



# Federal Register

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**Tuesday,  
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## **Part II**

# **Department of the Interior**

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**Fish and Wildlife Service**

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**50 CFR Part 17**

**Endangered and Threatened Wildlife and  
Plants; Designation of Critical Habitat for  
*Brodiaea filifolia* (thread-leaved  
brodiaea); Final Rule**

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

RIN 1018-AT75

**Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Brodiaea filifolia* (thread-leaved brodiaea)****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

**SUMMARY:** We, the Fish and Wildlife Service (Service), are designating critical habitat for the federally threatened *Brodiaea filifolia* (thread-leaved brodiaea) pursuant to the Endangered Species Act of 1973, as amended (Act). In total, approximately 597 acres (ac) (242 hectares (ha)) fall within the boundaries of the critical habitat designation. The critical habitat is located in Los Angeles and San Diego counties, California. Lands in Orange, Riverside, and San Diego counties that are covered by approved and draft habitat conservation plans are excluded under section 4(b)(2). Lands owned or controlled by the Department of Defense that are covered by an Integrated Natural Resource Management Plan (INRMP) that provides a benefit to the species are exempt from critical habitat under section 4(a)(3) of the Act. As a result of revisions based on peer and public comments and a re-evaluation of methodology and mapping, approximately 4,093 ac (1,656 ha) in Los Angeles, San Bernardino, Orange, and San Diego counties proposed as critical habitat were removed or excluded from this final designation. Lands designated as critical habitat are under Federal and private ownership. No Tribal lands are included in this critical habitat designation.

**DATES:** This rule becomes effective on January 12, 2006.**ADDRESSES:** Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection, by appointment, during normal business hours, at the Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92011 (telephone 760-431-9440). The final rule, a list of references cited, the economic analysis, and maps will also be available on the Internet at <http://carlsbad.fws.gov>.**FOR FURTHER INFORMATION CONTACT:** Field Supervisor, Carlsbad Fish and Wildlife Office, at the above address

(telephone 760-431-9440; facsimile 760-431-9624).

**SUPPLEMENTARY INFORMATION:****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.

*Role of Critical Habitat in Actual Practice of Administering and Implementing the Act*

While attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. Sidle (1987) stated, "Because the Act can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7." Currently, only 470 species or 37.5 percent of the 1,253 listed species in the U.S. under the jurisdiction of the Service have designated critical habitat.

We address the habitat needs of all 1,253 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, and the Section 10 incidental take permit process. The Service believes that it is these measures that may make the difference for the conservation of many species.

We note, however, that the August 6, 2004, Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. United States Fish and Wildlife Service*, found our definition of adverse modification was invalid. In response to the decision, the Director has provided guidance to

the Service based on the statutory language. In this rule, our analysis of the consequences and relative costs and benefits of the critical habitat designation is based on application of the statute consistent with the Ninth Circuit's ruling and the Director's guidance.

*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 the 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 almost no ability to provide for adequate 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, is very expensive, and in the final analysis provides relatively little additional protection to listed 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). None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated

earlier, and they directly reduce the funds available for direct and tangible conservation actions.

### Background

By 1998, when the species was listed, at least 25 percent of the known *Brodiaea filifolia* populations or occurrences had been eliminated by urbanization and agricultural conversion (63 FR 54975, October 13, 1998). Urban development continues to be a threat to this species. Habitat for the species is also threatened by off-road vehicle use; non-agricultural grading and disking for weed control; clearing for firebreaks; alteration of existing hydrologic conditions resulting from construction and operation of flood control structures; over-grazing; and competition from non-native plant species (USFWS 1998, RECON 1999, CNDDDB 2005). Occurrences of *B. filifolia* in Orange County and some in San Diego County are threatened by the perennial *Cynara cardunculus* (artichoke thistle or cardoon) (CNDDDB 2005). *B. filifolia* and its habitat are also threatened by dumping of manure and sewage sludge on occupied habitat along the San Jacinto River in western Riverside County (Roberts *in litt.* 2005). This material can alter the soil chemistry and lead to changes in the vegetation sustainable on the sites.

### Previous Federal Actions

For more information on previous Federal actions concerning *Brodiaea filifolia*, refer to the final rule listing the species as threatened, published in the **Federal Register** on October 13, 1998 (63 FR 54975), and the proposed critical habitat designation published in the **Federal Register** on December 8, 2004 (69 FR 71284). A recovery plan for *B. filifolia* has not yet been completed. The following text discusses Federal actions that occurred subsequent to the listing.

On November 15, 2001, a lawsuit was filed against the Department of the Interior (DOI) and the Service by the Center for Biological Diversity and California Native Plant Society, challenging our "not prudent" determinations for eight plants, including *Brodiaea filifolia* (*Center for Biological Diversity et al. v. Department of the Interior et al.*, CV 01–2101). A second lawsuit asserting the same challenge was filed by the Building Industry Legal Defense Foundation (BILD) on November 21, 2001 (*Building Industry Legal Defense Foundation v. Department of the Interior et al.*, CV 01–2145). Both cases were consolidated on March 19, 2002, and all parties agreed to remand the critical habitat determinations to the Service for

additional consideration. On July 1, 2002, the U.S. District Court for the Southern District of California directed us to publish a new prudency determination and, if prudent, propose critical habitat for *B. filifolia* on or before November 30, 2004, and to publish a final rule on or before November 30, 2005.

