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50 CFR Part 17

Proposed Designation of Critical Habitat for the *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle) and *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak); Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AU44

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle) and *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle) and *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak) pursuant to the Endangered Species Act of 1973, as amended (Act). Approximately 2,119 acres (ac) (857 hectares (ha)) fall within the boundaries of the proposed critical habitat designation for *C. hydrophilum* var. *hydrophilum* in Solano County, California, and approximately 2,313 ac (936 ha) for *C. mollis* ssp. *mollis* in Contra Costa, Napa, and Solano Counties, California.

DATES: We will accept comments from all interested parties until June 12, 2006. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by May 26, 2006.

ADDRESSES: If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods:

1. You may submit written comments and information to Field Supervisor, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W–2605, Sacramento, California 95825.

2. You may hand-deliver written comments to our Office, at the above address.

3. You may send comments by electronic mail (e-mail) to *SuisunplantsCH@fws.gov*. Please see the Public Comments Solicited section below for file format and other information about electronic filing.

4. You may fax your comments to (916) 414–6713.

5. Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.

Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W–2605, Sacramento, California 95825 (telephone (916) 414–6600).

For more information on submitting or viewing comments, see ''Public Comments'' under **SUPPLEMENTARY INFORMATION.**

FOR FURTHER INFORMATION CONTACT: Arnold Roessler, Listing Branch Chief, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W–2605, Sacramento, California 95825, (telephone (916) 414–6600; facsimile (916) 414–6713).

SUPPLEMENTARY INFORMATION:

Public Comments

We intend that any final action resulting from this proposal be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

(1) The reasons any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefit of designation will outweigh any threats to the subspecies due to designation;

(2) Specific information on the amount and distribution of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* habitat, and what habitat is essential to the conservation of the subspecies 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 potential impacts resulting from the proposed designation and, in particular, any impacts on small entities;

(5) Whether our approach to designating critical habitat could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concerns and comments;

(6) Whether State-, county-, or local government-managed lands that are within the proposed designation should be excluded from the designation; and

(7) The relative benefits of designation or exclusion of any lands for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* in the Suisun Marsh (see Suisun Marsh Management Strategies section for specifics).

(8) Information concerning pollinator species for *C. mollis* spp. *mollis* and whether sufficient information exists to determine if such a feature should be considered a primary constituent element for the subspecies.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES** section). Please submit Internet comments to *SuisunplantsCH@fws.gov* in ASCII file format and avoid the use of special characters or any form of encryption. Please also include ''Attn: Suisun Plants CH'' in your e-mail subject header and your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly by calling our Sacramento Fish and Wildlife Office at phone number (916) 414–6600. Please note that the Internet address *SuisunplantsCH@fws.gov* will be closed out at the termination of the public comment period.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home addresses from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment, but you should be aware that the Service may be required to disclose your name and address pursuant to the Freedom of Information Act. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

Designation of Critical Habitat Provides Little Additional Protection to Species

In 30 years of implementing the Act, the Service has found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming significant amounts of available conservation resources. The Service's

present system for designating critical habitat has evolved since its original statutory prescription (into a process that provides little real conservation benefit, is driven by litigation and the courts rather than biology, limits our ability to fully evaluate the science involved, consumes enormous agency resources, and imposes huge social and economic costs). The Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

Attention to and protection of habitat is paramount to successful conservation actions. The role that designation of critical habitat plays in protecting habitat of listed species, however, is often misunderstood. As discussed in more detail below in the discussion of exclusions under ESA section 4(b)(2), there are significant limitations on the regulatory effect of designation under ESA section 7(a)(2). In brief, (1) designation provides additional protection to habitat only where there is a Federal nexus; (2) the protection is relevant only when, in the absence of designation, destruction or adverse modification of the critical habitat would in fact take place (in other words, other statutory or regulatory protections, policies, or other factors relevant to agency decision-making would not prevent the destruction or adverse modification); and (3) designation of critical habitat triggers the prohibition of destruction or adverse modification of that habitat, but it does not require specific actions to restore or improve habitat.

Currently, only 473 species, or 37 percent of the 1,272 listed species in the U.S. under the jurisdiction of the Service, have designated critical habitat. We address the habitat needs of all 1,272 listed species through conservation mechanisms such as listing, section 7 consultations, the section 4 recovery planning process, the section 9 protective prohibitions of unauthorized take, section 6 funding to the States, the section 10 incidental take permit process, and cooperative, nonregulatory efforts with private landowners. The Service believes that it is these measures that may make the difference between extinction and survival for many species.

In considering exclusions of areas proposed for designation, we evaluated the benefits of designation in light of *Gifford Pinchot Task Force* v. *United States Fish and Wildlife Service*. In that case, the Ninth Circuit invalidated the Service's regulation defining ''destruction or adverse modification of critical habitat.'' In response, on December 9, 2004, the Director issued guidance to be considered in making section 7 adverse modification determinations. This proposed critical habitat designation does not use the invalidated regulation in our consideration of the benefits of including areas in this final designation. The Service will carefully manage future consultations that analyze impacts to designated critical habitat, particularly those that appear to be resulting in an adverse modification determination. Such consultations will be reviewed by the Regional Office prior to finalizing to ensure that an adequate analysis has been conducted that is informed by the Director's guidance.

On the other hand, to the extent that designation of critical habitat provides protection, that protection can come at significant social and economic cost. In addition, the mere administrative process of designation of critical habitat is expensive, time-consuming, and controversial. The current statutory framework of critical habitat, combined with past judicial interpretations of the statute, make critical habitat the subject of excessive litigation. As a result, critical habitat designations are driven by litigation and courts rather than biology, and made at a time and under a time frame that limits our ability to obtain and evaluate the scientific and other information required to make the designation most meaningful.

In light of these circumstances, the Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

Procedural and Resource Difficulties in Designating Critical Habitat

We have been inundated with lawsuits for our failure to designate critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species, and final listing determinations on existing proposals are all significantly delayed.

The accelerated schedules of court-ordered designations have left the Service with limited ability to provide for public participation or to ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals, due to the risks associated with noncompliance with judicially imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, and is very expensive, thus diverting resources from conservation actions that may provide relatively more benefit to imperiled species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act (NEPA). These costs, which are not required for many other conservation actions, directly reduce the funds available for direct and tangible conservation actions.

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis,* refer to the final listing rule published in the **Federal Register** on November 20, 1997 (62 FR 61916).

Tidal marshes in the San Francisco Bay Estuary have been significantly affected by habitat loss, fragmentation, and degradation over the last 200 years. San Pablo Bay and Suisun Bay have seen 70 and 79 percent reductions in tidal marshes, respectively (San Francisco Estuary Institute (SFEI) 1998; Goals Project 1999). A large portion of historic tidal marshes in San Pablo Bay are diked and managed for agricultural production and livestock grazing. In Suisun Bay, most historic tidal marshes are diked and managed for wildlife, especially waterfowl. Suisun Marsh, the largest managed marsh in the estuary, is primarily used to provide wintering feeding habitat for migrating waterfowl (Suisun Ecological Workgroup 2001). These historic reductions in turn have

affected the extent and composition of tidal marsh plant communities. As a result, many native halophytic (salt-tolerant) plants are exceedingly rare in tidal marshes within the estuary (Goals Project 2000).

Cirsium hydrophilum var. *hydrophilum*

The original description of *Cirsium hydrophilum* var. *hydrophilum* by Greene (1892) indicated that the subspecies was ''[v]ery common in the brackish marshes of Suisun Bay, California, where it grows within reach of tide water.'' Later references (Jepson 1901; Munz and Keck 1968) indicate that the subspecies was found in marshes or brackish marshes about Suisun Bay, but these references lacked detailed information on its distribution. Herbarium records at the University of California at Davis (UCD) (2005) from 1863 to 1974 indicate that the subspecies occurred in the Suisun Marsh area. This information suggests that the subspecies probably did not occur outside of the Suisun Bay area in Solano County.

By 1975, *Cirsium hydrophilum* var. *hydrophilum* was thought to have been extirpated from Suisun Bay because the subspecies had not been seen for about 15 years. The subspecies was later rediscovered in 1989 in Suisun Marsh (California Native Plant Society 2001). Populations (groups of plants based on occurrence records or reports) were discovered and described during further field surveys in 1991 and 1992 at Rush Ranch (Solano Land Trust) and Peytonia Slough Ecological Reserve, respectively (California Department of Water Resources (CDWR) 1993 and 1994). The subspecies' current distribution is limited to scattered colonies within relict undiked high tidal marshes (fully tidal, emergent estuarine marshes) at Rush Ranch, the Joice Island portion of Grizzly Island Wildlife Area, and Peytonia Slough Ecological Reserve in Solano County (L. C. Lee and Associates (LCLA) 2003, California Natural Diversity Database (CNDDB) 2005). These marshes occur from the mean high water mark to the marsh'upland ecotone (transition zone) (Goals Project 1999 and 2000).

There are two areas known to currently support *Cirsium hydrophilum* var. *hydrophilum* (CDWR 1996; CNDDB 2005). These areas are the Rush Ranch/Grizzly Island Wildlife Area and the Peytonia Slough Ecological Reserve. Field surveys have found several thousand individual plants at Rush Ranch and much smaller numbers at Grizzly Island Wildlife Area (CNDDB 2005; LCLA 2003; CNDDB 2005). The population at the Peytonia Slough Ecological Reserve declined to a single individual plant observed in 1996 (CDWR 1996).

Cirsium hydrophilum var. *hydrophilum* colonies at Rush Ranch/Grizzly Island Wildlife Area are associated with tidal marsh habitats that are hydrologically connected to the First and Second Mallard Branches, Suisun Slough, and Cutoff Slough (CDWR 1996; LCLA 2003). The population at the Peytonia Slough Ecological Reserve is associated with tidal marsh habitat hydrologically connected to Peytonia Slough.

Cordylanthus mollis ssp. *mollis*

Cordylanthus mollis ssp. *mollis* is endemic to the San Pablo Bay and Suisun Bay area. The subspecies was historically found in high tidal marshes along the Petaluma River and Napa River through the Carquinez Strait to Suisun Bay and the San Joaquin-Sacramento River Delta in Marin, Sonoma, Napa, Solano, Contra Costa, and Sacramento Counties (Gray 1867; Munz and Keck 1959; Chuang and Heckard 1973; Rae 1978; UCD 2005). The subspecies is currently found in widely scattered populations from Point Pinole and Fagan Slough marsh through the Carquinez Strait to Suisun Bay in Napa, Solano, and Contra Costa Counties (Stromberg and Villasenor 1986; Ruygt 1994; CNDDB 2005). C. mollis ssp. mollis has been listed as rare within its range since July 1979 under the Native Plant Protection Act of 1977 and California Endangered Species Act of 1984 (California Department of Fish and Game (CDFG) 2006).

The largest populations of *Cordylanthus mollis* ssp. *mollis* are found in Suisun Marsh (Rush Ranch, the Joice Island portion of Grizzly Island Wildlife Area, and Hill Slough Wildlife Area in Solano County), Fagan Slough Marsh (Fagan Marsh Ecological Reserve in Napa County), Southampton Marsh (Benicia State Recreation Area in Solano County), and the Concord Naval Weapons Station (CNWS) in Contra Costa County (Stromberg and Villasenor 1986; Ruygt 1994; Rejmankova and Grewell 2000; CNDDB 2005). There are eight occurrences considered extirpated (Antioch Bridge; Beldons Landing, Bentley Wharf, Cullinan Ranch, Mare Island, Martinez, Petaluma Marsh, and San Antonio Creek Marsh) in Marin, Sonoma, Napa, Solano, Contra Costa, and Sacramento Counties because of habitat loss or degradation, or the inability of finding the subspecies after extensive and repeated field surveys (Ruygt 1994; CNDDB 2005).

Cordylanthus mollis ssp. *mollis* has a high degree of population size variability from year-to-year at any given location. Periodic field surveys have shown that most extant locations have high densities of plants numbering in the thousands to the tens of thousands within small, localized populations (Stromberg and Villasenor 1986; Ruygt 1994; CNDDB 2005). Other locations consist of widely scattered populations with few individual plants. Some populations may fail to appear entirely for several years and reappear later in the same general area. The reasons for the population fluctuations are not well known.

Suisun Marsh Management Strategies

In evaluating areas to propose as critical habitat for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis,* we recognized that Federal, State, and local conservation planning efforts in the Suisun Marsh are ongoing. This proposed designation includes all habitat in the Suisun Marsh for the two subspecies that meets our criteria for identifying the essential features for the two subspecies, including lands that are a part of these planning efforts. We seek public comment about whether the developing Suisun Marsh Habitat Management, Preservation, and Restoration Plan and the previously developed Suisun Marsh Protection Plan would provide an alternative to a critical habitat designation that provides special management for those physical and biological characteristics that are essential to the conservation of the subspecies. The potential result of the plan would be to avoid critical habitat designation because the special management or protection would not be necessary or the benefits of excluding the areas as critical habitat outweigh the benefits of inclusion. One reason the benefits of exclusion could outweigh those of inclusion is that designating a particular area might prevent the implementation of a local plan which would otherwise provide a greater benefit to the species.

It is the Service's goal to identify and support innovative cooperative conservation approaches that have a similar or greater likelihood of providing for the conservation of listed subspecies when compared to traditional regulatory approaches such as designation of critical habitat. In our determination of whether habitat is in need of ''special management or protection,'' the Service will evaluate the Suisun Marsh Habitat Management, Preservation, and Restoration Plan and the previously developed Suisun Marsh Protection Plan to determine whether their implementation would provide a

similar or greater level of conservation benefits to the *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* when compared to a final designation of critical habitat. The two management strategies are outlined below.

The Suisun Marsh Protection Plan and the Suisun Marsh Preservation Act

The Suisun Marsh Protection Plan of 1976 (SMPP) establishes a ''primary management area'' in Suisun Marsh that encompasses the entire range of *Cirsium hydrophilum* var. *hydrophilum,* and also includes the areas we propose as critical habitat units 2 and 4 for *Cordylanthus mollis* ssp. *mollis* (SFBCDC 2006, 1976). The Plan recommends that areas within the primary management area ''should be protected and managed to enhance the quality and diversity of the habitats' (SFBCDC 2006). It further recommends that ''[t]he tidal marshes in the primary management area should be preserved'' and that ''[w]here feasible historic marshes should be returned to wetland status.'' The SMPP was incorporated into State law by the Suisun Marsh Preservation Act of 1977 (SMPA), which utilizes a State-level permitting process and a county-level protection program to prevent development in the marsh that is inconsistent with the SMPP (SFBCDC 2005).

Suisun Marsh Habitat Management, Preservation, and Restoration Plan

The Suisun Marsh Habitat Management, Preservation, and Restoration Plan (SMHMP) is being developed by the Suisun Marsh Charter Group (Charter Group), a collaborative effort among of Federal, State and local agencies with primary responsibility for actions in the Suisun Marsh. The Charter Group principal agencies are the Service, USBR, CDFG, DWR, Suisun Resource Conservation District, California Bay—Delta Authority, and National Oceanic and Atmospheric Administration's National Marine Fisheries Service. Additional public entities participating in the Charter Group include: U.S. Army Corps of Engineers (USACE), San Francisco Bay Conservation and Development Commission, and San Francisco Bay—Delta Science Consortium. The Service and USBR are participating as National Environmental Policy Act (NEPA) co-lead Federal agencies, and the CDFG is the lead California Environmental Quality Act (CEQA) State agency, for the development of the Programmatic Environmental Impact Statement/Report (PEIS/R). These lead agencies will oversee the environmental review process for the SMHMP.

The Charter Group was formed in 2001 to resolve issues of amending the Suisun Marsh Preservation Agreement (SMPA), obtain a Regional General Permit from the USACE, implement the Suisun Marsh Levee Program, and recover threatened and endangered species. The broader purpose of the Charter Group was to develop and agree on a long-term implementation plan for the Suisun Marsh consistent with, and in the context of, the CALFED Bay—Delta Program (a consortium of State and Federal agencies working cooperatively to improve the quality and reliability of California's water supplies while restoring the Bay—Delta ecosystem). The mission of the CALFED Bay—Delta Program is to develop and implement a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta System.

The Charter Group has been charged with developing a regional plan that would outline the actions needed in Suisun Marsh to preserve and enhance managed seasonal wetlands, restore tidal marsh habitat, implement a comprehensive levee protection and improvement program, and protect ecosystem and drinking water quality. The proposed SMHMP would be consistent with the goals and objectives of the Bay—Delta Program, and balance them with SMPA, Federal and State Endangered Species Acts, and other management and restoration programs within the Suisun Marsh in a manner responsive to the concerns of all stakeholders, and based upon voluntary participation by private landowners. The proposed SMHMP also would provide for simultaneous protection and enhancement of: (1) The Pacific Flyway and existing wildlife values in managed wetlands; (2) threatened and endangered species; (3) tidal marshes and other ecosystems; and (4) water quality, including, but not limited to, the maintenance and improvement of levees. The SMHMP has seven goals:

- Goal 1, Ecological Processes: Rehabilitate natural processes where feasible in the Suisun Marsh to more fully support, with minimal human intervention, natural aquatic and associated terrestrial biotic communities and habitats, in ways that favor native species of those communities, with a particular interest in waterfowl and sensitive species.
- Goal 2, Habitats: Protect, restore, and enhance habitat types where feasible in the Suisun Marsh for ecological and public values, such as supporting species and biotic communities, ecological processes, recreation, scientific research, and aesthetics.
- Goal 3, Levee System Integrity: Provide long-term protection for multiple Suisun Marsh resources by maintaining and improving the integrity of the Suisun Marsh levee system.
- Goal 4, Non-Native Species: Prevent the establishment of additional non-native species and reduce the negative ecological and economic impact of established non-native species in the Suisun Marsh.
- Goal 5, Water and Sediment Quality: Maintain or improve water and sediment quality conditions to provide good quality water for all beneficial uses and fully support healthy and diverse aquatic ecosystems in the Suisun Marsh; and to eliminate, to the extent possible, toxic impacts to aquatic organisms, wildlife, and people.
- Goal 6, Public Use and Waterfowl Hunting: Maintain the heritage of waterfowl hunting and increase the surrounding communities' awareness of the ecological values of the Suisun Marsh.
- Goal 7, Long-Term Funding, Plan Implementation, and Regulatory Reliability and Efficiency: Develop and implement a plan that: (1) Addresses long-term funding, (2) creates an efficient and reliable regulatory climate, (3) promotes effective management practices, and (4) improves coordination of activities among agencies within and adjacent to the Suisun Marsh.

The Charter Group is committed to a planning process, consistent with the CALFED Record of Decision that includes strong local involvement, is integrated with other programs, uses the best available scientific and commercial information, and is open and transparent. Public scoping has been completed for the PEIS/R. The Service's External Affairs Program is conducting ongoing public outreach through the publication of a newsletter. When the Draft PEIS/R is completed, it will be available for public review and comment. The SMHMP is in the final stages of development, and it is anticipated that the Draft PEIS/R will be available for public review and comment in the fall of 2006 before the final designation of critical habitat. Once the SMHMP has been finalized and the Draft PEIS/R is available to the public, we will reopen the comment period on this proposal to solicit comments. We recognize that the public is not able to comment on specific aspects of the plan without it being available for review, but we would like to solicit public comments as described below.

