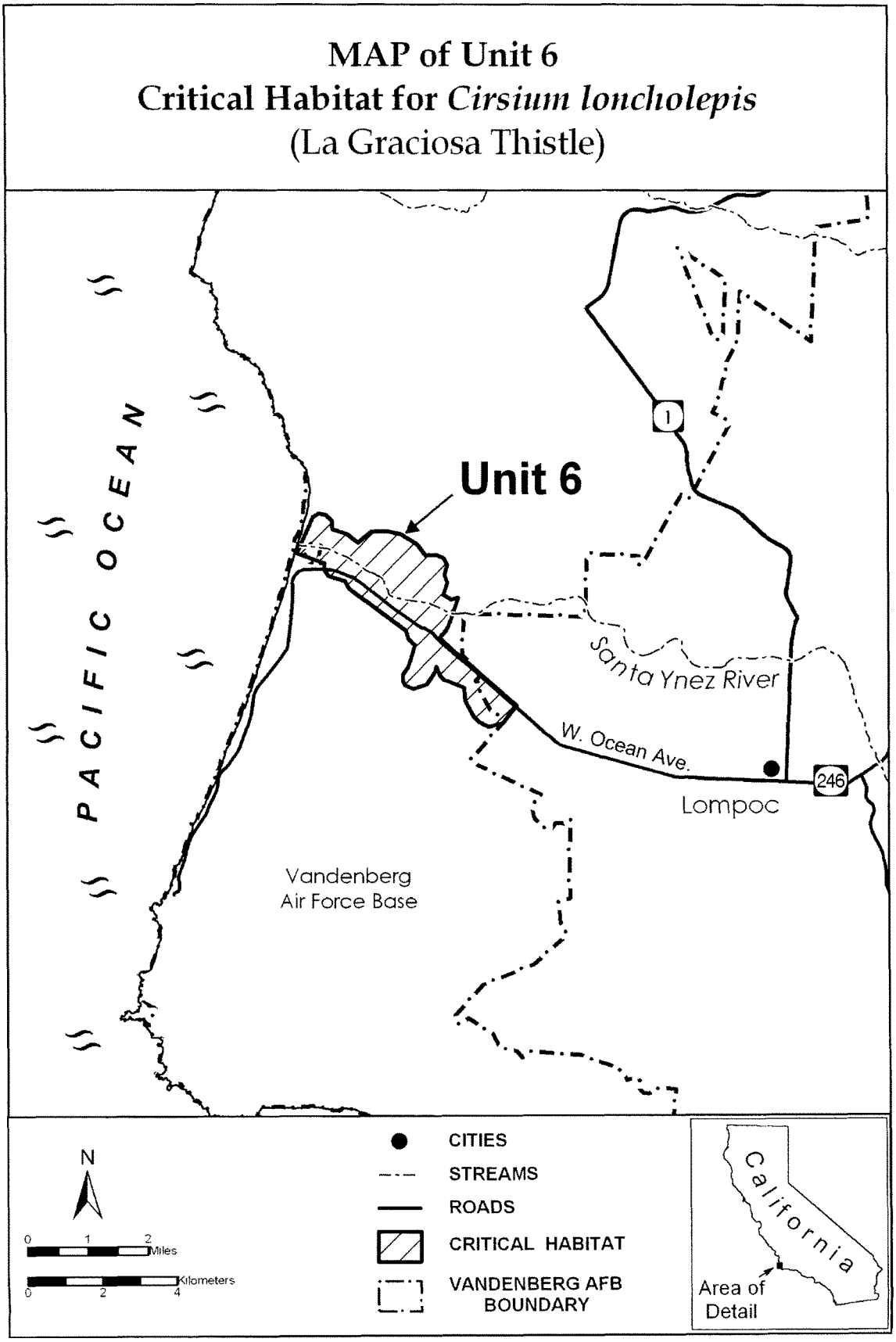
(11) Unit 6: Santa Ynez River Unit, Santa Barbara County, California.

(i) From USGS 1:24,000 scale quadrangle Surf. Land bounded by the following UTM zone 10 NAD83 coordinates (E, N): 723859, 3838896;

725620, 3837543; 725271, 3837051; 724901, 3836933; 724638, 3837069; 724497, 3837192; 724248, 3837597; 724203, 3837932; 723652, 3838108; 723524, 3838238; 723422, 3838457; 723388, 3838299; 723182, 3837963; 722841, 3837832; 722612, 3837911; 722535, 3838033; 722526, 3838178; 722660, 3838389; 722817, 3838984; 722632, 3839136; 722566, 3839348; 720953, 3840388; 720833, 3840568; 720377, 3840677; 720267, 3840828; 720267, 3841007; 719515, 3841235; 719882, 3842225; 720041, 3842323; 720232, 3842302; 720395, 3842134; 720431, 3841932; 720809, 3841827; 721128, 3841609; 721478, 3841925; 721870, 3841964; 722263, 3841900; 722718, 3841675; 722963, 3841384; 723238, 3841416; 723454, 3841333; 723560, 3841154; 723497, 3840885; 723592, 3840685; 723500, 3840365; 723716, 3840247; 723901, 3840313; 723743, 3839692; 723632, 3839434; 723459, 3839221; returning to 723859, 3838896.

(ii) Note: Map of Unit 6 follows:

BILLING CODE 4310–55–P


MAP of Unit 6
Critical Habitat for Cirsium loncholepis
(La Graciosa Thistle)
PACIFIC OCEAN
Unit 6
1
Santa Ynez River
W. Ocean Ave.
246
Lompoc
Vandenberg
Air Force Base
N
0 1 2 Miles
0 2 4 Kilometers
CITIES
STREAMS
ROADS
CRITICAL HABITAT
VANDENBERG AFB
BOUNDARY
California
Area of
Detail

* * * * *

Dated: July 28, 2008.

Lyle Laverty,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. E8–17808 Filed 8–5–08; 8:45 am]

BILLING CODE 4310–55–C