In the final listing rule, we determined that critical habitat was not prudent for *Brodiaea filifolia* because such designation would provide no benefit over that provided by listing on private property where the species occurs (63 FR 54975). The courts have ruled that, in the absence of a finding that the designation of critical habitat would increase threats to a species, the existence of another type of protection, even if it offers potentially greater protection to the species, does not justify a "not prudent" finding (*Conservation Council for Hawaii v. Babbitt* 2 F. Supp. 2d 1280). Accordingly, we withdrew our previous determination that the designation of critical habitat was not prudent for *B. filifolia* and determined that critical habitat designation for this species is prudent. We had sufficient information necessary to identify specific features essential to the conservation of *B. filifolia* and proposed critical habitat for this species on December 8, 2004 (69 FR 71284). With the publication of this rule, we are designating final critical habitat for *B. filifolia* in compliance with the court's order.

### Summary of Comments and Recommendations

We contacted appropriate Federal, State, and local agencies, scientific organizations, and other interested parties and invited them to comment on the proposed critical habitat designation. We also invited public comment through the publication of notices on December 17, 2004, in *The Press-Enterprise*, Riverside, CA; *San Diego Union-Tribune*, San Diego, CA; *Orange County Register*, Santa Ana, CA; and the *Los Angeles Times*, Los Angeles, CA. The initial comment period ended February 7, 2005. There were no requests for public hearings.

During the comment period that opened on December 8, 2004, and closed on February 7, 2005, we received 19 comment letters directly addressing the proposed critical habitat designation: 4 comment letters were received from 3 peer reviewers, 2 from Federal agencies, and 13 from organizations or individuals. We received 2 additional comment letters that were illegible. We attempted to contact the authors of the letters but

received no response; therefore, we could not consider the information. Thirteen commenters supported the designation of critical habitat for *Brodiaea filifolia*, and three opposed the designation. Three letters included comments or information, but did not express support or opposition to the proposed designation.

A second comment period to consider the draft economic analysis of proposed critical habitat for *Brodiaea filifolia* opened on October 6, 2005, and closed on October 20, 2005. During the comment period we received 6 letters: 5 from organizations or individuals and 1 from a local government agency. In opening the comment period on the draft economic analysis, we also reopened the comment period on our critical habitat proposal. Comments received during both comment periods were grouped into general issue categories relating to the proposed designation or the draft economic analysis.

### Peer Review

In accordance with our joint policy published on July 1, 1994 (59 FR 34270), we solicited review of our proposed rule from at least three appropriate independent specialists/experts. The purpose of such review is to ensure our final designation is based on scientifically sound data, assumptions, and analyses. We solicited peer review from four knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from three of the peer reviewers. The peer reviewers supported the designation; however, they expressed concern about errors and omissions in the proposal, including the exclusion of critical habitat on lands covered by Habitat Conservation Plans (HCP). Comments from peer reviewers and other commenters are addressed in the following summary, and corrections and information are incorporated into the final rule as appropriate.

### Peer Reviewer Comments Related to Previous Federal Actions, the Act, and Implementing Regulations

Similar comments that were received from other commenters are addressed in this section to avoid redundancy.

(1) *Comment*: Two peer reviewers requested that we provide a review of the unique status of plants under the Act, including the limited protection plants are provided under section 9 of the Act and the pros and cons of critical habitat designation for plants. Another

commenter indicated that *Brodiaea filifolia* receives substantial protection under the California Endangered Species Act (CESA) and the California Environmental Quality Act (CEQA) and does not require special management considerations or protection.

*Our Response:* *Brodiaea filifolia* is listed as an endangered species under the CESA. This allows the species to receive greater attention during the land use planning process by local governments, public agencies, and landowners. State listed plants are protected from removal, except by permit or agreement from the California Department of Fish and Game (CDFG). However, listing under the CESA doesn't remove all conservation threats to the species. Areas that contain features essential to the conservation of *B. filifolia* and that may require special management considerations or protection would still warrant critical habitat designation under the Act. The benefits and limitations of critical habitat designation for *B. filifolia* are addressed in several different sections throughout this document, including the "Effects of Critical Habitat Designation," and "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act."

*Peer Reviewer Comments Related to Life History, Habitat Characteristics, and Ecological Considerations*

(2) *Comment:* Three peer reviewers and five other commenters provided additional information, clarifications, and references for aspects of the biology, associated vegetation, and soil preferences of *Brodiaea filifolia*. One peer reviewer considered ours an excellent overview of the biology of the species but lacking two references they cited.

*Our Response:* We appreciate additional information and clarification and, where appropriate, we have incorporated this into the final rule.