Public Comments Solicited

In addition to the analysis conducted when assessing potential economic impacts of the *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* critical habitat designation, the Secretary will evaluate other considerations as part of the 4(b)(2) exclusion process. As part of the

Secretary's deliberative process, the Service identifies the benefits of inclusion and exclusion of various areas.

The Service will evaluate whether the regulatory benefits of designation of critical habitat in the Suisun Marsh for the *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* outweigh the conservation benefits of implementation of the SMHMP. In this proposed rule, we are soliciting public comment on the relative merits of a critical habitat designation when compared to implementation of the SMHMP. We are particularly interested in public comment on the following issues:

- What is necessary to ensure the conservation of the Suisun thistle and soft bird's-beak with regard to private lands in the Suisun Marsh;
- Whether areas preserved by the Suisun Marsh Protection Plan or covered under the SMHMP should be designated as critical habitat and the degree to which a critical habitat designation would confer conservation benefits on the *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* when compared to the likely benefits of the alternative SMHMP;
- The degree to which the designation or the SMHMP would educate members of the public such that conservation efforts would be enhanced;
- The degree to which a critical habitat designation or the SMHMP would have a positive, neutral, or negative impact on voluntary conservation efforts on privately owned lands;
- Whether the tidal restoration and habitat protection goals proposed in the upcoming SMHMP will protect the habitat sufficiently; and
- Whether a critical habitat designation of private lands already occupied by the *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* and subject to the regulatory provisions of the Act will provide additional regulatory conservation benefits to accrue on those lands and whether traditional methods of regulation under the Act (for example, section 7 consultation with the USACE) are adequate to provide for the long-term conservation of the *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis* on private lands in the Suisun Marsh.

The Service will evaluate information received on these and other issues when making a decision concerning the final designation of critical habitat. Comments on the SMHMP may be sent to the Field Supervisor of the Sacramento Fish and Wildlife Service (*see* **ADDRESSES** section). Any economic exclusions would be predicated on the results of the economic analysis.

Previous Federal Actions

Cirsium hydrophilum var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* were listed as endangered in the final listing rule published in the **Federal Register** on November 20, 1997 (62 FR 61916). In the final listing rule for the two subspecies, we determined that the designation of critical habitat was not prudent because that the designation would not be beneficial to the conservation of the two subspecies.

On November 17, 2003, the Center for Conservation Biology and others filed a lawsuit in the Northern District of California against the Secretary of the Interior, challenging the not prudent determination of critical habitat for the two subspecies (*Center for Biological Diversity, et al.* v. *Gale Norton, Secretary of the Department of the Interior, et al.*, CV 03–5126–CW). On June 14, 2004, the U.S. District Court Judge signed an Order granting a stipulated settlement agreement between the two parties. The Service agreed to propose critical habitat for the two plant subspecies on or before April 1, 2006, and finalize the designation on or before April 1, 2007. For more information on previous Federal actions concerning *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*, refer to the final listing rule published in the **Federal Register** (62 FR 61916) on November 20, 1997.

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) 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 (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) 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 to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Section 7 is a purely protective measure and does not require implementation of restoration, recovery, or enhancement measures.

To be included in a critical habitat designation, the habitat within the area occupied by the species must first have 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)).

Habitat occupied at the time of listing may be included in critical habitat only if the essential features thereon may require special management or protection. Thus, we do not include areas where existing management is sufficient to conserve the species. As discussed below, such areas may also be excluded from critical habitat pursuant to section 4(b)(2). Accordingly, when the best available scientific data do not demonstrate that the conservation needs of the species so require, we will not designate critical habitat in areas outside the geographical area occupied by the species at the time of listing. An area currently occupied by the species but was not known to be occupied at the time of listing will likely, but not always, be essential to the conservation of the species and, therefore, typically included in the critical habitat designation.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), and Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service, provide criteria, establish procedures, and provide guidance to ensure that decisions made by the Service represent the best scientific data available. They require

Service 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 determining which areas are critical habitat, a primary source of information is generally the listing package for the species. Additional information sources 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. All information is used in accordance with the provisions of Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available information at the time of the 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, 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)(2) of the Act, we used the best scientific data available in determining areas that contain the features that are essential to the conservation of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. The following geospatial, tabular data sets were used in determining critical habitat: occurrence data for *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis* (CNDDB 2005); historic and modern habitats of the San Francisco Bay Estuary (SFEI 1998); data gathered for the development of the draft recovery plan (Service 2005); Contra Costa, Napa, and Solano County soil survey data (Natural Resources and Conservation Service (NRCS) 2005c); vegetation mapping and tidal marsh data for Suisun Marsh (Vaghti and Keeler-Wolf 2004a and 2004b); National Wetlands Inventory data for Contra Costa, Napa, and Solano Counties (National Wetlands Inventory (NWI) 2005); black and white 1:24,000 scale digital orthophoto quarter quadrangles (U.S. Geological Survey (USGS) dated June/July 1993); Teale data for California wetlands and hydrography (California Spatial Information Library 2005); color mosaic 1:9,600 scale digital aerial photographs for Suisun Bay (dated June 16, 2003) (CDFG 2005c); and 1:24,000 scale digital raster graphics of USGS topographic quadrangles. Land ownership was determined from geospatial data sets associated with 2003 parcel data from Contra Costa and Napa Counties (SFWO 2005), 2005 parcel data for Suisun Marsh (CDFG 2005a), and boundary data for CDFG lands (CDFG 2005b).

Additional information was provided by Brenda Grewell (ecologist with the U.S. Department of Agriculture (USDA), Agricultural Research Service at the University of California at Davis) and staff from CDFG, California Department of Parks and Recreation (CDPR), East Bay Regional Park District (EBRPD), Solano Land Trust, and the U.S. Department of the Navy (USDN). We also conducted local site visits at Rush Ranch, Hill Slough and Grizzly Island Wildlife Areas, Peytonia Slough Ecological Reserve, Southampton Marsh, Point Pinole Regional Shoreline, and McAvoy Boat Harbor.

We have reviewed available information that pertains to the habitat requirements of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. There is limited information on habitat requirements for these subspecies, but the primary informational sources are (1) CNDDB (2005); (2) CDWR (1993, 1994, 1996, 1999, and 2001) correspondence and reports for Suisun Marsh; (3) Baylands Ecosystem Goals Project (1999 and 2000); and (4) information gathered for the development of the draft recovery plan for the subspecies (Service 2005). We reviewed scientific studies and survey reports for *C. hydrophilum* var. *hydrophilum* (LCLA 2003) and *C. mollis* ssp. *mollis* (Stromberg and Villasenor 1986; Ruygt 1994; Rejmankova and Grewell 2000; Grewell *et al.* 2003; Grewell 2004; EBRPD 2005). A variety of other non-peer and peer-reviewed articles were reviewed for background information on wetland ecology and hydrology, plant ecology and biology, and historical accounts of the San Francisco Bay and Joaquin-Sacramento River Delta.

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 to propose as critical habitat, we are required to base critical habitat determinations on the best scientific and commercial data available and to consider those physical and biological features (primary constituent elements (PCEs)) that are essential to the conservation of the subspecies, and that may require special management considerations and protection. These include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

Space for Individual and Population Growth and Normal Behavior

The San Francisco Bay Estuary is the largest contiguous tidal marsh system on the Pacific Coast of North America. The estuary undergoes two daily tidal cycles with large differences between successive high and low tidal cycles. The primary source of fresh water entering the estuary is through the San Joaquin–Sacramento River systems (Pestrong 1972; Conomos *et al.* 1985). Saltwater and seasonal freshwater inflows into the estuary affect salinity levels, sediment deposition, tidal flushing, and the vertical extent of marsh vegetation in tidal marshes (Purer 1942; Josselyn 1983).

The depth, duration, and frequency of tidal flows directly affect tidal marsh channel networks and distribution of plant communities. Under natural tidal regimes, channels develop and migrate through erosion and deposition processes (such as channel undercutting, bank slumping, and sedimentation) during daily flood and

ebb flows and seasonal storm events (Pestrong 1965 and 1972; Garofalo 1980). These networks delineate the degree of tidal flooding based on the width, depth, and elevation of existing channels. The intensity of tidal events controls the level of tidal flushing within marshes. Flushing actions as well as seasonal freshwater inflows help to moderate soil and ground water salinity on a spatial and temporal basis (Purer 1942; Sanderson 1998; Sanderson *et al.* 2000 and 2001). These natural processes acting together impose a strong influence on plant germination and growth in tidal marshes (Vine and Snow 1984; DeLaune *et al.* 1987; Pennings and Callaway 1992; Konisky and Burdick 2004).

Significant changes can occur in tidal marshes, above normal seasonal conditions, to affect plant distributions when natural tidal hydrology is artificially modified by construction of tide gates, mosquito abatement ditches, levees, or other water control structures to restrict its full tidal range. These include changes to soil salinity, chemistry, and aeration (for example, leading to soil subsidence and compaction); lowering of water tables; reductions in sedimentation rates and vertical marsh accretion; and increases in organic materials (Mahall and Park 1976; Balling and Resh 1983; Anisfeld and Benoit 1997; Burdick *et al.* 1997; Portnoy and Giblin 1997; Bryant and Chabreck 1998; Kuhn *et al.* 1999; Portnoy 1999; Goals Project 2000; Reed 2002). This is often followed by a change in the vegetational composition from typical native halophytic marsh plants to less salt-tolerant native and non-native plants (Roman *et al.* 1984; Goals Project 2000). These changes generally fail to support rare tidal marsh plants such as *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* (Goals Project 2000) and therefore, only those areas that have been shown to support populations of the two subspecies or shown to support the features identified as essential for the two subspecies have been proposed for designation.

Landscape Ecology of Cirsium hydrophilum var. *hydrophilum*

Most *Cirsium hydrophilum* var. *hydrophilum* occurrences are found along the banks of canals or ditches, within 50 to 100 feet (15.2 to 30.5 meters (m)) of the high water mark of natural tidal channels, and on tidal floodplains within tidal marshes (CDWR 1993; LCLA 2003; CNDDB 2005). Occurrences in these areas may result from tidal inundations lowering soil and ground water salinity (tidal flushing) producing a less stressful environment for plant establishment (Balling and Resh 1983; Sanderson 1998). The subspecies is also most often found in regularly flooded and permanently saturated habitats (LCLA 2003; NWI 2005). Few occurrences are located in seasonally flooded or saturated habitats (LCLA 2003). The subspecies does not appear to thrive in diked wetlands or along narrow fringe high tidal marshes on the outboard side of levees (CDWR 1994; Goals Project 2000). These areas were not considered to be capable of sustaining or supporting populations of the subspecies and have not been included in the proposed designation.

Common native plant associates of *Cirsium hydrophilum* var. *hydrophilum* include *Argentina egedii* ssp. *egedii* (Pacific silverweed), *Atriplex prostrate* (triangle orache), *Cicuta maculate* var. *bolanderi* (spotted water hemlock), *Distichlis spicata* (inland saltgrass), *Euthamia occidentalis* (western goldentop), *Grindelia stricta* (Oregon gumweed), *Jaumea carnosa* (gray marsh jaumea), *Juncus balticus* (Baltic rush), *Salicornia virginica* (Virginia glasswort), *Schoenoplectus pungens* var. *pungens* (common threesquare), and *Senecio hydrophilus* (water ragwort). Common non-native plant associates include *Apium graveolens* (wild celery), *Lepidium latifolium* (broadleaved peppergrass), and *Rumex crispus* (curly dock) (CDWR 1994; LCLA 2003; plant names referenced from NRCS 2005b). *Lepidium latifolium* is of special concern since it forms large monotypic patches that displace native marsh vegetation (Renz 2000). LCLA (2003) observed that the five most dominate associates at Rush Ranch, based on canopy coverage in sample plots, were *Argentina egedii* ssp. *egedii, Schoenoplectus pungens* var. *pungens, Juncus balticus, Lepidium latifolium*, and *Grindelia stricta.*

Landscape Ecology of Cordylanthus mollis ssp. *mollis*

Most extant occurrences of *Cordylanthus mollis* ssp. *mollis* are located in high tidal marshes that receive full tidal inundations (SFEI 1998; CNDDB 2005). Narrow fringe high tidal marshes on the outboard side of levees do not appear to support the subspecies (CDWR 1994; Goals Project 2000). Fully tidal marshes at Hill Slough Marsh, Rush Ranch, the Joice Island portion of Grizzly Island Wildlife Area, Southampton Marsh, Fagan Slough Marsh, McAvoy Boat Harbor, and Point Pinole Shoreline account for approximately 80 percent of the total mapped occurrences from CNDDB (2005). Non-specific occurrences include data sources with imprecise location information. These data are mapped as circles of varying radii based on data reliability (Bittman 2001). There were nine non-specific *C. mollis* ssp. *mollis* occurrences (Antioch Bridge, Bentley Wharf, Cullinan Ranch, Cutting Wharf, Mare Island, Martinez, McAvoy Boat Harbor, Petaluma Marsh, and San Antonio Creek Marsh) that were mapped with radii of 0.1 to 1 mile (0.16 to 1.6 kilometers) (CNDDB 2005).

Specific occurrences of *Cordylanthus mollis* ssp. *mollis* in muted high tidal marshes (marshes with reduced tidal range due to physical impediments (Goals Project 1999, page 79)) are found on the CNWS and a small area adjacent to the CNWS just north of the General Chemical plant along the Contra Costa shoreline. They account for approximately 6 percent of all specific occurrences.

Diked and managed marshes account for approximately 14 percent of all specific *Cordylanthus mollis* ssp. *mollis* occurrences. These marshes are located in the eastern portion of Suisun Marsh and around the perimeter of high tidal areas at Hill Slough and Fagan Slough marshes. The occurrence of *C. mollis* ssp. *mollis* populations in diked and managed marshes may likely be a result of dormant seed bank(s) and associated marsh conditions that still promote their establishment. However, future land use and management activities in these marshes may rapidly alter marsh conditions to further restrict or exclude the subspecies from the local plant community (Goals Project 1999 and 2000).

Populations of *Cordylanthus mollis* ssp. *mollis* typically occur above mean high water to the marsh-upland ecotone (Ruygt 1994; CDWR 1999; Goals Project 1999). Most subspecies occurrences are found in regularly flooded and permanently saturated habitats (NWI 2005). Current populations are most often found in mixed halophytic plant communities with an average canopy height equal to or less than 20.5 inches (in) (52 centimeters (cm)) (Grewell 2003). Tidal events are important for regulating tidal marsh plant communities and may be a critical factor in regulating the hemiparasitic life cycle of the subspecies (Ruygt 1994; Grewell *et al.* 2003).

Cordylanthus mollis ssp. *mollis* establishes fragile parasitic root connections to their host plants by means of a specialized structure called a haustorium (Chuang and Heckard 1971; Grewell *et al.* 2003). These connections produce an extensive network of intertwined roots that provide the subspecies with part of its

water and nutritional requirements to augment its growth. *C. mollis* ssp. *mollis* does not appear to have a specific host plant preference (Grewell 2004). Seedlings will attach to a wide range of host plants, but not all plants are suitable hosts. Non-native winter annuals such as *Hainardia cylindrical* (barbgrass) and *Polypogon monspeliensis* (annual rabbitsfoot grass) or native winter annuals such as *Juncus bufonius* (toad rush) are not suitable hosts since they typically die before *C. mollis* ssp. *mollis* can flower and produce seeds (Grewell 2003 and 2004). Known suitable hosts include *Distichlis spicata* (salt grass), *Salicornia virginica* (pickleweed), and *Jaumea carnosa* (marsh jaumea) (Grewell 2003 and 2004). Seedlings suffer increased mortality when they germinate near unsuitable hosts or in habitats with a low availability of suitable hosts (Grewell 2004).

Common native plant associates of *Cordylanthus mollis* ssp. *mollis* include *Atriplex prostrate, Cuscuta salina* (saltmarsh dodder), *Distichlis spicata, Jaumea carnosa, Limonium californicum* (California sealavender), *Plantago maritima* (goose tongue), *Salicornia virginica, Symphyotrichum expansum* (southwestern annual saltmarsh aster), and *Triglochin maritimum* (seaside arrowgrass). A common non-native plant associate is *Polygonum arenastrum* (oval-leaf knotweed) (Ruygt 1994; Grewell 2003; plant names referenced from NRCS 2005b). *Cuscuta salina* is the most common plant associate of *C. mollis* ssp. *mollis* throughout its range (Grewell 2003).

Soils

Soil survey data (NRCS 2005c) for Contra Costa, Napa, and Solano Counties are delineated by soil map units (series). A soil map unit represents an area dominated by one or several types of soils (NRCS 1995). Each map unit is named based on its taxonomic classification of the dominant soil(s). Boundaries between soil types are determined by field surveys and soil models, but may not be fixed, since individual soils merge into one another as their properties gradually change over the landscape. The degree of soil genesis is driven by natural and anthropogenic processes on a landscape level that may further alter soil properties over time (Buol *et al.* 1980).

Occurrences of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* used for soil area estimates only include populations that have a specific polygon mapping precision (CNDDB 2005). Approximately 92.4 percent (98.3 ac/39.8 ha) of *C. hydrophilum* var. *hydrophilum* occurrences are found on hydric soil series that are slightly to moderately saline within the first 3 feet (ft)(0.9 meters (m)) of soil depth (USDA 1993, page 194; NRCS (2005a, 2005c, and 2005d)). *C. mollis* ssp. *mollis* occurrences are found on approximately 91.1 percent (480.7 ac/194.5 ha) of hydric soil series that are slightly to moderately saline within the first 3 ft (0.9 m) of soil depth (USDA 1993, page 194; NRCS (2005a , 2005c, and 2005d)).

It is not known whether the respective soil series associated with occurrences of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* are due to limited seed dispersal, colonization potential, plant competition, changes in tidal marsh regimes, specific edaphic requirements, or other potential factors (Ruygt 1994; LCLA 2003; Service 2005). Additional studies are needed to determine how soils affect the distribution of these subspecies in tidal marshes.

Reproduction in Cirsium hydrophilum var. *hydrophilum*

Cirsium hydrophilum var. *hydrophilum* is a perennial plant that dies after flowering and bearing seeds. Its vegetative period is usually 1 year, but if small vegetative plant size or unfavorable environmental conditions delay flowering, a plant may grow back from its central root crown after the winter, and thereby live for more than a year. Flowering occurs throughout the summer during most years and continues through the production of ripe seed heads (Service 2005).

Pollination ecology of *Cirsium hydrophilum* var. *hydrophilum* has not been studied to identify specific flower pollinators. Field observations at Rush Ranch indicate that several bee species may be important in pollinating the subspecies (LCLA 2003; Service 2005). The most common species observed gathering pollen at the ranch was the yellow-faced bumble bee (*Bombus vosnesenskii*) (LCLA 2003).