(3) *Comment:* One peer reviewer and one individual stated that we should have cited more recent information, including the California Natural Diversity Database (CNDDDB), regarding the historical range of *Brodiaea filifolia*, pointing out that some new occurrences have been discovered.

*Our Response:* In developing the proposed rule we used data compiled from the CNDDDB database in 2003 as well as an update in 2004 (CNDDDB 2003; 2004). This is a running database that includes periodic updates of existing occurrence information and new occurrence records. There was one occurrence of *Brodiaea filifolia*

identified in the 2004 update of the CNDDDB that we overlooked. This occurrence is located in an unincorporated area of central San Diego County near Lake Hodges. Fortunately, this occurrence of about 688 plants is being conserved under a Minor Amendment to the San Diego County MSCP.

Another occurrence in the same area was not entered into the CNDDDB until April 6, 2005 (CNDDDB 2005); therefore, we were not able to consider it in the proposed rule. It is not possible to include an area in this final critical habitat designation that was not identified in the proposed rule. Because we are under a court deadline to complete this final rule, the publication of a revised proposed rule to include this area for public review and comment could not have been completed in time to comply with the court's deadline.

(4) *Comment:* One peer reviewer cites the dumping of sewage sludge as the most serious threat to *Brodiaea filifolia* along the San Jacinto River habitat in Riverside County. The peer reviewer also stated that these deposits alter the soil chemistry.

*Our Response:* This comment is appreciated and a discussion of this threat has been incorporated into the "Background" section of this final rule.

(5) *Comment:* A peer reviewer and two individuals provided differing views on the issue of translocation. One view asserted that translocation may not have a high chance for success. The other perspective considers it premature to state that translocation is a threat to the species. One peer reviewer requested that we discuss all of the translocated populations.

*Our Response:* We are uncertain about the long-term viability of translocated populations and their contribution to the species as a whole, therefore, we did not specifically include them in this designation. However, translocated populations may contribute to the long-term survival and recovery of the species. Additional long-term monitoring for genetic diversity and the reproductive impact of these populations is warranted. Only issues specifically related to the critical habitat designation are discussed in this final rule, therefore, we have not included a broad overview of translocated populations in this document.

*Peer Reviewer Comments Related to Critical Habitat, Primary Constituent Elements, and Methodology*

(6) *Comment:* Two peer reviewers and two other commenters expressed concern about errors and lack of attribution to citations in the proposed

rule, suggesting that it be rewritten and re-released. Several questions, additions, and corrections to statements and information relating to proposed critical habitat units were provided by peer reviewers and other commenters.

*Our Response:* Because of a court deadline to complete this final rule, we could not publish a revised proposed rule for public review and comment in time to comply with the court's deadline. One of the purposes of releasing the proposed rule and draft economic analysis for public review and comment is to obtain substantive information and materials related to the proposed critical habitat designation. We appreciate receiving additional information, corrections, and clarifications that were useful in our re-evaluation of the proposed units and unit descriptions. Where appropriate, we have included this information and answers to specific questions in the final rule. See the "Summary of Changes from Proposed Rule" section for a review of changes in the final designation.

(7) *Comment:* One peer reviewer stated that we did not provide information on our reasoning for proposing critical habitat in a number of locations in Riverside and San Diego counties.

*Our Response:* We have re-evaluated areas included in proposed critical habitat. This final designation reflects mapping refinements, our re-evaluation of proposed areas under section 3(5)(A), and exclusions under sections 4(a)(3) and 4(b)(2) of the Act. Please refer to the "Criteria Used to Identify Critical Habitat," and the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3) and Exclusions Under Section 4(b)(2) of the Act" for more information.

(8) *Comment:* Two peer reviewers suggested literature citations, with one requesting that we cite final versions rather than draft documents, and the other requesting that the references cited list be published with the text of the rule and posted on the Internet.

*Our Response:* Where appropriate, we have incorporated these suggestions in this rule. We cite the most current version of documents available. As stated in the "References Cited" section of the rule, a list of references cited is available upon request from the Carlsbad Fish and Wildlife Office. We will also make this list available on the Internet at <http://carlsbad.fws.gov>.

(9) *Comment:* One peer reviewer and a public commenter questioned our use of a draft version of Bramlet and White 2004 (erroneously cited as White and Bramlet 2004 in the proposed rule).

*Our Response:* We referred to a working table of occurrences (Table 3) during the preparation of the proposed rule. The information in this table was considered to be one of the best available on the occurrences of *Brodiaea filifolia*. Only occurrences corroborated from other sources are considered in this final rule.

(10) *Comment:* Two peer reviewers and two public commenters variously stated that the section of the proposed rule titled "Designation of Critical Habitat Provides Little Additional Benefit to Species" is generic, editorializing, out of place in a proposal, and political. One commenter wanted us to point to the research that specifically justifies this claim in relation to *Brodiaea filifolia*.

*Our Response:* The section referenced by the commenters is intended to be a general statement regarding our position on the designation of critical habitat. As discussed in the preamble of this and other critical habitat designation rules, we believe that, in most cases, conservation mechanisms provided through section 7, 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 programs with private and public landowners and Tribes provide greater incentives and conservation benefits than does the designation of critical habitat.