The reproductive output of *Cirsium hydrophilum* var. *hydrophilum* has not been quantified for individual plants. Results from sample plot data at Rush Ranch indicated that 21 percent of the plants were reproductive flowering adults and the rest were either first or second year non-flowering individuals (LCLA 2003). Flowering plants may produce hundreds of seed heads. Seed heads observed in July of 2000 had three to five ripe seeds per head, but many of them contained aborted seeds or were found with insect larvae engaged in active seed predation (Service 2005). Plant-eating insects can significantly limit seed production and plant demography as seen in several other *Cirsium* species (Louda and Potvin 1995; Palmisano and Fox 1997; Louda and O'Brien 2002; Rand and Louda 2004; Louda *et al.* 2005; Rose *et al.* 2005).

Information on short and long distance seed dispersal for *Cirsium hydrophilum* var. *hydrophilum* is lacking. The subspecies usually has a plumed pappus (tufted appendage) attached to each mature seed to aid in wind dispersal; however, the plumed pappus may sometimes detach from the relatively thick-walled, heavy seeds before it disperses (Service 2005). Studies on other species in the same family have shown that most plumed seeds are wind dispersed only a few meters (Sheldon and Burrows 1973; McEvoy and Cox 1987; Klinkhamer *et al.* 1988; Wallace *et al.* 2005). The extent of horizontal seed dispersal is affected in part by local topography and surrounding vegetation (Sheldon and Burrows 1973; McEvoy and Cox 1987; Wallace *et al.* 2005). Streams and tidal flows have been shown to be important dispersal mechanisms in *Cirsium vinaceum* (Sacramento Mountain thistle) and certain halophytic plants (Koutstaal *et al.* 1987; Huiskes *et al.* 1995; Craddock and Huenneke 1997).

The presence of numerous small, discrete colonies of *Cirsium hydrophilum* var. *hydrophilum* as seen by LCLA (2003) at Rush Ranch suggests that the subspecies may have relatively local breeding micro-habitats resulting in limited seed dispersal. However, the relatively tall stature of this subspecies, as compared to other associated tidal marsh plants, and flat topography of the surrounding marsh could potentially allow for long distance seed dispersal. It is unlikely that seeds would be dispersed by attachment to animal fur or feathers since they have a smooth, glossy seed coat (Service 2005).

Specific conditions for germination and growth of *Cirsium hydrophilum* var. *hydrophilum* are not known, but field observations suggest they are associated with small gaps or sparsely vegetated areas. Dense cover of marsh plants in wet years may restrict the establishment of the subspecies (CDWR 1996 and 1999).

Reproduction in Cordylanthus mollis ssp. mollis

Cordylanthus mollis ssp. *mollis*, an annual, regenerates from a persistent, dormant seed bank. The longevity of seed banks is unknown, but some populations fail to emerge for several years and then reappear, suggesting

long-term viability of dormant seeds (Service 2005). The peak seed germination period occurs during the most frequent tidal inundations in areas of bare soil (CDWR 1994; Ruygt 1994). Seedling growth rapidly increases by mid-March when tidal inundations reach an annual low. Flowering generally reaches a peak in mid-summer and declines by late August. The number of flowers produced per plant varies greatly and appears to be dependent on plant height and degree of branching (Ruygt 1994).

Cordylanthus mollis ssp. *mollis* is probably dependent on insects for successful pollination and reproduction. Ruygt (1994) observed three bee species that were visitors to various *C. mollis* ssp. *mollis* populations in Napa and Solano Counties. Bumble bees (*Bombus californicus*) were the most frequent visitors seen foraging among flowers. The low number of potential pollinators at some locations suggests that the subspecies may rely to some degree on self-pollination to fertilize flowers within larger populations (Ruygt 1994). During a pollinator exclusion experiment, Ruygt (1994) observed that several plants were able to produce seeds through self-fertilization, but the viability of these seeds were not tested or compared to those for non-experimental plants. Grewell *et al.* (2003) observed five bee genera and one bee fly acting as potential pollinators at a recently reintroduced population of *C. mollis* ssp. *mollis* at Rush Ranch and a natural population at Hill Slough Marsh.

Seed production in *Cordylanthus mollis* ssp. *mollis* varies greatly among individual plants. Mature plants are multi-branched with each branch producing numerous seed capsules. Sampled capsules from three populations (Ruygt 1994) contained from 8 to 39 seeds (averaging 23.5 seeds per capsule). Based on this data, the estimated average seed production at Hill Slough Marsh was 495 seeds per plant (Ruygt 1994). Stromberg and Villasenor (1986) observed capsules that contained between 15 to 40 seeds per capsule at several *C. mollis* ssp. *mollis* populations. Grewell (2004) observed up to 32,000 seeds per plant under ideal growing conditions. However, seed production can be significantly influenced by flower, fruit, and seed predation from lepidopteran larvae (Ruygt 1994; Grewell *et al.* 2003).

Limited information exists on seed dispersal mechanisms for *Cordylanthus mollis* ssp. *mollis*. Seeds may disperse short distances from parent plants by tidal inundations or animals (Grewell *et al.* 2003), but successful long distance dispersal by these or other events have not been documented. Stromberg and Villasenor (1986) observed that most of the mature seed capsules remained closed on parent plants. They believed that the majority of the seeds were probably released from seed capsules after mature plants fell to the ground and decayed. This would likely result in seeds germinating directly beneath parent plants. This seed dispersal mechanism may partly explain the reason for the high densities of plants often seen in some populations.

The deep reticulated seed coat (Chuang and Heckard 1972) of *Cordylanthus mollis* ssp. *mollis* can trap microscopic pockets of air that allow seeds to float in saline and fresh water (Ruygt 1994). This feature may enable seeds to disperse during tidal events and establish local seed banks. Several authors found that tidal events can be important agents in seed dispersal for a variety of tidal saltwater and freshwater marsh plants (Koutstaal *et al.* 1987; Huiskes *et al.* 1995; Griffith and Forseth 2002; Wolters and Bakker 2002; Neff and Baldwin 2005). *C. mollis* ssp. *mollis* seeds may persist in dormant seed banks for years, but information on the dynamics of these seed banks is limited and requires more study (Grewell *et al.* 2003). Population expansion is dependent on viable seeds dispersing to appropriate habitats, germinating, and establishing early parasitic connections to the roots of suitable tidal marsh host plants.

The specific PCEs required for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* are derived from the biological needs of the two plants as described above and in the Background section of this proposal.

Primary Constituent Elements for Cirsium hydrophilum var. *hydrophilum and Cordylanthus mollis* ssp. *mollis*

Pursuant to our regulations, we are required to identify the known physical and biological features (primary constituent elements (PCEs)) essential to the conservation of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. All of the areas we are proposing as critical habitat are occupied by the subspecies, except that one unit (Hill Slough Marsh) proposed for both subspecies is currently occupied only by *C. mollis* ssp. *mollis*. Efforts are underway to restore *C. hydrophilum* var. *hydrophilum* to that area. All of the proposed critical habitat areas are within the subspecies' historic geographic range, and contain physical and biological features essential to the conservation of the subspecies.

Primary Constituent Elements: The PCEs for *C. hydrophilum* var. *hydrophilum*, based on its known occurrences in Suisun Marsh, are:

(1) Tidally influenced marsh areas (intertidal emergent estuarine marshes) bounded on the seaward edge by the mean high water line and on the landward edge by a marsh-upland ecotone; and containing channel networks influenced by freshwater and saltwater hydrology and exhibiting full natural tidal inundations to allow for channel development and migration through erosional and depositional processes (such as channel undercutting, bank slumping, and sedimentation) during daily flood and ebb flows and seasonal storm events.

(2) Areas associated with PCE 1 that are: (a) Between the bank and high water mark of natural tidal channels; (b) along the banks of tidally influenced canals or ditches; or (c) within tidally influenced floodplains that contain hydric soils that are slightly to moderately saline (4 to 16 decisiemens/meter (dS/m)) within the first 3 ft (0.9 m) of soil depth.

Primary Constituent Elements: The PCEs for *Cordylanthus mollis* ssp. *mollis*, based on its known occurrences, are:

(1) Tidally influenced marsh areas (intertidal emergent estuarine marshes) bounded on the seaward edge by the mean high water line and on the landward edge by a marsh-upland ecotone; and containing channel networks influenced by freshwater and saltwater hydrology and exhibiting full natural tidal inundations to allow for channel development and migration through erosional and depositional processes (such as channel undercutting, bank slumping, and sedimentation) during daily flood and ebb flows and seasonal storm events.

(2) Areas associated with PCE 1 that are within tidally influenced marsh floodplains that contain hydric soils that are slightly to moderately saline (4 to 16 dS/m) within the first 3 ft (0.9 m) of soil depth.

(3) Tidal marsh habitats within PCE 1 and PCE 2 that have native halophytic plant communities with an average canopy height equal to or less than 20.5 in (52 cm);

(4) Areas within PCE 1 and PCE 2 that provide for a sufficient number of suitable host plants, including but not limited to *Distichlis spicata, Salicornia virginica*, and *Jaumea carnosa*. These host plants provide the subspecies with water and nutritional requirements to augment its growth.

This proposed designation is designed for the conservation of PCEs necessary

to support the life history functions that were the basis for the proposal. Because not all life history functions require all the PCEs, not all proposed critical habitat will contain all the PCEs.

Each of the areas proposed in this rule have been determined to contain sufficient PCEs to provide for one or more of the life history functions of the two subspecies. In some cases, the PCEs exist as a result of ongoing Federal actions. As a result, ongoing Federal actions at the time of designation will be included in the baseline in any consultation conducted subsequent to this designation.

Criteria Used To Identify Critical Habitat

We are proposing to designate critical habitat on lands that we have determined were occupied at the time of listing and contain the features essential to the conservation of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. We are also proposing to designate one unit of unoccupied habitat (Hill Slough Marsh) for *C. hydrophilum* var. *hydrophilum* that we have determined is essential to the conservation of that subspecies. This same area is also proposed as critical habitat for *C. mollis* ssp. *mollis* and is occupied by that subspecies (both now and at the time of listing).

Criteria for Cirsium hydrophilum var. *hydrophilum*

The tidally influenced habitat required for *Cirsium hydrophilum* var. *hydrophilum* survival has been greatly reduced. Of the estimated 71,000 ac (29,000 ha) of tidal marsh habitat originally within the Suisun Marsh, only about 9,300 ac (3,800 ha) remained as tidal marsh in 1989 (Dedrick 1989). Most of this area is backed by steep levees, allowing for little or no tidally influenced transitional wetland habitat required for the subspecies as identified in the PCE section above. The distribution of *C. hydrophilum* var. *hydrophilum* has also been greatly reduced. In 1975, the plant was deemed to be extirpated due to a 15-year absence from known locations within the Suisun Marsh. Extensive survey work in 1993 identified two populations in the Suisun Marsh area and identified the Hill Slough area as containing the habitat features essential for the conservation of the subspecies (Brenda Grewell, pers comm. 1993).

The population size of *C. hydrophilum* var. *hydrophilum* varies greatly from year to year. At the time of listing, the subspecies was known from two small areas totaling a few thousand plants occupying an area of less than one acre. Survey work done since the time of listing has identified an additional population within the same general area as the two at the time of listing. These three populations continue to be threatened by the same factors discussed in the listing determination: Habitat loss, fragmentation, disruption to the hydrologic regime, invasive competition from non-native plants, chronic and acute pollution from point and non-point sources, insect or pest outbreaks, and extended drought. Due to their small size, the populations are also subject to increased risk of extirpation from random anthropogenic or natural events.

We have determined that, due to the limited availability of habitat for the subspecies, the limited distribution and small population size of the subspecies, and the subspecies' poor dispersal capabilities, the long-term conservation of this plant is dependent upon the protection of habitat supporting all three existing populations, including surrounding areas that may contain dormant seed banks and that support the PCEs of the subspecies. For the same reasons, the conservation of the subspecies also depends on the establishment of at least one additional population in appropriate habitat. Hill Slough Marsh is not known to be occupied by the subspecies, either now or at the time of listing, but based on the area's size and because it supports all the PCEs of the plant, it is the area best suited for reintroduction. The area is also the subject of ongoing restoration and planning efforts conducted under the auspices of the Suisun Protection Plan (SFBCDC 2006). Accordingly, we have determined that the area of Hill Slough Marsh proposed below as Unit 1 for *Cirsium hydrophilum* var. *hydrophilum* is essential to the conservation of the subspecies.

Criteria for Cordylanthus mollis ssp. *mollis*

Only extant occurrences of *Cordylanthus mollis* ssp. *mollis* located in fully tidal marshes were selected because these areas contain the features essential to the conservation of the subspecies and can contribute best to the subspecies' recovery. These widely scattered populations are dependent on tidal events and native halophytic plant communities to complete the subspecies' life cycle. Extant occurrences in diked, managed, and muted tidal marshes were not proposed for designation, because these areas fail to support the tidal hydrology and native plant communities that the subspecies needs for long term persistence. Populations outside the designation may still be important for recovery of the subspecies, and are still protected under the Act, but their habitat is not considered essential to recovery.

The inclusion of known plant locations interspersed with patches of surrounding habitat reflects the dynamic nature of tidal marshes (Nichols *et al.* 1986; Adam 2002) and life cycle of these subspecies.

Mapping

Geospatial data sets were used within ArcGIS 8.3/ArcMap (Environmental Systems Research Institute, Redlands, CA) and analyzed to define the areas that best contain the features that are essential to the conservation of *Cirsium hydrophilum* var. *hydrophilum and Cordylanthus mollis* ssp. *mollis*. Intertidal, emergent estuarine marshes (undiked high tidal marshes) were selected from the data sets based on tidal channel networks, hydrology, and marsh elevation (refer to PCEs). We are not including undiked high tidal marshes that do not contain the PCEs or were not essential for the conservation of the subspecies because either the area is highly degraded and may not be restorable; or the area is small, highly fragmented, or isolated and may provide little or no long-term conservation value.

The occurrence of saline soils were determined from county soil surveys (NRCS 2005c). Marsh habitats and soil salinity in high tidal marshes will also be continually changing due to the seasonal variability of environmental conditions within these areas.

Based on the above data analysis, the boundaries of proposed critical habitat units were digitized at a map scale from 1:750 to 1:1,500 from digital photographic and wetland-tidal marsh polygon data sets (see Methods section). All lands within these delineated boundaries are considered critical habitat. Water bodies and conveyances (such as tidal sloughs, channels, ditches, canals, and ponds) were not removed from the interior of critical habitat units. These features are essential for the conservation of the subspecies based on hydrologic processes, despite the fact that these plants do not normally grow within the banks of such channels and ponds.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas determined to be occupied at the time of listing and that contain the PCEs may require special management considerations or

protections. Most of the known occurrences of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* are threatened by (1) tidal wetland conversions to diked, managed, or muted tidal marshes; (2) changes to channel water salinity and tidal regimes; (3) mosquito abatement activities; (4) marsh invasions by non-native plants; (5) plant-eating insects; (6) urban, industrial, and agricultural encroachment; (7) impacts from livestock overgrazing ; (8) feral pigs (*Sus scrofa*); and (9) impacts from unauthorized foot and off-road vehicle traffic. These combined threats result in the loss and fragmentation of suitable habitat for *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis*, which could significantly affect their long-term survival. Individually, these threats may require special management as addressed under the critical habitat unit descriptions below.

Proposed Critical Habitat Designation

We are proposing three units as critical habitat for the *Cirsium hydrophilum* var hydrophilum and five units for *Cordylanthus mollis* ssp. *mollis*. Table 1 below identifies the approximate area exempt from proposed critical habitat for *C. mollis* ssp. *mollis* pursuant to section 4(a)(3) of the Act.

TABLE 1.—APPROXIMATE AREA EXEMPT FROM PROPOSED CRITICAL HABITAT FOR *Cordylanthus mollis* SSP. *mollis* PURSUANT TO SECTION 4(A)(3) OF THE ACT

Location (unit)	Lands containing features essential		Area exempt from critical habitat designation	
Concord Naval Weapons Station (Middle Point Marsh and western portion of Hastings Marsh)	402 ac	163 ha	402 ac	163 ha

Cirsium Hydrophilum var Hydrophilum

The three proposed units for *Cirsium hydrophilum* var *hydrophilum* are in Solano County, California. The critical habitat units described below contain the PCEs of the subspecies, and may require special management. The units proposed as critical habitat are listed in Table 2.

TABLE 2.—CRITICAL HABITAT UNITS PROPOSED FOR CIRSIUM *Hydrophilum* VAR. *Hydrophilum*

[Area estimates reflect all land within critical habitat boundaries, acres (hectares)]

Critical habitat unit	State	Land trust	Private	Total
Unit 1: Hill Slough Marsh	440 (178)	0 (0)	85 (35)	525 (213)
Unit 2: Peytonia Slough Marsh:				
Subunit 2A	0 (0)	0 (0)	120 (49)	120 (49)
Subunit 2B	243 (98)	0 (0)	50 (20)	293 (118)
Unit 3: Rush Ranch/Grizzly Island Wildlife Area	231 (93)	950 (384)	0 (0)	1,181 (477)
Total	914 (369)	950 (384)	255 (104)	2,119 (857)

Common threats that may require special management in all three units include (1) alternations to channel water salinity and tidal regimes from the operation of the Suisun Marsh Salinity Control Gates that could affect the depth, duration, and frequency of tidal events and the degree of salinity in the channel water column; (2) mosquito abatement activities (ditching, dredging, and chemical spray operations), which may damage the plants directly by trampling and soil disturbance, and indirectly by altering hydrologic processes and by providing relatively dry ground for additional foot and vehicular traffic; (3) rooting, wallowing, trampling, and grazing impacts from livestock and feral pigs that could result in damage or loss to *C. hydrophilum* var. *hydrophilum* colonies or soil disturbance and compaction leading to a disruption in natural marsh ecosystem processes; (4) increases in the proliferation of non-native invasive plants from human-induced soil disturbances leading to the invasives outcompeting the *C. hydrophilum.* var. *hydrophilum*; and (5) control or removal of non-native invasive plants, especially *Lepidium latifolium*, which, if not carefully managed, can damage *C. hydrophilum* var. *hydrophilum* populations through the injudicious application of herbicides; by direct trampling; or through the accidental transport of invasive plant seeds to new areas. An additional threat that may require special management in Units 1 and 2 includes urban or residential encroachment from Suisun City to the north that could increase stormwater and wastewater runoff into these units.

We present brief descriptions of all units and the reasons why they contain features that are essential for the conservation of *Cirsium hydrophilum* var. *hydrophilum*, below. Hydric soils and soil salinity described under unit descriptions were based on NRCS (2005a, 2005c, and 2005d) and USDA (1993, page 194) soil data.

Unit 1: Hill Slough Marsh

Unit 1 consists of approximately 525 ac (213 ha) located north of Potrero Hills between Grizzly Island Road and Highway 12. As discussed in the Criteria for *Cirsium hydrophylum* var. *hydrophilum* section above, this unit is currently unoccupied and was unoccupied at the time of listing, but it is essential to the conservation of the subspecies because it is the single best area for establishment of an additional population. It contains all the necessary PCEs and is the subject of on-going restoration and planning efforts within the Suisun Marsh. The unit consists of approximately 440 ac (178 ha) of State-owned land (Hill Slough Wildlife Area), which is managed by the CDFG, and 85 ac (35 ha) of privately owned land. The unit receives tidal inundations (PCE 1) irregularly (not daily) (NWI 2005) from Hill Slough and a flood control channel along the western unit boundary (PCE 2). Natural tidal channel networks are developed within the unit. Approximately 98.4 percent of the soils in the unit are classified as hydric soils that are slightly to moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). The unit contains the

PCEs for the subspecies to allow for germination, reproduction, and development.

Unit 2: Peytonia Slough Marsh

Unit 2 consists of approximately 413 ac (167 ha) located adjacent to Cordelia Road to the west, Suisun Slough to the east, Peytonia Slough to the south, and Suisun City to the north. The unit consists of approximately 243 ac (98 ha) of State-owned land (Peytonia Slough Ecological Reserve), which is managed by the CDFG, and 170 ac (69 ha) of privately owned high tidal marsh. The unit receives tidal inundations on a regular-to-irregular basis (NWI 2005) from Peytonia Slough (PCE 1); however, the unit is hydrologically bisected into subunits 2A and 2B, north to south, by an elevated railroad line, but is tidally connected at its southern boundary by Peytonia Slough. Natural tidal channel networks exist within the unit. The eastern portion of the unit along Suisun Slough is partially diked but is tidally influenced through a channel branching off from Peytonia Slough (PCE 2). Approximately 99.8 percent of the soils in the unit are classified as hydric soils that are moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. *Cirsium hydrophilum* var. *hydrophilum* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Unit 3: Rush Ranch/Grizzly Island Wildlife Area

Unit 3 consists of approximately 1,181 ac (477 ha) located adjacent to Suisun Slough to the west, Cutoff and Montezuma Sloughs to the south, and Potrero Hills to the North. This unit consists of 231 ac (93 ha) of State-owned land (the Joice Island portion of Grizzly Island Wildlife Area), which is managed by the CDFG, and 950 ac (384 ha) of land owned by the Solano Land Trust (local non-profit public land trust). The unit receives regular tidal inundations at least once daily (NWI 2005) (PCE 1) from the above-mentioned tidal sloughs. Natural tidal channel networks exist within the unit (PCE 2). Approximately 94.6 percent of the soils in the unit are classified as hydric soils that are slightly to moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. Another threat not identified above that may require special management includes the presence of *Rhinocyllus conicus* (a non-native biological control weevil) or other plant-eating insects that could reduce the reproductive potential of *Cirsium hydrophilum* var. *hydrophilum. Cirsium hydrophilum* var. *hydrophilum* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Cordylanthus mollis ssp. *mollis*

We are proposing five units as critical habitat for *Cordylanthus mollis* ssp. *mollis* in Contra Costa, Napa, and Solano Counties, California. The critical habitat areas described below constitute areas that contain the PCEs and that may require special management. The units proposed as critical habitat are listed in Table 3. Contra Costa, Napa, and Solano Counties have approximately 22 ac (9 ha), 408 ac (165 ha), and 1,884 ac (763 ha) of proposed critical habitat, respectively.

Common threats that may require special management in all five units include (1) mosquito abatement activities (ditching, dredging, and chemical spray operations), which may damage the plants directly by trampling and soil disturbance, and indirectly by altering hydrologic processes and by providing relatively dry ground for additional foot and vehicular traffic; (2) general foot and off-road vehicle traffic through *C. mollis* ssp. *mollis* populations that could result in their damage and loss in impacted areas; (3) increases in the proliferation of non-native invasive plants from human-induced soil disturbances leading to the invasives outcompeting the *C. mollis* ssp. *mollis*; (4) control or removal of non-native invasive plants, especially *Lepidium latifolium*, which, if not carefully managed, can damage *C. mollis* ssp. *mollis* populations through the injudicious application of herbicides; by direct trampling; or through the accidental transport of invasive plant seeds to new areas; and (5) presence of *Lipographis fenestrella* (a moth) larvae that could reduce the reproductive potential of *C. mollis* ssp. *mollis* through flower, fruit, and seed predation.

Common threats that may require special management in Units 2 and 4 in Suisun Marsh include (1) alternations to channel water salinity and tidal regimes from the operation of the Suisun Marsh Salinity Control Gates that could affect the depth, duration, and frequency of tidal events and the degree of salinity in the channel water column; and (2) rooting, wallowing, trampling, and grazing impacts from livestock and feral pigs that could result in damage or loss to *C. mollis* ssp. *mollis* populations or soil disturbance and compaction leading to a disruption in natural marsh ecosystem processes. A common threat that may require special management in Units 3 and 5 is contamination from bay oil spills that could directly impact *C. mollis* ssp. *mollis* populations and seed banks.

We present brief descriptions of all units and the reasons why they are essential for the conservation of *Cordylanthus mollis* ssp. mollis below. Hydric soils and soil salinity described under unit descriptions were based on NRCS (2005a, 2005c, and 2005d) and USDA (1993, page 194) soil data.

TABLE 3.—CRITICAL HABITAT UNITS PROPOSED FOR *Cordylanthus mollis* SSP. *mollis*

[Area estimates reflect all land within critical habitat boundaries, acres (hectares)]

Critical habitat unit	State	County/City	Land trust	Private	Total
Unit 1: Fagan Slough Marsh	320 (130)	15 (6)	0 (0)	72 (29)	407 (165)
Unit 2: Hill Slough Marsh	440 (178)	0 (0)	0 (0)	85 (35)	525 (213)
Unit 3: Point Pinole Shoreline	9 (4)	13 (5)	0 (0)	0 (0)	22 (9)
Unit 4: Rush Ranch/Grizzly Island Wildlife Area	231 (93)	0 (0)	950 (384)	0 (0)	1,181 (477)
Unit 5: Southampton Marsh	178 (72)	0 (0)	0 (0)	0 (0)	178 (72)
Total	1,178 (477)	28 (11)	950 (384)	157 (64)	2,313 (936)

Unit 1: Fagan Slough Marsh (Napa County)

Unit 1 consists of approximately 407 ac (165 ha) located adjacent to the Napa River to the west, Napa County Airport to the east, Fagan Slough to the south, and Steamboat Slough to the north. This unit consists of 320 ac (130 ha) of State-owned land (Fagan Slough Ecological Reserve), which is managed by the CDFG, 6 ac (2 ha) of County-owned land, 9 ac (4 ha) of land owned by the City of Napa, and 72 ac (29 ha) of privately owned land. The unit receives tidal inundations regularly (NWI 2005) from the above-mentioned tidal sloughs and the Napa River (PCE 1, PCE 2). Natural tidal channel networks are developed within the unit. Approximately 98 percent of the soils in the unit are classified as hydric soils that are slightly saline within the first 3 feet (0.9 m) of soil depth (PCE 2). This unit contains native plant communities of appropriate height and sufficient host plants to provide the subspecies with the environmental and nutritional requirements needed for its survival (PCE 3, PCE 4). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. *Cordylanthus mollis* ssp. *mollis* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Unit 2: Hill Slough Marsh (Solano County)

Unit 2 for *Cordylanthus mollis* ssp. *mollis* consists of approximately 525 ac (213 ha) located north of Potrero Hills between Grizzly Island Road and Highway 12. The unit consists of approximately 440 ac (178 ha) of State-owned land (Hill Slough Wildlife Area), which is managed by the CDFG, and 85 ac (35 ha) of privately owned land. The unit receives tidal inundations irregularly (not daily) (NWI 2005) from Hill Slough and a flood control channel along the western unit boundary (PCE 1, PCE 2). Natural tidal channel networks are developed within the unit. Approximately 98.4 percent of the soils in the unit are classified as hydric soils that are slightly to moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). This unit contains native plant communities of appropriate height and sufficient host plants to provide the subspecies with the environmental and nutritional requirements needed for its survival (PCE 3, PCE 4). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. *C. mollis* ssp. *mollis* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Unit 3: Point Pinole Shoreline (Contra Costa County)

Unit 3 consists of approximately 22 ac (9 ha) located along the Contra Costa shoreline in San Pablo Bay just east of Point Pinole. This unit consists of 13 ac (5 ha) of County-owned land (Point Pinole Regional Shoreline Park), which is managed by the EBRPD, and 9 ac (4 ha) of State-owned land. The unit receives tidal inundations on a regular basis (NWI 2005) from natural and artificial (dredged) tidal channels within the unit (PCE 1, PCE 2). Approximately 23.8 percent of the soils in the unit are classified as hydric soils that are moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). This unit contains native plant communities of appropriate height and sufficient host plants to provide the subspecies with the environmental and nutritional requirements needed for its survival (PCE 3, PCE 4). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. Another threat in this unit that may require special management is industrial or commercial encroachment from the south that could increase stormwater and wastewater runoff into the unit. *Cordylanthus mollis* ssp. *mollis* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Unit 4: Rush Ranch/Grizzly Island Wildlife Area (Solano County)

Unit 4 for *Cordylanthus mollis* ssp. *mollis* consists of approximately 1,181 ac (477 ha) located adjacent to Suisun Slough to the west, Cutoff and Montezuma Sloughs to the south, and Potrero Hills to the North. This unit consists of 231 ac (93 ha) of State-owned land (Joice Island portion of the Grizzly Island Wildlife Area), which is managed by the CDFG, and 950 ac (384 ha) of land owned and managed by the Solano Land Trust (local non-profit public land trust). The unit receives tidal inundations regularly (at least once daily) (NWI 2005) from the above-mentioned tidal sloughs (PCE 1, PCE 2). Natural tidal channel networks are developed within the unit. Approximately 94.6 percent of the soils in the unit are classified as hydric soils that are slightly to moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). This unit contains native plant communities of appropriate height and sufficient host plants to provide the subspecies with the environmental and nutritional requirements needed for its survival (PCE 3, PCE 4). The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. *C. mollis* ssp. *mollis* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Unit 5: Southampton Marsh (Solano County)

Unit 5 consists of approximately 178 ac (72 ha) of State-owned land managed by CDPR as a wetland natural preserve (CDPR 1991). The unit is located in the Benicia State Recreational Area along Interstate Highway 780 and just northwest of the City of Benicia. The unit receives tidal inundations on a regular-to-irregular basis (NWI 2005) from natural and artificial (dredged) tidal channels within the unit (PCE 1, PCE 2). Approximately 76.5 percent of the soils in the unit are classified as hydric soils that are moderately saline within the first 3 feet (0.9 m) of soil depth (PCE 2). This unit contains native plant communities of appropriate height and sufficient host plants to provide the subspecies with the environmental and nutritional requirements needed for its survival (PCE 3, PCE 4). Approximately 22 ac (9 ha) of bay fill is located in the northwestern section of the unit adjacent to the paved park roadway. This area is associated with ongoing marsh restoration efforts by the CDPR. The unit contains the PCEs for the subspecies to allow for germination, reproduction, and development of a seed bank. Another threat in this unit that may require special management is urban or residential encroachment from the north that could increase stormwater and wastewater runoff into the unit. *Cordylanthus mollis* ssp. *mollis* occupied the unit at the time of listing as identified in the final listing rule (62 FR 61916).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7 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. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' However, recent decisions by the 5th and 9th Circuit

Court of Appeals have invalidated this definition. Pursuant to current national policy and the statutory provisions of the Act, destruction or adverse modification is determined 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 primary constituent elements to be functionally established) to serve the intended conservation role for the species.

Section 7(a) of the Act requires Federal agencies, including the Service, to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is proposed or designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. This is a procedural requirement only. However, once a proposed species becomes listed, or proposed critical habitat is designated as final, the full prohibitions of section 7(a)(2) apply to any Federal action. The primary utility of the conference procedure is to maximize the opportunity for a Federal agency to adequately consider proposed species and critical habitat and avoid potential delays in implementing their proposed action as a result of the section 7(a)(2) compliance process, should those species be listed or the critical habitat designated.

Under conference procedures, the Service may provide advisory conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The Service may conduct either informal or formal conferences. Informal conferences are typically used if the proposed action is not likely to have any adverse effects to the proposed species or proposed critical habitat. Formal conferences are typically used when the Federal agency or the Service believes the proposed action is likely to cause adverse effects to proposed species or critical habitat, inclusive of those that may cause jeopardy or adverse modification.

The results of an informal conference are typically transmitted in a conference report; while the results of a formal conference are typically transmitted in a conference opinion. Conference opinions on proposed critical habitat are typically prepared according to 50 CFR 402.14, as if the proposed critical habitat were designated. We may adopt the conference opinion as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). As noted above, any conservation recommendations in a conference report or opinion are strictly advisory.

If a species is listed or critical habitat is designated, 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 such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, compliance with the requirements of section 7(a)(2) will be documented through the Service's 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, but are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to result in jeopardy to a listed species or the destruction or adverse modification of critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. ''Reasonable and prudent alternatives'' are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid jeopardy to the listed species or destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

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

Federal activities that may affect *Cirsium hydrophilum* var. *hydrophilum* or *Cordylanthus mollis* ssp. *mollis* or their designated critical habitat will require section 7 consultation under the Act. Activities on State, tribal, local or private lands requiring a Federal permit (such as a permit from the Corps under section 404 of the Clean Water Act or a permit under section 10(a)(1)(B) of the Act from the Service) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) will also be subject to the section 7 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 permitted, do not require section 7 consultations. In instances where emergency levee repair or maintenance activities are required and may affect *C. hydrophilum* var. *hydrophilum* or *C. mollis* ssp. *mollis* or their proposed critical habitat, we have notified the affected agencies and flood control districts that those emergency repair and maintenance activities would constitute an emergency consultation as identified under the Federal Code of Regulations (50 CFR 402.05). As a result, such emergency repair and maintenance activities may proceed prior to consulting with the Service.

Application of the Jeopardy and Adverse Modification Standards for Actions involving Effects to Cirsium hydrophilum var. hydrophilum or Cordylanthus mollis ssp. mollis and their Critical Habitat

Jeopardy Standard

Prior to and following designation of critical habitat, the Service has applied an analytical framework for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* jeopardy analyses that relies heavily on the importance of core area populations to the survival and recovery of *C. hydrophilum* var. *hydrophilum* or *C. mollis* ssp. *mollis* or both. The section 7(a)(2) analysis is focused not only on

these populations but also on the habitat conditions necessary to support them.

The jeopardy analysis usually expresses the survival and recovery needs of *Cirsium hydrophilum* var. *hydrophilum* and/or *Cordylanthus mollis* ssp. *mollis* in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, if a proposed Federal action is incompatible with the viability of the affected core area population(s), inclusive of associated habitat conditions, a jeopardy finding is considered to be warranted, because of the relationship of each core area population to the survival and recovery of the species as a whole.

Adverse Modification Standard

The analytical framework described in the Director's December 9, 2004, memorandum is used to complete section 7(a)(2) analyses for Federal actions affecting *Cirsium hydrophilum* var. *hydrophilum* or *Cordylanthus mollis* ssp. *mollis* critical habitat. The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species. Generally, the conservation role of *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis* critical habitat units is to support viable 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 those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat may also jeopardize the continued existence of the species.

Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that the conservation value of critical habitat for *Cirsium hydrophilum* var. *hydrophilum* and/or *Cordylanthus mollis* ssp. *mollis* is appreciably reduced. Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore result in consultation for *C. hydrophilum* var. *hydrophilum* or *C. mollis* ssp. *mollis* or both include, but are not limited to:

(1) Actions that would degrade natural tidal hydrology in undiked high tidal marshes supporting *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* populations. Such actions could include, but are not limited to: The construction of new levees, tide gates, mosquito abatement ditches, flash board water control structures, or other marsh impoundment and drainage structures; urban flood control and channelization projects; and human-induced changes to natural saltwater and freshwater inflows into undiked high tidal marshes. These actions could limit the geomorphic processes associated with natural tidal channel networks; alter soil and water chemistry affecting the composition of tidal marsh plant communities; and reduce vertical marsh accretion affecting the range of tidal inundations, especially in relation to local sea level rise.

(2) Actions that would degrade or destroy *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* habitat. Such actions could include, but are not limited to, domestic and feral livestock impacts; unauthorized foot and off-road vehicle traffic; and agricultural, urban, and commercial developments. These actions could alter marsh ecosystem form and function by isolating and fragmenting tidal marsh habitat leading to the further isolation of *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis* populations; introduce or encourage the spread and establishment of non-native invasive plants; increase human-induced erosion and sedimentation rates; boost trail development and usage that may impact species populations; and lower water quality because of an increase in stormwater and wastewater runoff.

(3) Actions that would remove or destroy *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* plants. Such actions could include, but are not limited to: Excavating, grading, plowing, mowing, burning, grazing, farming, or chemical spraying; unauthorized foot and off-road vehicle traffic, and the spread of non-native invasion plants in occupied, undiked high tidal marshes.

(4) Actions completed by the U.S. Army Corps of Engineers (for example, under section 404 of the Clean Water Act of 1977 and under section 10 of the Rivers and Harbor Act of 1899), Environmental Protection Agency, and other Federal, State, or local regulatory agencies that would reduce the quantity and quality of undiked high tidal marsh habitat supporting *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* populations. Such actions could include, but are not limited to: The construction of new levees, agricultural irrigation systems, boat ramps and docks, wharfs, marinas, bank revetments, permanent mooring structures, aids to navigation, and dredge and fill activities; roadway and highway projects (such as road widening and new road construction); unauthorized discharge of non-point source pollutants; stream and tidal channel alternations; and other water-dependent projects or activities. These actions could impact supporting habitat by lowering tidal marsh water quality, decreasing saltwater and freshwater inflows, and causing direct loss of tidal marshes through fill and removal activities.

All proposed critical habitat units, as described above, are within the geographic range of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*, respectively, or were occupied by the subspecies at the time of listing except for Unit 1 for *C. hydrophilum* var. *hydrophilum*, which is considered unoccupied by that subspecies. The same area is also proposed as Unit 2 for *C. mollis* ssp. *mollis*, however, and it is occupied by that subspecies. We consider all of the units included in this proposed designation to contain the features essential to the conservation of these subspecies.

All of the units proposed as critical habitat, as well as areas that may be excluded or not included, contain features essential to the conservation of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. Federal agencies already consult with us on activities in areas currently occupied by *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis*, or if the species may be affected by the action, to ensure that their actions do not jeopardize the continued existence of *C. hydrophilum* var. *hydrophilum* or *C. mollis* ssp. *mollis* or both.