(11) *Comment:* One peer reviewer and one commenter requested a definition of PCE. They also suggested clarifications for PCEs relating to habitat descriptions, soil types, slopes, and associated vegetation types.

*Our Response:* As stated in the "Primary Constituent Elements" (PCE) section of the proposed rule (69 FR 71284), PCEs are those physical or biological features essential to the conservation of a species, and that may require special management considerations or protection. The PCEs for *Brodiaea filifolia* were based on the best available information relating to the species' occurrences and its soil and vegetation associations. Please refer to the "Methods" section of this final rule for a discussion of all information sources used to define the PCEs for *B. filifolia*.

(12) *Comment:* Two peer reviewers noted the ability of *Brodiaea filifolia* to persist on disturbed, degraded, or disked sites and the suitability of these sites if allowed to recover, especially by natural flooding processes.

*Our Response:* It is likely that some areas supporting occurrences of *Brodiaea filifolia* have been degraded to

some degree. The areas included in proposed critical habitat and areas excluded from proposed designation under section 4(b)(2) of the Act were identified as being occupied and containing the physical or biological features essential to the conservation of the species. Lands included in this final designation are occupied and contain the features essential to the conservation of *B. filifolia*. Please refer to the "Application of Section 3(5)(A), Exemption Under 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" section for information about areas removed, exempted, or excluded from critical habitat.

(13) *Comment:* Two peer reviewers and three other commenters provided information and suggestions related to the species' biology, habitat description, and condition, as well as boundaries of the critical habitat subunits and areas containing habitat with features essential to the conservation of this species that were excluded from critical habitat in our proposal. One peer reviewer also noted that some units included unsuitable habitat. One commenter recommended we change the configuration of boundaries in the Rancho Santalina/Loma Alta subunit to better represent the areas containing features essential to the conservation of *Brodiaea filifolia*.

*Our Response:* We appreciate the information and suggestions from these commenters and, where appropriate, we have incorporated the information on subunit descriptions into this final rule. Some of the commenters discussed making the boundaries of critical habitat subunits and areas containing habitat with features essential to the conservation of this species more precise. We made such changes where appropriate. We have attempted to map the boundaries to exclude developed land; however, we may not have been able to exclude all developed land or land that does not contain the PCEs. Any such structures and the land under them inadvertently left inside the mapped critical habitat boundaries have been excluded in the text portion of the rule, and are not designated as critical habitat. Federal actions limited to these areas would not trigger section 7 consultations, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

Some commenters suggested including additional areas in the proposed subunits or making boundary adjustments in areas containing features essential to the conservation of the species that were excluded from proposed designation. However, these commenters did not provide sufficient

site-specific data for us to adequately evaluate their recommendations. We reviewed the proposed Santalina/Loma Alta subunit and determined it does not meet the definition of critical habitat under section 3(5)(A) of the Act. Please refer to the section "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information.

(14) *Comment:* Two peer reviewers and one commenter questioned our use of occurrences with 1,000 or more plants as a measure of whether an area contained habitat with features essential to the conservation of *Brodiaea filifolia*. One commenter questioned the science behind our decision not to propose all occurrences of *B. filifolia* in Orange and San Diego counties as critical habitat.

*Our Response:* In developing our proposal, we relied on several types of information to determine whether an occurrence of *Brodiaea filifolia* was considered significant. As outlined in the "Criteria Used to Identify Critical Habitat" section, we evaluated population estimates, soil types, associated vegetation, and elevation. We also evaluated the location of occurrences in relation to the range of the species. For example, occurrences that supported less than 1,000 plants, but which were on alkali playatas were considered to be significant. For an explanation of why more areas in Orange and San Diego counties were not included in the final designation, please refer to the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3) and Exclusions Under Section 4(b)(2) of the Act" portion of this rule.

(15) *Comment:* One peer reviewer and one individual questioned the value of including small units (e.g., 6b (Mesa Drive)), or those with few plants (e.g., subunits 4d (Prima Deschecha), 4f (Talega/Segunda Deschecha), and 6a (Alta Creek)) as critical habitat.

*Our Response:* We considered occurrence information, soil types, vegetation association and other factors in our re-evaluation of proposed subunits. As a result of our re-evaluation, several proposed subunits, including 4d, 4f, and 6a, were removed from final designation. Subunit 6b (Mesa Drive) is relatively small, covering about 5 ac (2 ha), but it supports a significant occurrence of *Brodiaea filifolia* and contains features essential to the conservation of the species; therefore, it was included in proposed critical habitat. However, subunit 6b was excluded from final designation under section 4(b)(2) of the Act. Please see the "Summary of Changes from Proposed Rule," and

“Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act” sections for more information.

(16) *Comment:* One peer reviewer recommended that we add Domino or Chino alkali soils to the description of PCEs because *Brodiaea filifolia* occurs on these soil types in Riverside County.

*Our Response:* We have reviewed this information and have included these soil types in our definition of the PCEs for *Brodiaea filifolia*.