Application of Section 4(a)(3) and Exclusions Under Section 4(b)(2) of the Act

There are multiple ways to provide management for species' habitat. Statutory and regulatory frameworks that exist at a local level can provide such protection and management, as can lack of pressure for change, such as areas too remote for anthropogenic disturbance. Finally, State, local, or private management plans as well as management under Federal agencies jurisdictions can provide protection and management to avoid the need for designation of critical habitat. When we consider a plan to determine its adequacy in protecting habitat, we consider whether the plan, as a whole

will provide the same level of protection that designation of critical habitat would provide. The plan need not lead to exactly the same result as a designation in every individual application, as long as the protection it provides is equivalent, overall. In making this determination, we examine whether the plan provides management, protection, or enhancement of the PCEs that is at least equivalent to that provided by a critical habitat designation, and whether there is a reasonable expectation that the management, protection, or enhancement actions will continue into the foreseeable future. Each review is particular to the species and the plan, and some plans may be adequate for some species and inadequate for others.

Section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, 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 [s]he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless [s]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 Secretary is afforded broad discretion and the Congressional record is clear that in making a determination under the section the Secretary has discretion as to which factors and how much weight will be given to any factor.

Under section 4(b)(2), in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, determine whether the benefits of exclusion outweigh the benefits of inclusion. If an exclusion is contemplated, then we must determine whether excluding the area would result in the extinction of the species. In the following sections, we address a number of general issues that are relevant to the exclusions we considered.

The Sikes Act 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 Integrated Natural Resource Management Plan (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.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the ESA to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the ESA (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 prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.''

We consult with the military on the development and implementation of INRMPs for installations with listed species. INRMPs developed by military installations located within the range of the proposed critical habitat designation for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* were analyzed for exemption under the authority of 4(a)(3) of the Act.

Concord Naval Weapons Station

Approximately 402 ac (163 ha) of habitat *Cordylanthus mollis* ssp. *mollis* occurring in habitats within or adjacent to the USDN, Naval Weapons Station, Seal Beach Detachment, Concord in Contra Costa County, California (referred to as the Concord Naval Weapons Station (CNWS) in the proposed rule) is exempted from this proposed critical habitat designation. The USDN has prepared and implemented an INRMP at the CNWS as of March 2002 (USDN 2002). The Inland and Tidal Areas are the primary land areas at the CNWS covered under the INRMP. In addition to the INRMP, the Navy has entered into a Memorandum of Understanding (MOU) (USDN 2002 Appendix D) in 1984 with the Service to establish a wetland preserve in the Tidal Area (East, Hastings, Middle Point, North Area K, and Pier Marshes) and all areas in the outlying six islands (Freeman, Middle Ground, Roe, Ryder, Seal, and Snag Islands). Under the MOU, the USDN, in cooperation with the Service, will (1) prepare and implement a management plan for the preserve to promote the recovery and preservation of threatened and endangered species and wetland resources; (2) prepare additional plans for the management of these subspecies in consonance with the management plan for the preserve, (3) conduct studies and surveys within funding and personnel availability on fish and wildlife resources in the preserve; (4) give priority to the protection and management of the preserve; and (5) prevent, as much as possible, any military activity that could adversely impact or otherwise be detrimental to the wetland resources in the preserve.

All *Cordylanthus mollis* ssp. *mollis* populations at the CNWS are restricted to the Tidal Area. Tidal Area management objectives under the INRMP for the species include (1) restricting access to tidal marshes to reduce potential human-induced impacts, except for the purpose of approved research; (2) maintaining tidal marshes in accordance with the 1984 MOU; (3) completing botanical surveys; (4) monitoring populations and population trends to determine effectiveness of natural resources management goals; and (5) reviewing proposed military activities and development to ensure the conservation of the subspecies. The USDN signed an Indefinite Use Permit in 1999 (USDN 2002 Appendix C) with the U.S. Department of the Army for use of the Tidal Area. The INRMP will help Army personnel continue the implementation of established management strategies designed to conserve the natural resources in the Tidal Area. Therefore, we are exempting critical habitat for *Cordylanthus mollis* ssp. *mollis* on this installation pursuant to section 4(a)(3) of the Act.

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without the cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995) and at least 80 percent of all endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002). Stein *et al.* (1995) found that only about 12 percent of listed species were

found almost exclusively on Federal lands (90–100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to land ownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-Federal landowners (Wilcove and Chen 1998, Crouse *et al.* 2002, James 2002). Building partnerships and promoting voluntary cooperation of landowners is essential to understanding the status of species on non-Federal lands and is necessary to implement recovery actions such as reintroducing listed species, habitat restoration, and habitat protection.

Many non-Federal landowners derive satisfaction in contributing to endangered species recovery. The Service promotes these private-sector efforts through the ''4C's'' philosophy—conservation through communication, consultation, and cooperation. This philosophy is evident in Service programs such as Habitat Conservation Plans (HCPs), Safe Harbors, Candidate Conservation Agreements with Assurances (CCAAs), and cooperative conservation challenge cost-share grants. Many private landowners, however, are wary of the possible consequences of encouraging endangered species to their property, and there is mounting evidence that some regulatory actions by the Federal government, while well-intentioned and required by law, can under certain circumstances have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996, Bean 2002, Conner and Mathews 2002, James 2002, Koch 2002, Brook *et al.* 2003). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where threatened or endangered species are found. Consequently, harboring endangered species is viewed by many landowners as a liability, resulting in anti-conservation incentives because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main *et al.* 1999, Brook *et al.* 2003).

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation (triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7 of the Act) can sometimes be counterproductive to its intended purpose on non-Federal lands. According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999, Bean 2002, Brook *et al.* 2003). The magnitude of this negative outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, control of invasive species) are necessary for species conservation (Bean 2002).

The Service believes that the judicious use of excluding specific areas of non-Federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation than designation of critical habitat alone. For example, less than 17 percent of Hawaii is federally owned, but the state is home to more than 24 percent of all federally listed species, most of which will not recover without State and private landowner cooperation. On the island of Lanai, Castle and Cooke Resorts, LLC, which owns 99 percent of the island, entered into a conservation agreement with the Service. The conservation agreement provides conservation benefits to target species through management actions that remove threats (such as axis deer, mouflon sheep, rats, invasive non-native plants) from the Lanaihale and East Lanai Regions. Specific management actions include fire control measures, nursery propagation of native flora (including the target species) and planting of such flora. These actions will significantly improve the habitat for all currently occurring species. Due to the low likelihood of a Federal nexus on the island, we believe that the benefits of excluding the lands covered by the MOA exceeded the benefits of including them. As stated in the final critical habitat rule for endangered plants on the Island of Lanai:

> On Lanai, simply preventing ''harmful activities'' will not slow the extinction of listed plant species. Where consistent with the discretion provided by the Act, the Service believes it is necessary to implement policies that provide positive incentives to private landowners to voluntarily conserve natural resources and that remove or reduce disincentives to conservation. While the impact of providing these incentives may be modest in economic terms, they can be significant in terms of conservation benefits that can stem from the cooperation of the landowner. The continued participation of Castle and Cooke Resorts, LLC, in the existing Lanai Forest and Watershed Partnership and other voluntary conservation agreements will greatly enhance the Service's ability to further the recovery of these endangered plants.

Secretary Norton's ''4C's'' philosophy—conservation through communication, consultation, and cooperation—is the foundation for developing the tools of conservation. These tools include conservation grants, funding for Partners for Fish and Wildlife Program, the Coastal Program, and cooperative-conservation challenge cost-share grants. Our Private Stewardship Grant program and Landowner Incentive Program provide assistance to private land owners in their voluntary efforts to protect threatened, imperiled, and endangered species, including the development and implementation of HCPs.

Conservation agreements with non-Federal landowners (such as HCPs, contractual conservation agreements, easements, and stakeholder-negotiated State regulations) enhance species conservation by extending species protections beyond those available through section 7 consultations. In the past decade we have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854; December 2, 1996).

We recognize that conservation efforts are underway that may allow us to exclude some areas. Should information become available during the public comment period on management plans or strategies that would provide benefit to the species, we will analyze the information and make a determination of the appropriateness of such an exclusion in our final designation.

General Principles of Section 7 Consultations Used in the 4(b)(2) Balancing Process

The most direct, and potentially largest, regulatory benefit of critical habitat is that federally authorized, funded, or carried out activities require consultation pursuant to section 7 of the Act to ensure that they are not likely to destroy or adversely modify critical habitat. There are two limitations to this regulatory effect. First, it only applies where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological

features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are not eroded. Critical habitat designation alone, however, does not require specific steps toward recovery.

Once consultation under section 7 of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts are likely to occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory reasonable and prudent alternatives to the proposed Federal action would only be issued when the biological opinion results in a jeopardy or adverse modification conclusion.

We also note that for 30 years prior to the Ninth Circuit Court's decision in *Gifford Pinchot*, the Service equated the jeopardy standard with the standard for destruction or adverse modification of critical habitat. The Court ruled that the Service could no longer equate the two standards and that adverse modification evaluations require consideration of impacts on the recovery of species. Thus, under the *Gifford Pinchot* decision, critical habitat designations may provide greater benefits to the recovery of a species. However, we believe the conservation achieved through implementing HCPs or other habitat management plans is typically greater than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7 consultations only commit Federal agencies to prevent adverse modification to critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed project. Thus, any HCP or management plan that considers enhancement or recovery as the management standard will always provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat in that it provides the framework for the consultation process.

Educational Benefits of Critical Habitat

A benefit of including lands in critical habitat is that the designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. In general the educational benefit of a critical habitat designation always exists, although in some cases it may be redundant with other educational effects. For example, HCPs have significant public input and may largely duplicate the educational benefit of a critical habitat designation. This benefit is closely related to a second, more indirect benefit: that designation of critical habitat would inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

However, we believe that there would be little additional informational benefit gained from the designation of critical habitat for the exclusions we are proposing in this rule because these areas are included in this proposed rule as having habitat containing the features essential to the conservation of the species. Consequently, we believe that the informational benefits are already provided even though these areas are being proposed for exclusion from the critical habitat designation. Additionally, the purpose normally served by the designation of informing State agencies and local governments about areas that would benefit from protection and enhancement of habitat for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* is already well established among State and local governments, and Federal agencies in those areas that we are proposing to exclude from critical habitat in this rule on the basis of other existing habitat management protections.

Economic Analysis

An analysis of the economic impacts of proposing critical habitat for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* is being prepared. 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.fws.gov/sacramento/*, or by contacting the Sacramento Fish and Wildlife Office directly (see **ADDRESSES** section).

Peer Review

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

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

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Requests for public hearings must be made in writing at least 15 days prior to the close of the public comment period. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings in the **Federal Register** and local newspapers at least 15 days prior to the first hearing.

Clarity of the Rule

Executive Order (E.O.) 12866 requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as

the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of the sections, use of headings, paragraphing, and so forth) aid or reduce its clarity? (4) Is the description of the notice in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make this proposed rule easier to understand?

Send a copy of any comments on how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may e-mail your comments to this address: *Exsec@ios.doi.gov.*

Required Determinations

Regulatory Planning and Review

In accordance with E.O. 12866, this document is a significant rule in that it may raise novel legal and policy issues, but it is not anticipated to have an annual effect on the economy of $100 million or more or affect the economy in a material way. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule. We are preparing a draft economic analysis of this proposed action, which will be available for public comment, to determine the economic consequences of designating the specific area as critical habitat. This economic analysis also will be used to determine compliance with E.O. 12866, Regulatory Flexibility Act, Small Business Regulatory Enforcement Fairness Act, and E.O. 12630.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are listed above in the section on Section 7 Consultation. The availability of the draft economic analysis will be announced in the **Federal Register** and in local newspapers so that it is available for public review and comments. The draft economic analysis can be obtained from the internet Web site at *http://www.fws.gov/sacramento/* or by contacting the Sacramento Fish and Wildlife Office directly (see **ADDRESSES** section).

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the Regulatory Flexibility Act (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, the Service lacks the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, the RFA finding is deferred until completion of the draft economic analysis prepared pursuant to section 4(b)(2) of the ESA 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, the Service will publish a notice of availability of the draft economic analysis of the proposed designation and reopen the public comment period for the proposed designation for an additional timeframe. The Service will include with the notice of availability, 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. The Service has 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 the Service makes a sufficiently informed determination based on adequate economic information and provides the necessary opportunity for public comment.

Executive Order 13211

On May 18, 2001, the President issued an E.O. (E.O. 13211) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This proposed rule to designate critical habitat for *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* is not a significant regulatory action under E.O. 12866, and it is not expected 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.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501), the Service makes the following findings:

(a) 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, tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; 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 on to State governments.

(b) We do not believe that this rule will significantly or uniquely affect small governments because only 1.2 percent (27.9 ac/11.4 ha) of the total proposed critical habitat designation for *Cordylanthus mollis* ssp. *mollis* is owned by small government entities and none for *Cirsium hydrophilum* var. *hydrophilum*. These entities include Napa County and the City of Napa, California. As such, Small Government Agency Plan is not required. We will, however, further evaluate this issue as we conduct our economic analysis and revise this assessment if appropriate.

Federalism

In accordance with E.O. 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with DOI and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in California. The designation of critical habitat in areas currently occupied by *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis* imposes no additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas essential to the conservation of the subspecies are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the subspecies are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with E.O. 12988, the Office of the Solicitor has 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 Endangered Species Act. This proposed rule 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 hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis.*

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. 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

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. 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 in the courts of the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), E.O. 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no Tribal lands occupied at the time of listing that contain the features essential for the conservation of *Cirsium hydrophilum* var. *hydrophilum* and *Cordylanthus mollis* ssp. *mollis*. Therefore, designation of critical habitat for *C. hydrophilum* var. *hydrophilum* and *C. mollis* ssp. *mollis* has not been designated on Tribal lands.

References Cited

A complete list of all references cited in this rulemaking is available upon request from the Field Supervisor, Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

Author(s)

The primary author of this package is the Oregon Fish and Wildlife Office, U.S. Fish and Wildlife Service, Portland, Oregon, and staff from the Sacramento (CA) 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 § 17.12(h), revise the entries for *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle) and *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak) under ''FLOWERING PLANTS'' to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
*	*	*	*	*	*		*
Cirsium hydrophilum var. *hydrophilum.*	Suisun thistle	U.S.A. (CA)	Asteraceae	E	627	17.96(a)	NA
*	*	*	*	*	*		*
Cordylanthus mollis var. ssp. *mollis.*	Soft bird's-beak	U.S.A. (CA)	Scrophulariaceae	E	627	17.96(a)	NA.
*	*	*	*	*	*		*

* * * * *

3. Amend § 17.96(a), by adding an entry for *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle) in alphabetical order under family Asteraceae and an entry for *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak) in alphabetical order under family Scrophulariaceae to read as follows:

§ 17.96 Critical habitat'plants.

(a) Flowering plants.

* * * * *

Family Asteraceae: *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle)

(1) Critical habitat units are depicted for Solano County, California, on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for Cirsium hydrophilum var. hydrophilum are the habitat components that provide:

(i) Tidally influenced marsh areas (intertidal emergent estuarine marshes) bounded on the seaward edge by the mean high water line and on the landward edge by a marsh-upland ecotone; and containing channel networks influenced by freshwater and saltwater hydrology and exhibiting full natural tidal inundations to allow for channel development and migration through erosional and depositional processes (such as channel undercutting, bank slumping, and sedimentation) during daily flood and ebb flows and seasonal storm events.

(ii) Areas associated with PCE 1 that are between the bank and high water mark of natural tidal channels, along the banks of tidally influenced canals or ditches, or within tidally influenced floodplains that contain hydric soils that are slightly to moderately saline (4 to 16 decisiemens/meter (dS/m)) within the first 3 ft (0.9 m) of soil depth.

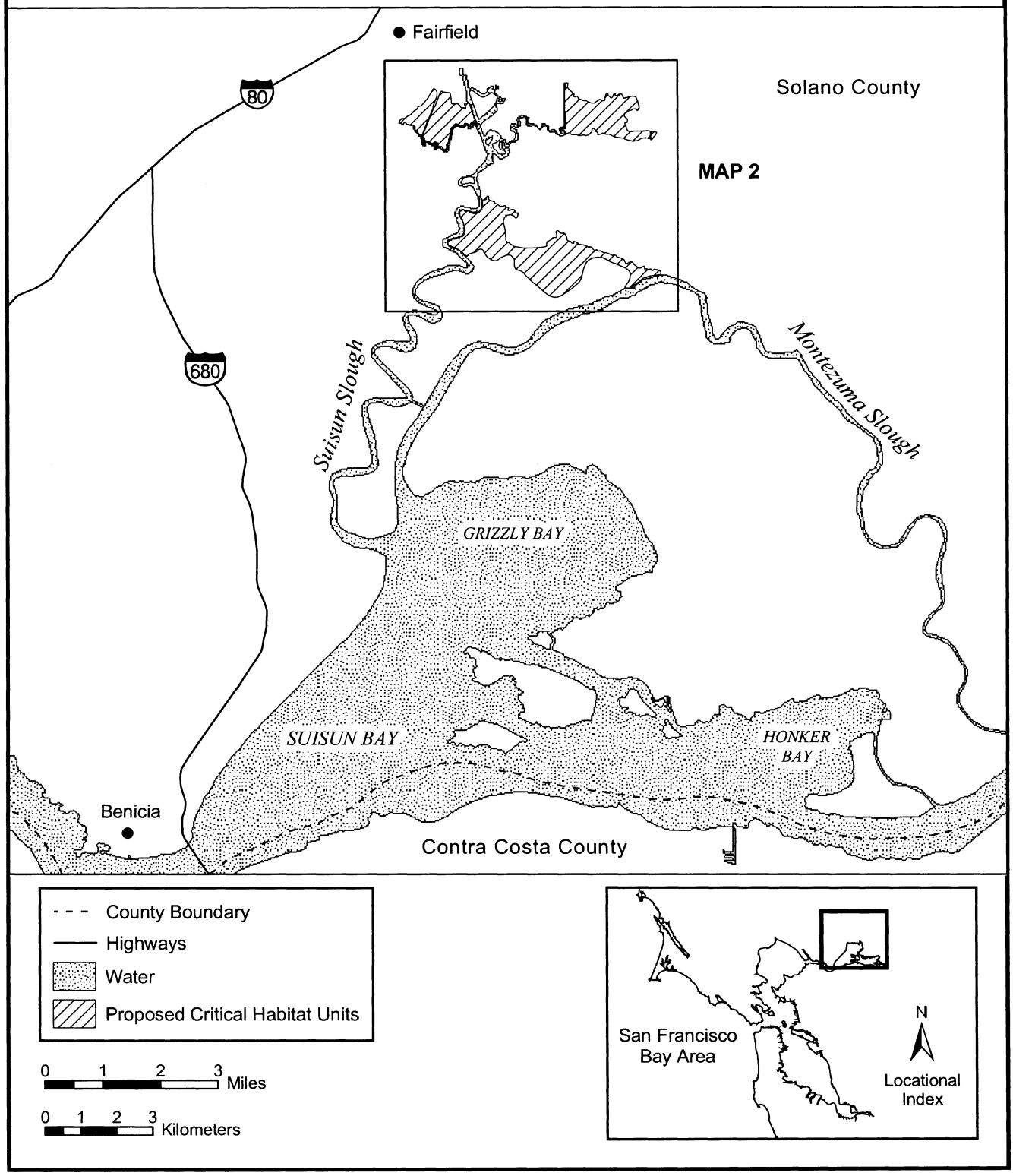
(3) Critical habitat does not include man-made structures and the land they occupy, existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Data layers defining Solano County map units were created on a base map using CDWR color mosaic 1:9,600 scale digital aerial photographs for Suisun Bay captured June 16, 2003 (CDFG 2005c). Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

(5) Note: Map 1 (Index map for *Cirsium hydrophilum* var. *hydrophilum*) follows:

BILLING CODE 4310–55–P

Map 1. Index Map of Proposed Critical Habitat Units for Cirsium hydrophilum var. hydrophilum



BILLING CODE 4310–55–C

(6) Unit 1 for *Cirsium hydrophilum* var. *hydrophilum:* Hill Slough Marsh, Solano County, California.