(17) *Comment:* Two peer reviewers and one Federal agency commenter questioned our inclusion of subunits 5a (Miller Mountain) and 5b (Devil Canyon) in proposed critical habitat because most plants in subunit 5a and some in subunit 5b are hybrids between *Brodiaea filifolia* and *Brodiaea orcuttii*. One peer reviewer noted that hybrids occur in the City of San Marcos and on Marine Corps Base, Camp Pendleton (Camp Pendleton), although specific numbers and locations were not provided. One peer reviewer stated that plants in areas containing features essential to the conservation of the species in Riverside County are prone to hybridization. Another commenter, knowledgeable about the genetics of *Brodiaea*, stated that *B. filifolia* and *B. orcuttii* form a unique line and could hybridize only with each other.

*Our Response:* We acknowledge that within subunits 5a and 5b, there are substantial numbers of plants that are hybrids of *Brodiaea filifolia* and *Brodiaea orcuttii* (Boyd et al. 1992). The population in subunit 5a is considered to be largely hybridized and we cannot determine that they can be considered as contributors to the long-term conservation of the species; therefore, we removed this subunit from consideration. Although plants in subunit 5b also show some hybridization, the extent of the hybridization is less. The occurrence of *B. filifolia* in subunit 5b is significant and is found at one of the highest elevations within the range of the species. We have included the portion of land in subunit 5b that is occupied by *B. filifolia* and contains features essential to the conservation of the species in this final designation. Please see the “Summary of Changes from Proposed Rule” and “Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act,” and “Unit Descriptions” sections for more information.

We are aware of a CNDDDB (Element Occurrence 10) report in the City of San Marcos that included a reference to the possible presence of hybrids between

*Brodiaea filifolia* and *B. jolonensis*. This area was identified as subunit 8d (Upham) in our proposed rule. It has been reported that putative hybrid individuals of *B. filifolia* and another species that has been erroneously referred to *B. jolonensis* occur on the site (Armstrong 2005). Though these hybrid plants exhibit intermediate characteristics between the two theorized parental species, a third species, *B. orcuttii*, also grows nearby within the unit. According to Armstrong (2005), the hybrid plants appeared to be a “clonal population” restricted to “a one acre area at the southwest end of the property” and that these individuals “probably reproduced asexually through cormlets.” Although Armstrong (2005) found “numerous *B. filifolia*, *B. orcuttii*, and (the material referred to as *B. jolonensis*)” growing within the unit in May 2005, he failed to observe any of the hybrid plants. As a result, although putative hybridization has been reported for this unit, hybrid plants are either no longer present or they represent an undetectable, small fraction of the overall population of *B. filifolia*. The occurrence of *B. filifolia* in this subunit is estimated to support about 1,000 plants and contains features essential to the conservation of the species.

We were not able to confirm the commenter’s reference to hybrids on Camp Pendleton.

(18) *Comment:* One peer reviewer considered the mapping of lands in Riverside County that were excluded from proposed critical habitat to be inadequate. One individual requested UTM coordinates for these same areas.

*Our Response:* As stated in the proposed rule, maps of the areas in Riverside County containing features essential to the conservation of *Brodiaea filifolia* that were excluded under section 4(b)(2) of the Act, based on conservation measures outlined in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), were available on our Web site. We believe that the general public finds these maps more useful than the UTM coordinates. Also, GIS layers of the areas proposed for critical habitat designation as well as areas excluded from proposed critical habitat are available upon request from our office. We will clarify the availability of this information in future critical habitat rules.

(19) *Comment:* One peer reviewer expressed the importance of designating critical habitat for *Brodiaea filifolia* in irregularly flooded bottomland areas of the San Jacinto River floodplain because of concerns that alteration of the

floodplain could adversely modify a significant portion of the Riverside County occurrences of the plant and eliminate a unique element of the species’ habitat associations (*i.e.*, plants adapted to alkali soils). The reviewer stated that designation of critical habitat in the San Jacinto River floodplain area would strengthen the regulatory effectiveness of section 7 by adding “adverse modification” to the jeopardy standard available to the Service and ensure that activities of the U.S. Army Corps of Engineers (ACOE) do not adversely modify the habitat. The reviewer also indicated that thousands of acres are undergoing alteration by sewage sludge and manure dumping.

*Our Response:* We agree that areas supporting *Brodiaea filifolia* in the San Jacinto River floodplain are important because they contain features essential to the conservation of the species. However, these areas have been excluded from critical habitat because the Western Riverside County MSHCP addresses the conservation needs of the species, including the maintenance of floodplain processes along the San Jacinto River. The Secretary has determined the benefits of excluding lands covered by the Western Riverside County MSHCP outweigh the benefits of including them in critical habitat (see the “Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act” section of this rule.)

(20) *Comment:* Two peer reviewers and one individual commenter stated that areas we identified as having features essential to the conservation of *Brodiaea filifolia* near the City of Corona and in Moreno Valley in Riverside County are erroneous and based on an early draft of the Western Riverside County MSHCP. The commenter suggested they might be derived from questionable biological surveys.

*Our Response:* We appreciate the correction. After further evaluation, we did not find reliable data validating the occurrences of *Brodiaea filifolia* at these locations, and we removed them from consideration. For more information, please refer to the “Summary of Changes from Proposed Rule.”

(21) *Comment:* One peer reviewer suggested that we designate habitat blocks that contain the entire San Jacinto River floodplain to capture the historical habitat of the species.

*Our Response:* When designating critical habitat for *Brodiaea filifolia* we identified land containing physical or biological features essential to the conservation of the species and which may require special management considerations or protection. Physical or

biological features include areas needed for pollen dispersal and pollination; seed dispersal and germination, and maintenance of seed banks; and areas that provide the basic requirements for growth. These features, referred to as PCEs, are discussed in the "Primary Constituent Elements" section of this rule. Areas in western Riverside County, including lands within the San Jacinto River floodplain that are occupied by *B. filifolia* and contain features essential to the conservation of the species have been excluded from critical habitat pursuant to section 4(b)(2) of the Act (see "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act.")

(22) *Comment:* One peer reviewer questioned how land management of reserves helps recovery of the species with and without critical habitat.

*Our Response:* We are assuming the peer reviewer is referring specifically to reserves that are established in conjunction with HCPs. Approved HCPs include measures to monitor, minimize, and mitigate impacts; and must provide adequate funding. Management of reserves in accordance with an HCP's issuance criteria would be carried out regardless of a critical habitat designation on identified reserve lands. Only actions authorized, funded, or carried out by a Federal agency that may affect critical habitat would require consultation with us and would not affect actions undertaken on reserve areas that do not have a Federal nexus. Reserves established as part of an HCP include monitoring and management to ensure the areas retain their biological value for the species.

*Peer Review Comments Related to Department of Defense (DoD) Lands*

(23) *Comment:* One peer reviewer requested a discussion of the importance of populations of *Brodiaea filifolia* on Camp Pendleton.

*Our Response:* Populations of *Brodiaea filifolia* on Camp Pendleton are of considerable importance not only because of the numbers of plants reported (over 4,000) from several different occurrences, but also because they are found in more than one vegetation or soil association, including grasslands and vernal pools; the occurrences are distributed in a manner that likely facilitates pollen transfer among them and also with occurrences to the north and south of Camp Pendleton. Please see the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information about Camp Pendleton's

Integrated Natural Resource Management Plan (INRMP) and other measures Camp Pendleton is undertaking to address *B. filifolia* on their lands.

*Peer Review Comments Related to the NCCP/HCP Program, Section 7, and Section 404*

(24) *Comment:* Two peer reviewers and one commenter disagreed with our determination to exclude critical habitat based on approved HCPs. One peer reviewer expressed further concern that it is uncertain whether HCPs will protect these areas because no specific preserve boundaries have been proposed, relying instead on goals and potential conservation. The reviewers stated that we did not provide a clear biological reason for excluding lands covered by HCPs and questioned why more areas were not determined to be critical habitat.

*Our Response:* Under section 4(b)(2) of the Act, the Secretary may exclude any particular area from critical habitat designation if the benefits of excluding such area outweigh the benefits of including it in critical habitat, unless it is determined, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species. We evaluated the benefits of excluding critical habitat on lands covered by HCPs, including the Western Riverside County MSHCP, the San Diego County Multiple Habitat Conservation Plan (MHCP) and its approved subarea plans, the Orange County Central and Coastal NCCP/HCP, and the Settlement Agreement for Rancho Mission Viejo's Ranch Plan, a component of the draft Orange County Southern Subregion NCCP/HCP, against the benefits of including such lands in critical habitat. A major benefit of excluding these lands from critical habitat is the facilitation of continued partnerships with the various signatory agencies, cities and landowners involved with these NCCP/HCP efforts. Although a possible benefit of including these lands in critical habitat would be to enhance education about the species and its habitat needs, we consider this benefit to have largely been met through the public participation process that occurred, and continues to occur, during the development and implementation of these conservation planning efforts. We acknowledge that the Western Riverside County MSHCP does not describe a hard-lined reserve, but it does identify specific conservation goals and objectives for *Brodiaea filifolia*, including the conservation of 11

occurrences in the two Core Areas in western Riverside County where this species is found.

Please refer to the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" section for more discussion of the Western Riverside County MSHCP and other NCCP/HCP efforts.

(25) *Comment:* Two peer reviewers state that the Lakeview/Nuevo Area Plan (Dudek and Associates 2003) is inconsistent with provisions of the Western Riverside County MSHCP because it has nearly the entire Criteria Area zoned for residential development.

*Our Response:* Under the Western Riverside County MSHCP, permittees are obligated to adopt and maintain ordinances or resolutions as necessary, and amend their general plans as appropriate, to implement the requirements and fulfill the purposes of the MSHCP and its associated Implementing Agreement (IA) and Permit (Dudek and Associates 2003).

(26) *Comment:* Two peer reviewers requested that we discuss specific conservation actions under the Western Riverside County MSHCP that will result in conservation of *Brodiaea filifolia*. One reviewer specifically asked what assurances are in place that conservation benefits will occur before Highway 79 is built through habitat for the species.