(i) Unit 1: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 586821, 4231248; 586825, 4231260; 586834, 4231272; 586848, 4231278; 586868, 4231280; 586930, 4231305; 586934, 4231417; 586934, 4231457; 586933, 4231517; 586936, 4231569; 586931, 4231638; 586933, 4231730; 586930, 4231824; 586927, 4231988; 586932, 4232511; 586935, 4232541; 587032, 4232539; 587031, 4232513; 587025, 4232474; 587022, 4232447; 587028, 4232423; 587045, 4232382; 587207, 4232226; 587186, 4232194; 587189, 4232174; 587211, 4232155; 587232, 4232152; 587246, 4232165; 587275, 4232169; 587294, 4232159; 587307, 4232136; 587314, 4232107; 587310, 4232094; 587350, 4232087; 587391, 4232079; 587427, 4232061; 587470, 4232043; 587490, 4232041; 587513, 4232049; 587544, 4232041; 587602, 4232017; 587641, 4231995; 587689, 4231981; 587738, 4231977; 587763, 4231981; 587776, 4231987; 587790, 4231996; 587803, 4232008; 587814, 4232019; 587826, 4232031; 587844, 4232043; 587859, 4232051; 587882, 4232067; 587897, 4232078; 587933, 4232080; 587944, 4232075; 587951, 4232066; 587957, 4232059; 587985, 4232048; 588000, 4232042; 588016, 4232041; 588028, 4232043; 588041, 4232044; 588050, 4232058; 588051, 4232075; 588048, 4232095; 588055, 4232133; 588083, 4232223; 588094, 4232243; 588105, 4232252; 588114, 4232256; 588124, 4232254; 588136, 4232249; 588141, 4232237; 588137, 4232225; 588132, 4232212; 588149, 4232197; 588157, 4232186; 588162, 4232179; 588182, 4232158; 588195, 4232146; 588218, 4232130; 588228, 4232126; 588241, 4232122; 588245, 4232122; 588255, 4232141; 588259, 4232149; 588270, 4232160; 588277, 4232165; 588284, 4232175; 588287, 4232187; 588287, 4232197; 588290, 4232212; 588295, 4232222; 588306, 4232225; 588311, 4232235; 588316, 4232250; 588324, 4232254; 588334, 4232254; 588340, 4232249; 588339, 4232240; 588333, 4232226; 588333, 4232216; 588336, 4232206; 588345, 4232198; 588353, 4232189; 588360, 4232187; 588379, 4232192; 588390, 4232198; 588452, 4232235; 588471, 4232243; 588492, 4232242; 588511, 4232234; 588530, 4232208; 588547, 4232165; 588556, 4232147; 588566, 4232134; 588574, 4232126; 588583, 4232120; 588601, 4232110; 588612, 4232108; 588611, 4232115; 588610, 4232136; 588651, 4232135; 588671, 4232140; 588699, 4232155; 588721, 4232161; 588740, 4232164; 588767, 4232164; 588782, 4232165; 588804, 4232167; 588849, 4232173; 588861, 4232168; 588872, 4232160; 588883, 4232160; 588895, 4232156; 588905, 4232149; 588912, 4232139; 588942, 4232080; 588952, 4232058; 588960, 4232026; 588977, 4231960; 588981, 4231923; 589001, 4231852; 589003, 4231845; 589000, 4231842; 588992, 4231841; 588981, 4231837; 588977, 4231835; 588974, 4231830; 588978, 4231820; 588984, 4231809; 588977, 4231793; 588953, 4231768; 588939, 4231787; 588924, 4231794; 588893, 4231818; 588880, 4231823; 588863, 4231824; 588851, 4231825; 588836, 4231820; 588792, 4231774; 588775, 4231776; 588755, 4231773; 588721, 4231762; 588681, 4231743; 588675, 4231734; 588658, 4231722; 588638, 4231713; 588608, 4231699; 588595, 4231652; 588586, 4231603; 588608, 4231581; 588641, 4231569; 588656, 4231552; 588668, 4231537; 588677, 4231521; 588681, 4231502; 588676, 4231467; 588666, 4231440; 588657, 4231437; 588636, 4231428; 588608, 4231424; 588601, 4231422; 588598, 4231419; 588602, 4231403; 588611, 4231373; 588614, 4231342; 588624, 4231331; 588638, 4231321; 588641, 4231314; 588645, 4231281; 588656, 4231238; 588701, 4231195; 588736, 4231180; 588803, 4231181; 588814, 4231181; 588824, 4231184; 588831, 4231190; 588882, 4231194; 589011, 4231195; 589145, 4231191; 589186, 4231192; 589193, 4231199; 589203, 4231197; 589210, 4231196; 589217, 4231201; 589230, 4231205; 589240, 4231206; 589250, 4231196; 589261, 4231192; 589310, 4231190; 589309, 4231065; 589323, 4231065; 589325, 4231164; 589331, 4231171; 589351, 4231176; 589380, 4231174; 589408, 4231167; 589424, 4231166; 589433, 4231174; 589444, 4231178; 589460, 4231176; 589475, 4231167; 589481, 4231152; 589485, 4231143; 589432, 4231067; 589400, 4231023; 589353, 4230961; 589338, 4230944; 589333, 4230940; 589328, 4230941; 589323, 4230944; 589320, 4230949; 589322, 4231051; 589308, 4231051; 589309, 4230996; 589305, 4230988; 589291, 4230981; 589215, 4230998; 589155, 4231004; 589115, 4230996; 589050, 4230984; 588997, 4230950; 588946, 4230926; 588913, 4230919; 588884, 4230915; 588844, 4230911; 588806, 4230912; 588782, 4230916; 588738, 4230927; 588719, 4230936; 588685, 4230942; 588651, 4230957; 588590, 4230978; 588547, 4230994; 588435, 4231007; 588395, 4231011; 588361, 4231016; 588338, 4231022; 588297, 4231039; 588261, 4231055; 588226, 4231074; 588198, 4231091; 588178, 4231101; 588158, 4231102; 588135, 4231100; 588111, 4231098; 588063, 4231103; 588046, 4231107; 588028, 4231119; 587998, 4231130; 587978, 4231131; 587961, 4231124; 587948, 4231111; 587849, 4231089; 587852, 4231100; 587855, 4231118; 587851, 4231133; 587846, 4231150; 587842, 4231164; 587836, 4231167; 587823, 4231172; 587810, 4231175; 587796, 4231182; 587785, 4231200; 587777, 4231220; 587753, 4231255; 587742, 4231264; 587720, 4231266; 587707, 4231261; 587698, 4231249; 587696, 4231235; 587691, 4231183; 587646, 4231135; 587593, 4231083; 587561, 4231076; 587537, 4231070; 587516, 4231072; 587504, 4231078; 587490, 4231079; 587452, 4231086; 587416, 4231075; 587349, 4231070; 587323, 4231070; 587310, 4231073; 587266, 4231097; 587248, 4231099; 587223, 4231093; 587177, 4231085; 587134, 4231087; 587114, 4231097; 587090, 4231120; 587062, 4231140; 587037, 4231141; 587003, 4231126; 586984, 4231120; 586963, 4231121; 586948, 4231123; 586939, 4231125; 586932, 4231138; 586944, 4231161; 586943, 4231180; 586935, 4231197; 586919, 4231215; 586896, 4231226; 586882, 4231229; 586868, 4231222; 586848, 4231217; 586830, 4231226; 586823, 4231235; 586821, 4231248.

(ii) Note: Unit 1 for *Cirsium hydrophilum* var. *hydrophilum* is depicted on Map 2—see paragraph 8(ii).

(7) Unit 2 (Subunits 2A and 2B) for *Cirsium hydrophilum* var. *hydrophilum:* Peytonia Slough Marsh, Solano County, California.

(i) Subunit 2A: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 582704, 4231361; 582681, 4231360; 582655, 4231364; 582636, 4231367; 582606, 4231377; 582583, 4231379; 582557, 4231382; 582549, 4231387; 582545, 4231395; 582540, 4231408; 582536, 4231420; 582532, 4231426; 582524, 4231430; 582515, 4231434; 582504, 4231436; 582488, 4231439; 582480, 4231438; 582473, 4231436; 582472, 4231433; 582471, 4231429; 582469, 4231414; 582469, 4231396; 582470, 4231385; 582468, 4231383; 582465, 4231382; 582434, 4231390; 582400, 4231403; 582364, 4231411; 582344, 4231413; 582331, 4231414; 582345, 4231454; 582366, 4231508; 582370, 4231512; 582378, 4231515; 582393, 4231534; 582400, 4231547; 582407, 4231550; 582443, 4231547; 582476, 4231550; 582495, 4231552; 582503, 4231557; 582510, 4231563; 582528, 4231582; 582539, 4231595; 582551, 4231603; 582583, 4231619; 582626, 4231641;

582670, 4231672; 582692, 4231693; 582782, 4231782; 582830, 4231815; 582844, 4231832; 582850, 4231841; 582855, 4231856; 582856, 4231870; 582862, 4231878; 582878, 4231888; 582939, 4231915; 582970, 4231937; 583129, 4232108; 583148, 4232140; 583164, 4232175; 583284, 4232365; 583293, 4232377; 583305, 4232384; 583319, 4232387; 583333, 4232386; 583349, 4232377; 583371, 4232350; 583391, 4232315; 583398, 4232298; 583402, 4232278; 583404, 4232254; 583404, 4232238; 583403, 4232218; 583401, 4232207; 583396, 4232181; 583349, 4232056; 583284, 4231895; 583291, 4231882; 583260, 4231794; 583195, 4231625; 583173, 4231570; 583066, 4231313; 582967, 4231059; 582953, 4231087; 582938, 4231101; 582922, 4231109; 582908, 4231115; 582886, 4231113; 582875, 4231116; 582864, 4231127; 582861, 4231138; 582861, 4231163; 582854, 4231183; 582842, 4231196; 582775, 4231252; 582763, 4231266; 582754, 4231280; 582752, 4231290; 582753, 4231306; 582760, 4231335; 582742, 4231364; 582724, 4231366; 582704, 4231361.

(ii) Subunit 2B: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 582974, 4231032; 583313, 4231870; 583328, 4231873; 583501, 4232317; 583572, 4232314; 583572, 4232304; 583575, 4232298; 583581, 4232291; 583588, 4232283; 583594, 4232281; 583599, 4232282; 583602, 4232287; 583608, 4232288; 583613, 4232289; 583611, 4232294; 583615, 4232298; 583621, 4232298; 583633, 4232298; 583634, 4232285; 583636, 4232281; 583639, 4232279; 583719, 4232277; 583745, 4232276; 583752, 4232274; 583758, 4232270; 583763, 4232259; 583768, 4232228; 583790, 4232052; 583794, 4232022; 583798, 4231999; 583810, 4231967; 583813, 4231963; 583826, 4231961; 583842, 4231966; 583861, 4231967; 583873, 4231968; 583882, 4231968; 583890, 4231951; 583916, 4231951; 583917, 4231956; 583920, 4231963; 583922, 4231966; 583932, 4231966; 583940, 4231966; 583945, 4231962; 583953, 4231963; 583959, 4231964; 583966, 4231966; 583972, 4231966; 583980, 4231963; 583983, 4231954; 583987, 4231948; 583992, 4231944; 584003, 4231930; 584019, 4231925; 584026, 4231922; 584043, 4231902; 584051, 4231884; 584060, 4231865; 584067, 4231857; 584077, 4231852; 584098, 4231844; 584116, 4231846; 584126, 4231853; 584136, 4231855; 584149, 4231850; 584167, 4231823; 584200, 4231828; 584154, 4231969; 584272, 4232006; 584290, 4231979; 584302, 4231954; 584308, 4231939; 584314, 4231931; 584325, 4231891; 584336, 4231848; 584353, 4231790; 584378, 4231720; 584393, 4231676; 584445, 4231535; 584495, 4231395; 584493, 4231381; 584491, 4231370; 584490, 4231355; 584485; 4231355; 584479, 4231364; 584467, 4231397; 584455, 4231415; 584443, 4231434; 584419, 4231448; 584397, 4231452; 584378, 4231451; 584353, 4231436; 584343, 4231424; 584335, 4231411; 584328, 4231370; 584325, 4231330; 584323, 4231324; 584318, 4231320; 584309, 4231325; 584289, 4231349; 584255, 4231391; 584237, 4231400; 584210, 4231408; 584187, 4231407; 584171, 4231400; 584159, 4231388; 584134, 4231356; 584117, 4231338; 584093, 4231337; 584022, 4231359; 584000, 4231375; 583963, 4231397; 583937, 4231404; 583913, 4231403; 583891, 4231392; 583873, 4231376; 583864, 4231360; 583853, 4231340; 583840, 4231324; 583817, 4231311; 583790, 4231287; 583775, 4231256; 583770, 4231231; 583767, 4231196; 583762, 4231135; 583758, 4231094; 583749, 4231057; 583736, 4231025; 583724, 4230989; 583720, 4230973; 583722, 4230922; 583715, 4230893; 583691; 4230862; 583671, 4230835; 583664, 4230816; 583662, 4230799; 583666, 4230760; 583665, 4230715; 583659, 4230699; 583646, 4230684; 583633, 4230677; 583618, 4230669; 583598, 4230667; 583582, 4230669; 583567, 4230679; 583562, 4230689; 583555, 4230715; 583535, 4230746; 583528, 4230764; 583511, 4230771; 583486, 4230779; 583460, 4230779; 583443, 4230778; 583424, 4230770; 583390, 4230748; 583365, 4230737; 583345, 4230734; 583332, 4230734; 583323, 4230740; 583319, 4230750; 583322, 4230768; 583336, 4230780; 583366, 4230796; 583384, 4230808; 583396, 4230820; 583406, 4230832; 583410, 4230849; 583408, 4230860; 583401, 4230873; 583383, 4230886; 583362, 4230895; 583338, 4230898; 583324, 4230893; 583291, 4230866; 583258, 4230849; 583244, 4230847; 583225, 4230868; 583214, 4230879; 583193, 4230892; 583158, 4230903; 583131, 4230908; 583106, 4230923; 583079, 4230935; 583061, 4230937; 583043, 4230935; 583030, 4230925; 583025, 4230912; 583023, 4230900; 583026, 4230886; 583035, 4230866; 583041, 4230845; 583036, 4230832; 583027, 4230826; 583015, 4230828; 582999, 4230847; 582989, 4230866; 582985, 4230874; 582984, 4230886; 582984, 4230912; 582984, 4230912; 582986, 4230920; 582989, 4230932; 582996, 4230944; 583003, 4230955; 583019, 4230971; 583025, 4230977; 583030, 4230983; 583033, 4230999; 583029, 4231014; 583017, 4231029; 583003, 4231033; 582982, 4231032; 582974, 4231032.

(iii) Note: Unit 2 (Subunits 2A and 2B) for *Cirsium hydrophilum* var. *hydrophilum* is depicted on Map 2—see paragraph 8(ii).

(8) Unit 3 for *Cirsium hydrophilum* var. *hydrophilum:* Rush Ranch/Grizzly Island Wildlife Area, Solano County, California.

(i) Unit 3: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 583673, 4228103; 583675, 4228133; 583687, 4228156; 583700, 4228170; 583824, 4228206; 583898, 4228219; 583938, 4228221; 583961, 4228228; 583973, 4228240; 584002, 4228252; 584019, 4228251; 584032, 4228262; 584052, 4228268; 584062, 4228278; 584134, 4228347; 584153, 4228375; 584154, 4228398; 584147, 4228405; 584132, 4228407; 584146, 4228473; 584150, 4228514; 584135, 4228552; 584137, 4228573; 584128, 4228593; 584118, 4228631; 584109, 4228660; 584097, 4228672; 584085, 4228696; 584083, 4228711; 584067, 4228730; 584041, 4228786; 584038, 4228800; 584001, 4228862; 583993, 4228899; 583990, 4228918; 583995, 4228944; 583991, 4228950; 583994, 4228962; 584008, 4228976; 584020, 4228979; 584062, 4229001; 584095, 4229004; 584138, 4229000; 584179, 4228989; 584255, 4228968; 584276, 4228967; 584312, 4228956; 584341, 4228946; 584372, 4228940; 584420, 4228939; 584521, 4228954; 584553, 4228947; 584568, 4228965; 584588, 4228974; 584599, 4228997; 584621, 4229013; 584638, 4229054; 584656, 4229083; 584651, 4229091; 584656, 4229119; 584665, 4229146; 584663, 4229177; 584660, 4229211; 584653, 4229240; 584661, 4229251; 584655, 4229260; 584660, 4229271; 584678, 4229276; 584700, 4229277; 584707, 4229273; 584728, 4229274; 584737, 4229282; 584738, 4229292; 584748, 4229290; 584764, 4229294; 584768, 4229301; 584759, 4229305; 584718, 4229301; 584714, 4229313; 584755, 4229341; 584761, 4229345; 584765, 4229352; 584775, 4229376; 584792, 4229388; 584807, 4229388; 584821, 4229381; 584827, 4229366; 584827, 4229352; 584810, 4229333; 584806, 4229329; 584807, 4229325; 584815, 4229320; 584834, 4229291; 584862, 4229269; 584904, 4229244; 584937, 4229237; 584955, 4229235; 584968, 4229239; 584980, 4229233; 584986, 4229223; 584999, 4229211; 585004, 4229191; 585016, 4229175; 585024, 4229167; 585032, 4229163; 585050, 4229158; 585078, 4229144; 585125, 4229112; 585167, 4229099; 585191, 4229094; 585219, 4229094;

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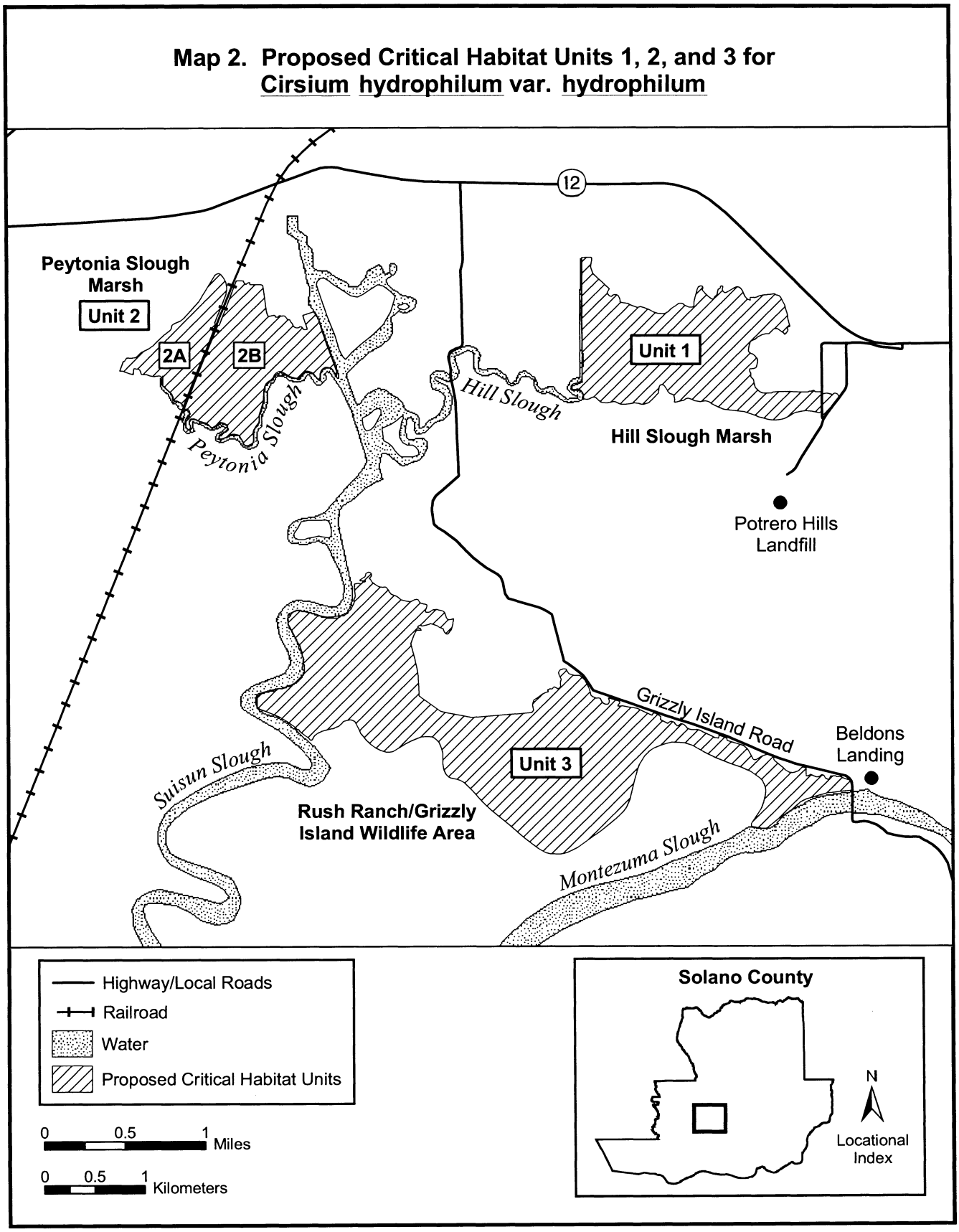
(ii) Note: Unit 3 for *Cirsium hydrophilum* var. *hydrophilum* is depicted on Map 2, which follows: [insert Map 2: Units 1, 2, and 3 for Cirsium hydrophilum var. hydrophilum]

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

* * * * *

Family Scrophulariaceae: *Cordylanthus mollis* ssp. *mollis* (soft bird's-beak)

(1) Critical habitat units are depicted for Contra Costa, Napa, and Solano Counties, California, on the maps below.

(2) The PCEs of critical habitat for *Cordylanthus mollis* ssp. *mollis* are the habitat components that provide:

(i) Tidally influenced marsh areas (intertidal emergent estuarine marshes) bounded on the seaward edge by the mean high water line and on the landward edge by a marsh-upland ecotone; and containing channel networks influenced by freshwater and saltwater hydrology and exhibiting full natural tidal inundations to allow for channel development and migration through erosional and depositional processes (such as channel undercutting, bank slumping, and sedimentation) during daily flood and ebb flows and seasonal storm events.

(ii) Areas associated with PCE 1 that are within tidally influenced marsh floodplains that contain hydric soils that are slightly to moderately saline (4 to 16 dS/m) within the first 3 ft (0.9 m) of soil depth.

(iii) Tidal marsh habitats within PCE 1 and PCE 2 that have native halophytic plant communities with an average canopy height equal to or less than 20.5 in (52 cm);

(iv) Areas within PCE 1 and PCE 2 that provide for a sufficient number of suitable host plants, including but not limited to *Distichlis spicata* (salt grass), *Salicornia virginica* (pickleweed), and *Jaumea carnosa* (marsh jaumea). These host plants provide the subspecies with part of its water and nutritional requirements to augment its growth.

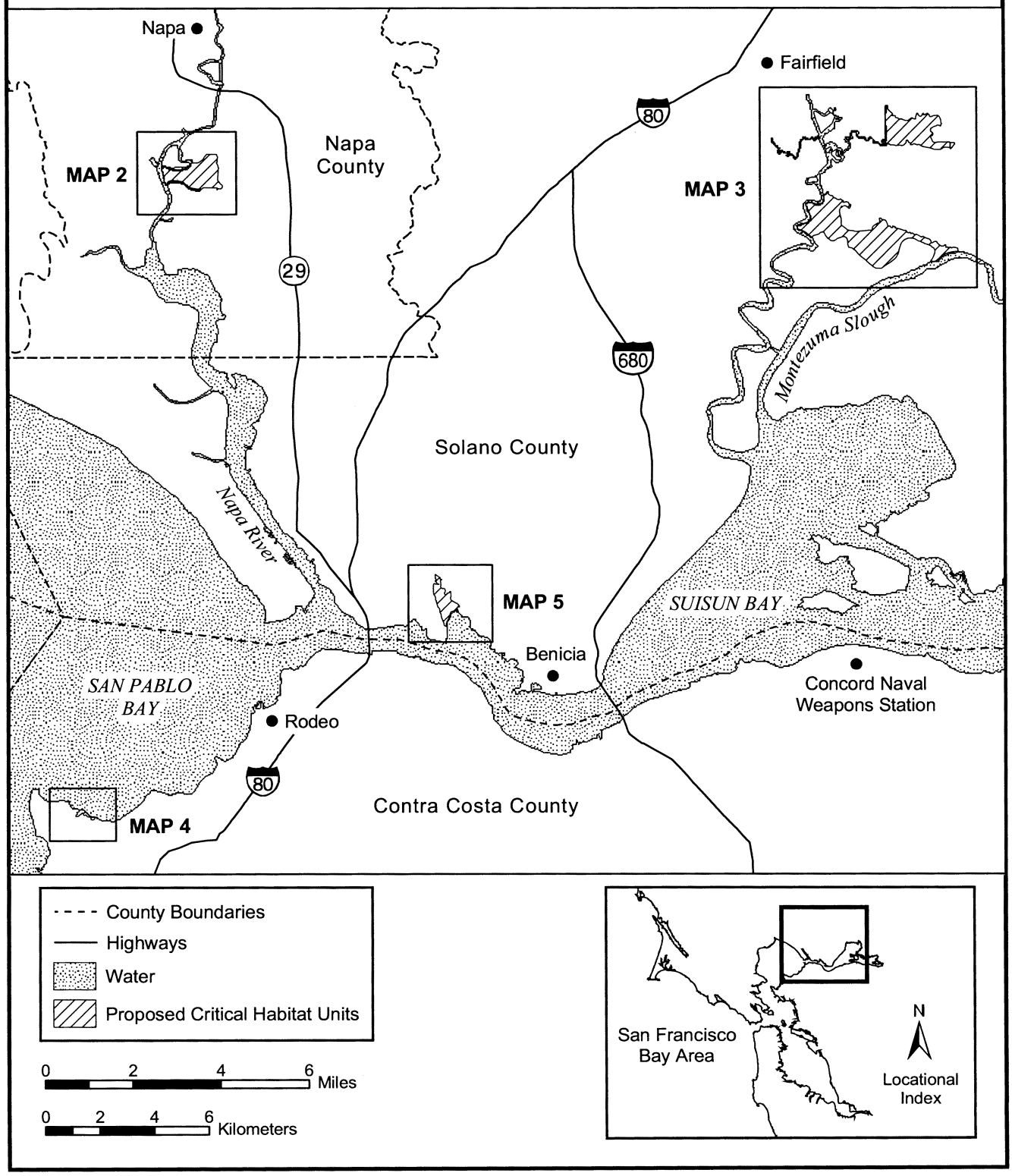
(3) Critical habitat does not include man-made structures existing on the effective date of this rule and not containing one or more of the PCEs, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located.

(4) Data layers defining Contra Costa, Napa, and Solano Counties map units were created on a base map using California Spatial Information Library black and white 1:24,000 scale digital orthophoto quarter quadrangles captured June/July 1993. Critical habitat units were then mapped using UTM zone 10, NAD 1983 coordinates.

(5) Note: Map 1 (Index map for *Cordylanthus mollis* ssp. *mollis*) follows:

BILLING CODE 4310–55–P

Map 1. Index Map of Proposed Critical Habitat Units for Cordylanthus mollis ssp. mollis



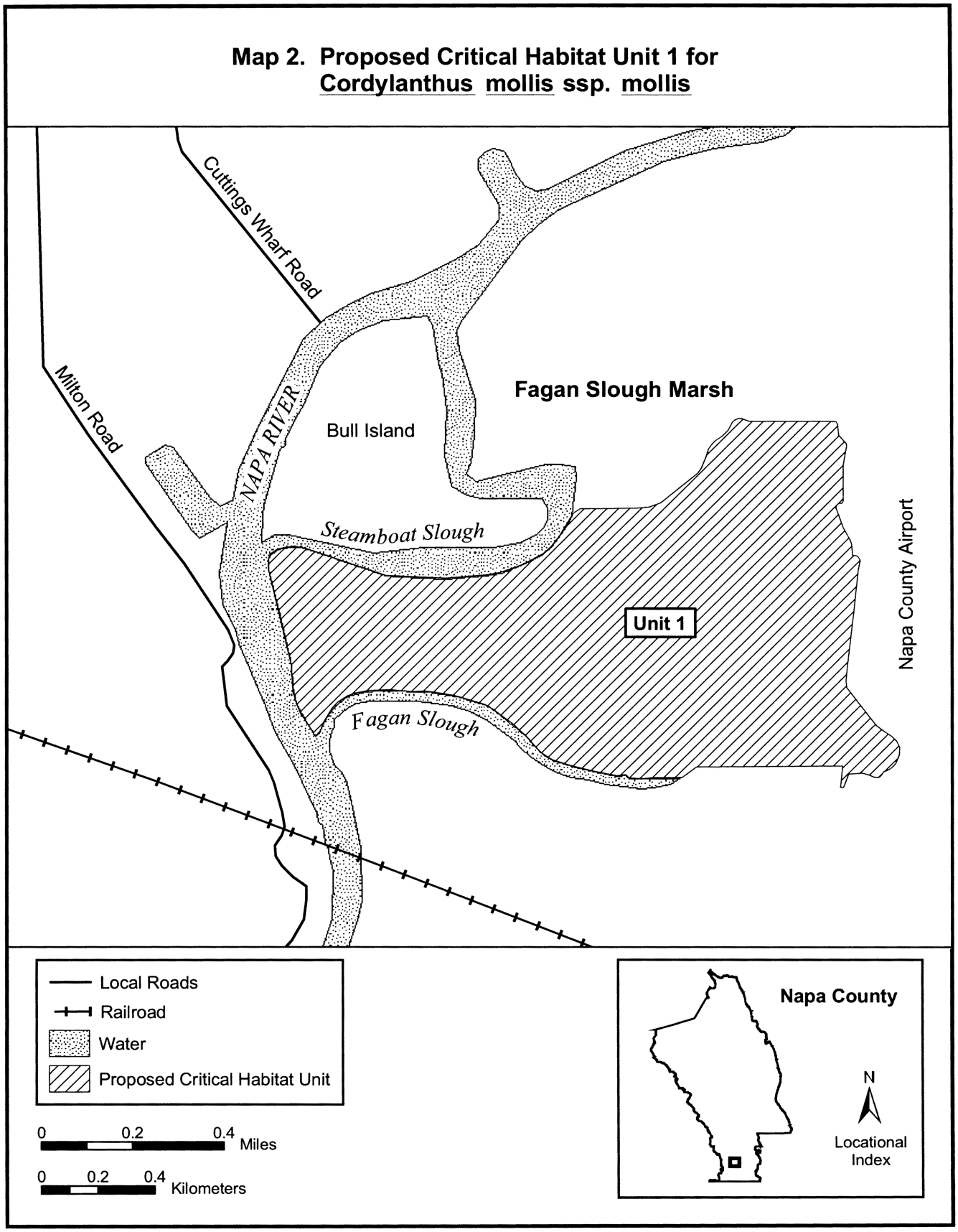
BILLING CODE 4310–55–C

(6) Unit 1 for *Cordylanthus mollis* ssp. *mollis*: Fagan Slough Marsh, Napa County, California.

(i) Unit 1: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 560527, 4229777; 560514, 4229819; 560510, 4229907; 560429, 4230254; 560427, 4230287; 560433, 4230304; 560444, 4230315; 560460, 4230326; 560489, 4230333; 560520, 4230338; 560559, 4230331; 560843, 4230233; 561055, 4230223; 561205, 4230236; 561248, 4230243; 561327, 4230272; 561399, 4230310; 561428, 4230335; 561457, 4230372; 561478, 4230406; 561509, 4230456; 561532, 4230472; 561572, 4230471; 561733, 4230474; 561774, 4230477; 561815, 4230493; 561945, 4230599; 561957, 4230617; 561974, 4230659; 561983, 4230685; 561992, 4230698; 562005, 4230714; 562032, 4230732; 562052, 4230752; 562068, 4230781; 562078, 4230790; 562088, 4230794; 562099, 4230795; 562128, 4230785; 562421, 4230785; 562435, 4230783; 562441, 4230774; 562445, 4230734; 562470, 4230705; 562474, 4230698; 562459, 4230624; 562461, 4230515; 562459, 4230498; 562456, 4230491; 562445, 4230491; 562437, 4230485; 562434, 4230476; 562438, 4230466; 562459, 4230405; 562483, 4230364; 562489, 4230349; 562494, 4230305; 562506, 4230305; 562513, 4230299; 562517, 4230294; 562520, 4230288; 562517, 4230273; 562512, 4230247; 562497, 4230093; 562473, 4229897; 562470, 4229856; 562471, 4229834; 562576, 4229699; 562606, 4229676; 562633, 4229658; 562648, 4229643; 562659, 4229620; 562658, 4229595; 562651, 4229578; 562645, 4229564; 562633, 4229550; 562623, 4229542; 562602, 4229534; 562594, 4229521; 562586, 4229513; 562571, 4229514; 562551, 4229522; 562529, 4229528; 562479, 4229526; 562459, 4229476; 562449, 4229477; 562457, 4229555; 561938, 4229551; 561890, 4229513; 561863, 4229512; 561781, 4229512; 561749, 4229509; 561700, 4229511; 561690, 4229523; 561660, 4229519; 561571, 4229537; 561493, 4229557; 561431, 4229576; 561387, 4229606; 561349, 4229650; 561294, 4229701; 561222, 4229756; 561191, 4229773; 561146, 4229787; 561084, 4229805; 561062, 4229809; 561017, 4229816; 560977, 4229820; 560937, 4229818; 560902, 4229821; 560859, 4229825; 560783, 4229823; 560736, 4229813; 560708, 4229804; 560675, 4229781; 560654, 4229760; 560624, 4229712; 560609, 4229670; 560599, 4229664; 560590, 4229664; 560587, 4229675; 560567, 4229705; 560541, 4229741; 560527, 4229777.

(ii) **Note:** Unit 1 for *Cordylanthus mollis* ssp. *mollis* is depicted on Map 2, which follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–P

(7) Unit 2 for *Cordylanthus mollis* ssp. *mollis:* Hill Slough Marsh, Solano County, California.

(i) Unit 2: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 586821, 4231248; 586825, 4231260; 586834, 4231272; 586848, 4231278; 586868, 4231280; 586930, 4231305; 586934, 4231417; 586934, 4231457; 586933, 4231517; 586936, 4231569; 586931, 4231638; 586933, 4231730; 586930, 4231824; 586927, 4231988; 586932, 4232511; 586935, 4232541; 587032, 4232539; 587031, 4232513; 587025, 4232474; 587022, 4232447; 587028, 4232423; 587045, 4232382; 587207, 4232226; 587186, 4232194; 587189, 4232174; 587211, 4232155; 587232, 4232152; 587246, 4232165; 587275, 4232169; 587294, 4232159; 587307, 4232136; 587314, 4232107; 587310, 4232094; 587350, 4232087; 587391, 4232079; 587427, 4232061; 587470, 4232043; 587490, 4232041; 587513, 4232049; 587544, 4232041; 587602, 4232017; 587641, 4231995; 587689, 4231981; 587738, 4231977; 587763, 4231981; 587776, 4231987; 587790, 4231996; 587803, 4232008; 587814, 4232019; 587826, 4232031; 587844, 4232043; 587859, 4232051; 587882, 4232067; 587897, 4232078; 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(ii) Note: Unit 2 for *Cordylanthus mollis* ssp. *mollis* is depicted on Map 3—see paragraph 8(ii) below:

(8) Unit 4 for *Cordylanthus mollis* ssp. *mollis:* Rush Ranch/Grizzly Island Wildlife Area, Solano County, California.