*Our Response:* The Western Riverside County MSHCP identifies specific goals to be implemented for long-term conservation of *Brodiaea filifolia*, including conservation of at least 6,900 ac (2,760 ha) of habitat, containing 11 major locations supporting the species, conducting surveys for *B. filifolia* in certain areas, and maintaining floodplain processes along the San Jacinto River.

The assembly of the MSHCP Conservation Area is anticipated to occur over a period of time during the life of the Permit. To ensure that the resources ultimately conveyed to the MSHCP Conservation Area are maintained in their existing condition prior to reserve assembly, the MSHCP permittees are obligated to adopt and maintain ordinances or resolutions and to amend their general plans such that they will be able to meet their obligations under the MSHCP (Dudek and Associates, Inc. 2003; 2003b).

Several covered activities discussed under the MSHCP have the potential to impact populations of *Brodiaea filifolia* within the proposed MSHCP Conservation Area, including the San Jacinto River Flood Control Project and the State Route 79 Realignment Project.

These projects will require additional consultation with our agency under section 7 of the Act (Dudek and Associates, Inc. 2003).

As a result of informal consultation conducted to date on the State Route 79 Realignment Project, the City of Hemet has adopted an Interim Urgency Ordinance that preserves two avoidance alternatives for the State Route 79 Realignment Project, both of which are located outside of the MSHCP Criteria Area, and also allows the City to ensure that development efforts within the MSHCP Criteria Area are coordinated such that habitat conserved within the Criteria Area does not become fragmented, thereby allowing the City to meet their obligations under the MSHCP (City of Hemet 2005).

(27) *Comment:* One peer reviewer stated that there was no protection of land for *Brodiaea filifolia* before the approval of the Western Riverside County MSHCP, and there is no protection now, as evidenced by the ongoing dumping of sewage sludge and manure on occupied habitat. The reviewer cited an area along Case Road where dumping has occurred.

*Our Response:* Permittees under the Western Riverside County MSHCP are obligated to adopt and maintain ordinances or resolutions as necessary, and amend their general plans as appropriate, to implement the requirements and to fulfill the purposes of the MSHCP and its associated IA and Permit (Dudek and Associates, Inc. 2003; 2003b). The Western Riverside County MSHCP is a large, complex habitat conservation plan, and its implementation is expected to take time. In its first year of implementation, the Western Riverside County MSHCP has already resulted in conservation and management actions that address threats to *Brodiaea filifolia* on private lands. For example, the City of Hemet has adopted an ordinance that has halted the dumping of manure within the City (City of Hemet 2002).

(28) *Comment:* One peer reviewer expressed concern that there is no assurance that prioritization of conservation areas following the criteria of the Western Riverside County MSHCP will select the more favorable biological areas over less favorable areas. For example, while the Western Riverside County MSHCP proposes one method of conservation, another, yet to be disclosed method, could prevail.

*Our Response:* We refer the reader to our responses to comments 24 and 26 above and to the section titled "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and

Exclusions Under Section 4(b)(2) of the Act" for more information.

(29) *Comment:* One peer reviewer, citing the Fieldstone/La Costa Associates HCP/Ongoing Multi-species Plan (known as the Villages of La Costa HCP), approved about 10 years ago, states that HCPs are supposed to provide for monitoring of the status of covered species to measure the success of conservation measures and asked us to document the status of the reserve.

*Our Response:* Conservation provisions for *Brodiaea filifolia* outlined in the Villages of La Costa HCP include protection of almost 6,000 plants in an open-space preserve with long-term management and monitoring, habitat restoration, and control of invasive plant species. Further information about this HCP can be found in the section titled "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act."

*Public Comments Related to Life History, Habitat Characteristics, and Ecological Considerations*

(30) *Comment:* One commenter criticized our use of foraging distance data based on *Bombus* taxa (bumblebees), stating that their studies had not recorded a single instance of bumblebees visiting *Brodiaea filifolia* on their property.

*Our Response:* We believe our use of the 820 feet (ft) (250 meters (m)) distance for pollinator movement and habitat is justified. Bell and Rey (1991) noted *Bombus californicus* as one of the native bees observed pollinating *Brodiaea filifolia* on the Santa Rosa Plateau in Riverside County. Please see the "Criteria Used to Identify Critical Habitat" section for a detailed discussion.

(31) *Comment:* One commenter criticized our omission of a study of pollinators conducted by Rancho Mission Viejo.

*Our Response:* The omission of this report was inadvertent. The report summarizes field studies conducted in late spring 2003 and reports insects visiting flowers of *Brodiaea filifolia* at two locations and two times during the season. Observations were made on three dates between April and May 2003. Burrowing bees (Anthophoridae), Sweat bees (Halictidae), and Flower-loving flies (Syrphidae) were the most common groups of insects observed, although it is not clear from the report whether pollination by the various insects was confirmed by observations of fruit production by the plants. Information from this report is

incorporated, where appropriate, in this final rule.