(i) Unit 4: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 583673, 4228103; 583675, 4228133; 583687, 4228156; 583700, 4228170; 583824, 4228206; 583898, 4228219; 583938, 4228221; 583961, 4228228; 583973, 4228240; 584002, 4228252; 584019, 4228251; 584032, 4228262; 584052, 4228268; 584062, 4228278; 584134, 4228347; 584153, 4228375; 584154, 4228398; 584147, 4228405; 584132, 4228407; 584146, 4228473; 584150, 4228514; 584135, 4228552; 584137, 4228573; 584128, 4228593; 584118, 4228631; 584109, 4228660; 584097, 4228672; 584085, 4228696; 584083, 4228711; 584067, 4228730; 584041, 4228786; 584038, 4228800; 584001, 4228862; 583993, 4228899; 583990, 4228918; 583995, 4228944; 583991, 4228950; 583994, 4228962; 584008, 4228976; 584020, 4228979; 584062, 4229001; 584095, 4229004; 584138, 4229000; 584179, 4228989; 584255, 4228968; 584276, 4228967; 584312, 4228956;

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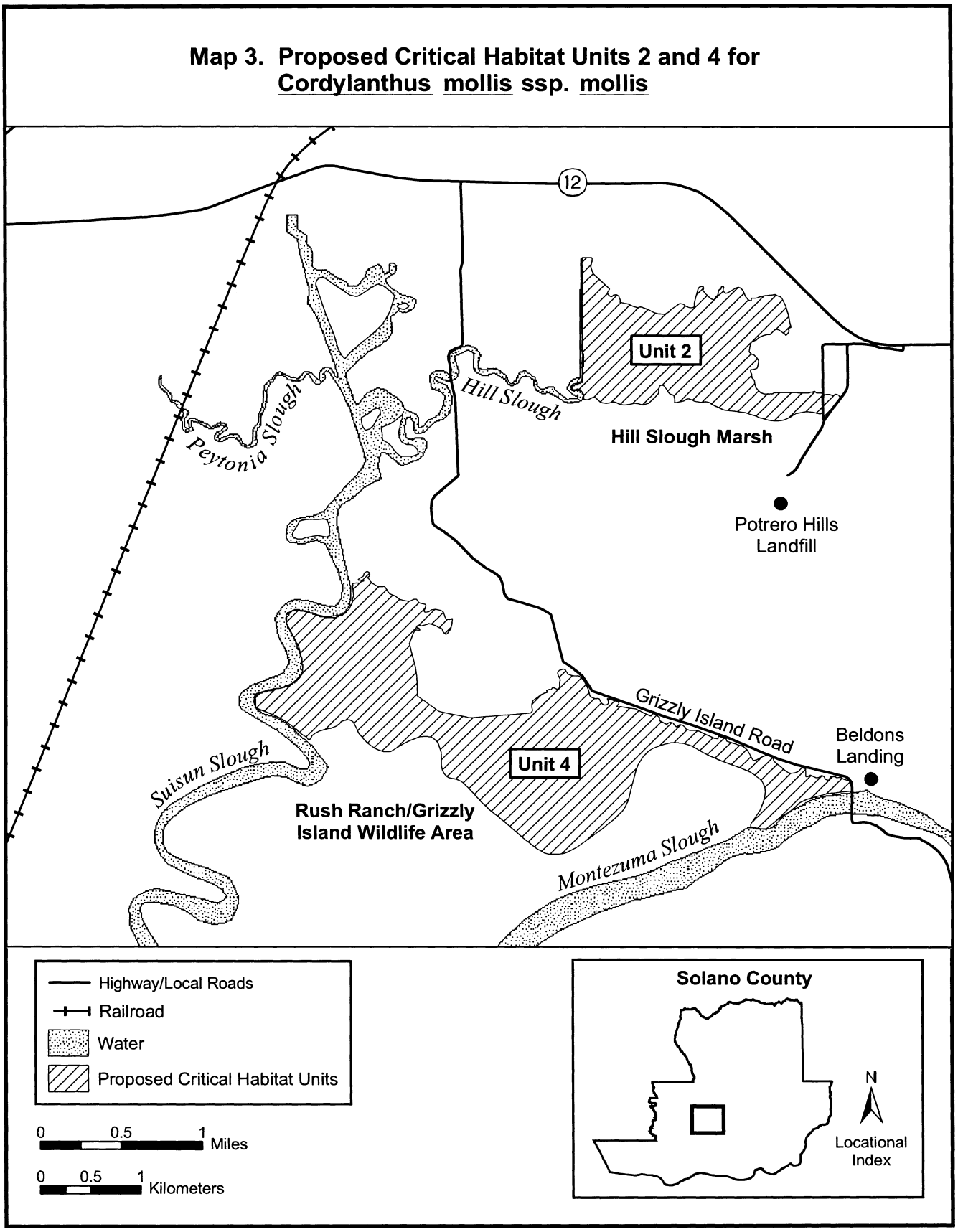
(ii) Note: Unit 4 for *Cordylanthus mollis* ssp. *mollis* is depicted on Map 3, which follows:

BILLING CODE 4310–55–P



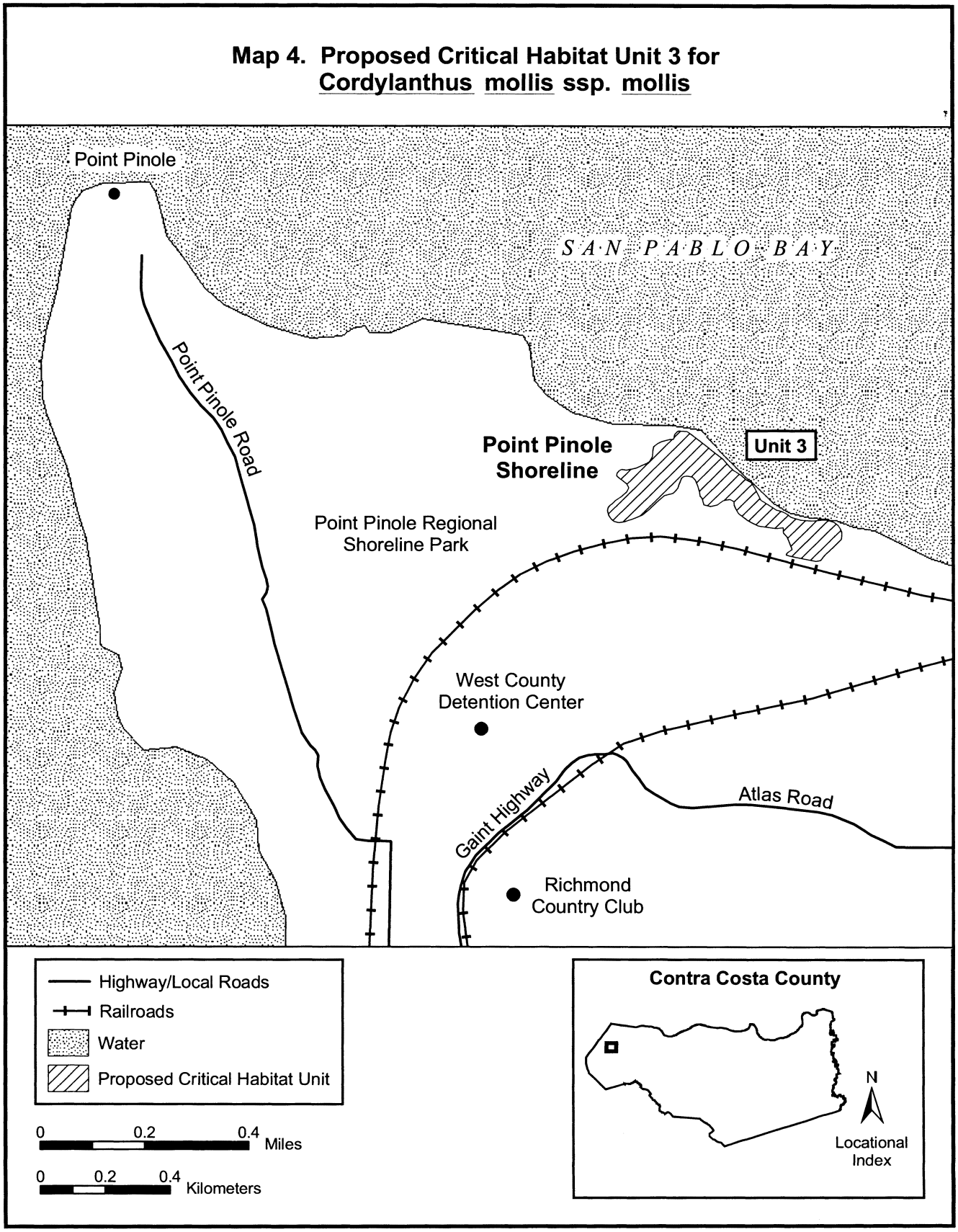
BILLING CODE 4310–55–C

(9) Unit 3 for *Cordylanthus mollis* ssp. *mollis:* Point Pinole Shoreline, Contra Costa County, California.

(i) Unit 3: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 557436, 4206461; 557427, 4206437; 557413, 4206422; 557385, 4206413; 557364, 4206395; 557341, 4206372; 557318, 4206353; 557292, 4206342; 557263, 4206332; 557245, 4206330; 557231, 4206333; 557222, 4206340; 557214, 4206351; 557211, 4206366; 557212, 4206378; 557222, 4206387; 557236, 4206399; 557253, 4206411; 557270, 4206425; 557275, 4206438; 557270, 4206450; 557257, 4206461; 557248, 4206467; 557239, 4206475; 557240, 4206484; 557247, 4206491; 557253, 4206495; 557269, 4206493; 557299, 4206500; 557315, 4206507; 557329, 4206513; 557339, 4206520; 557349, 4206536; 557351, 4206554; 557353, 4206566; 557367, 4206578; 557378, 4206582; 557403, 4206588; 557415, 4206590; 557418, 4206604; 557428, 4206616; 557456, 4206614; 557468, 4206606; 557526, 4206560; 557567, 4206529; 557584, 4206508; 557600, 4206493; 557623, 4206479; 557638, 4206464; 557646, 4206461; 557653, 4206457; 557666, 4206439; 557685, 4206401; 557720, 4206378; 557732, 4206370; 557744, 4206366; 557754, 4206363; 557766, 4206356; 557777, 4206347; 557806, 4206339; 557844, 4206335; 557875, 4206339; 557891, 4206338; 557909, 4206332; 557922, 4206322; 557929, 4206311; 557932, 4206302; 557933, 4206290; 557931, 4206279; 557912, 4206258; 557881, 4206230; 557868, 4206212; 557855, 4206209; 557767, 4206228; 557761, 4206230; 557763, 4206233; 557769, 4206238; 557781, 4206246; 557765, 4206285; 557754, 4206299; 557753, 4206314; 557731, 4206312; 557678, 4206320; 557643, 4206337; 557616, 4206357; 557608, 4206372; 557602, 4206385; 557601, 4206396; 557588, 4206403; 557569, 4206399; 557550, 4206385; 557528, 4206380; 557508, 4206385; 557502, 4206406; 557496, 4206413; 557493, 4206428; 557489, 4206444; 557482, 4206462; 557474, 4206472; 557465, 4206474; 557457, 4206476; 557445, 4206474; 557440, 4206469; 557436, 4206461.

(ii) Note: Unit 3 for *Cordylanthus mollis* ssp. *mollis* is depicted on Map 4, which follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

(10) Unit 5 for *Cordylanthus mollis* ssp. *mollis*: Southampton Marsh, Solano County, California.

(i) Unit 5: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E, N): 570411, 4215261; 570504, 4215198; 570595, 4215141; 570581, 4215120; 570582, 4215104; 570590, 4215091; 570627, 4215082; 570640, 4215081; 570646, 4215078; 570647, 4215073; 570643, 4215063; 570625, 4215056; 570606, 4215052; 570594, 4215040; 570589, 4215024; 570593, 4215004; 570607, 4214983; 570606, 4214949; 570607, 4214919; 570616, 4214898; 570620, 4214869; 570611, 4214859; 570601, 4214815; 570607, 4214803; 570615, 4214795; 570628, 4214771; 570639, 4214756; 570659, 4214739; 570689, 4214737; 570706, 4214742; 570722, 4214741; 570739, 4214732; 570758, 4214716; 570770, 4214688; 570774, 4214652; 570766, 4214613; 570749, 4214580; 570739, 4214558; 570750, 4214539; 570771, 4214516; 570792, 4214494; 570810, 4214506; 570834, 4214540; 570836, 4214555; 570842, 4214566; 570849, 4214569; 570906, 4214566; 570910, 4214575; 570926, 4214610; 570946, 4214630; 570967, 4214627; 570974, 4214587; 570978, 4214555; 570987, 4214480; 570975, 4214453; 570968, 4214400; 570970, 4214360; 570986, 4214324; 571019, 4214293; 571061, 4214263; 571147, 4214219; 571179, 4214204; 571221, 4214180; 571247, 4214152; 571256, 4214116; 571270, 4214116; 571282, 4214109; 571288, 4214101; 571289, 4214091; 571279, 4214088; 571278, 4214076; 571294, 4214069; 571298, 4214063; 571294, 4214053; 571275, 4214066; 571257, 4214069; 571234, 4214068; 571222, 4214057; 571211, 4214038; 571211, 4214017; 571212, 4213995; 571215, 4213978; 571225, 4213964; 571227, 4213952; 571219, 4213945; 571208, 4213950; 571210, 4213958; 571200, 4213968; 571177, 4213969; 571164, 4213957; 571155, 4213946; 571125, 4213929; 571109, 4213924; 571077, 4213918; 571043, 4213905; 571031, 4213893; 570999, 4213886; 570979, 4213875; 570948, 4213819; 570950, 4213808; 570950, 4213796; 570947, 4213785; 570936, 4213770; 570936, 4213754; 570930, 4213737; 570925, 4213733; 570911, 4213693; 570907, 4213668; 570899, 4213652; 570884, 4213627; 570873, 4213602; 570859, 4213560; 570838, 4213534; 570834, 4213513; 570826, 4213498; 570826, 4213488; 570820, 4213479; 570809, 4213467; 570806, 4213447; 570796, 4213433; 570795, 4213417; 570799, 4213408; 570796, 4213390; 570798, 4213376; 570796, 4213343; 570780, 4213346; 570766, 4213351; 570752, 4213357; 570739, 4213365; 570730, 4213379; 570732, 4213416; 570725, 4213446; 570641, 4213647; 570629, 4213707; 570611, 4213810; 570606, 4213823; 570598, 4213834; 570578, 4213854; 570565, 4213875; 570562, 4213891; 570561, 4213954; 570558, 4213979; 570555, 4213993; 570550, 4214006; 570539, 4214020; 570528, 4214031; 570510, 4214056; 570495, 4214091; 570475, 4214160; 570469, 4214178; 570436, 4214258; 570445, 4214272; 570450, 4214281; 570449, 4214297; 570438, 4214308; 570422, 4214316; 570416, 4214331; 570415, 4214358; 570407, 4214435; 570395, 4214459; 570380, 4214478; 570372, 4214489; 570360, 4214514; 570353, 4214529; 570349, 4214563; 570344, 4214626; 570335, 4214670; 570329, 4214728; 570331, 4214760; 570336, 4214843; 570350, 4214894; 570364, 4214925; 570373, 4214927; 570394, 4214921; 570423, 4214905; 570437, 4214908; 570451, 4214910; 570490, 4214903; 570540, 4214884; 570544, 4214897; 570469, 4214926; 570465, 4214952; 570458, 4214965; 570446, 4214973; 570425, 4214981; 570410, 4214992; 570407, 4215005; 570408, 4215025; 570420, 4215050; 570434, 4215056; 570436, 4215072; 570434, 4215100; 570406, 4215127; 570407, 4215143; 570412, 4215166; 570408, 4215189; 570401, 4215216; 570400, 4215236; 570402, 4215249; 570411, 4215261.

(ii) Note: Unit 5 for *Cordylanthus mollis* ssp. *mollis* is depicted on Map 5, which follows:

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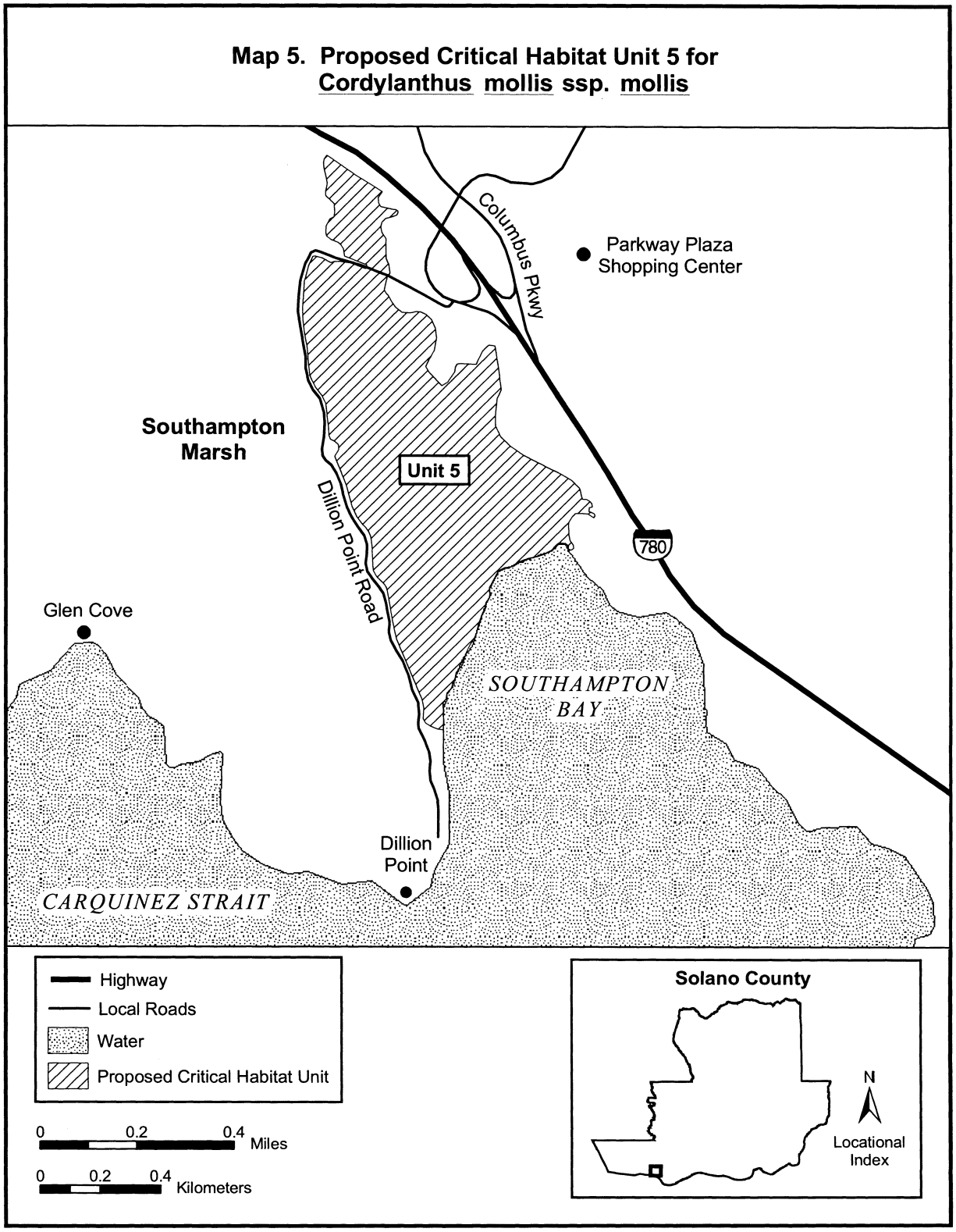

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Dated: March 31, 2006.

Matt Hogan,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 06–3343 Filed 4–10–06; 8:45 am]

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