*Public Comments Related to Critical Habitat, Primary Constituent Elements, and Methodology*

(32) *Comment:* One commenter suggested a method for designing the size of conservation areas based on Burgman *et al.* (2001).

*Our Response:* Although the information is appreciated, it is important to clarify the differences between establishment of conservation areas and the designation of critical habitat. The designation of critical habitat does not establish reserves, preserves, wilderness areas, refuges or other types of conservation areas. We suggest readers refer to the sections on "Methods," "Primary Constituent Elements," and "Effects of Critical Habitat Designation" to more fully understand how we identified areas for critical habitat designation, the features essential to the conservation of the species, and the effect of critical habitat on landowners.

(33) *Comment:* One commenter wanted to know how many occurrences in Riverside and San Diego counties are outside designated critical habitat and how this would affect the viability of the species.

*Our Response:* A number of occurrences in Riverside and San Diego counties were not proposed for designation because they were not considered significant occurrences, or were excluded from proposed critical habitat under section 4(b)(2) of the Act. Many of these areas receive conservation consideration under existing INRMPs, HCPs, or other conservation instruments. Please refer to the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information. Please note that, although habitat for *Brodiaea filifolia* may be outside the boundaries of designated critical habitat, it does not mean these areas are unimportant or may not be necessary for recovery of the species.

(34) *Comment:* One commenter stated that the purpose of critical habitat under section 3 of the Act is to facilitate recovery of species and that it should include the opportunity for genetic exchange, migration, and changes in climate.

*Our Response:* The definition of critical habitat has two prongs, that is, one prong considers specific areas within the geographic area occupied by the species and the second prong considers specific areas outside the geographic area occupied by the species.



To the extent that we can relate genetic exchange, migration, and changes in climate to physical and biological features essential to the conservation of the species and those areas also require special management considerations or protection (prong one) or based upon a determination by the Secretary that an unoccupied area is essential to the conservation of the species (prong two), we may and do consider those factors in our designation of critical habitat. Please see the "Designation of Critical Habitat Provides Little Additional Protection to Species" section and the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information and discussion.

(35) *Comment:* One commenter stated there is a poor record of recovery for species with critical habitat while another commenter cited a report indicating that species with critical habitat are less likely to be in decline and twice as likely to be recovering.

*Our Response:* The Service has been unable to independently verify the results of such studies. The fact that there are conflicting studies shows that the issue has not been settled. The Service believes that most of the protections of the Act come with listing the species, and by far the most successful recovery efforts come from voluntary partnerships. Critical habitat designation is not the sole means by which conservation of a species may be addressed.

(36) *Comment:* One commenter characterized our proposed rule as a sweeping designation that exceeds our congressional mandate. The commenter further stated that our designation should be based on the estimated 825 ac (334 ha) of land occupied by *Brodiaea filifolia* identified in the final listing rule (63 FR 54975). Another commenter stated that Congress intended for critical habitat to be extremely narrowly defined and limited only to areas necessary to bring the species to a point where it is no longer in danger of extinction.

*Our Response:* In developing the final critical habitat designation for *B. filifolia*, we reviewed all information and data received during the two public comment periods and have removed from consideration those lands that do not meet the criteria for designation. Specific areas included in this final designation contain the physical or biological features essential to the conservation of *B. filifolia*, including space for pollen dispersal and pollination; seed dispersal and germination, and maintenance of seed

banks; and areas that provide the basic requirements for growth. Please refer to the "Summary of Changes From Proposed Rule," and "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" sections of this rule for more information.

(37) *Comment:* One commenter requested that we indicate which parcels within critical habitat units/subunits contain the PCEs. The commenter also stated that all lands within proposed units/subunits may not contain all of the PCEs.

*Our Response:* In re-evaluating areas proposed as critical habitat for *Brodiaea filifolia*, we determined that some areas do not contain features essential to the conservation of the plant, and therefore were removed from final designation. The "Summary of Changes from Proposed Rule" and "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" sections provide information about areas removed from final designation. Due to the scale at which we map critical habitat boundaries, we do not include parcel level detail. If lands within the boundaries of critical habitat units/subunits do not contain any PCEs, then they have been excluded from the designation in the text portion of the rule.

(38) *Comment:* One commenter stated that it was not good science to "extrapolate" genetic information from studies on a "ubiquitous genera" such as *Lasthenia* (*lasthenia*) to narrow endemic species such as *Brodiaea filifolia*.

*Our Response:* We cited the reference to *Lasthenia* to highlight the significance of outlying portions of a species' range to its genetic diversity. Ornduff (1966) cites several species of *Lasthenia* with morphological or cytological variants at the margins of their distributions. One example used was *Lasthenia fremontii*, restricted to vernal pools or wet meadows in the Central Valley. This example was cited for the purposes of explaining how peripheral populations of *Brodiaea filifolia* may be important to maintaining the genetic diversity of the taxa.

(39) *Comment:* Two commenters questioned our 820 ft (250 m) pollinator movement and habitat area. One commenter thought it was too narrow, the other thought it was too wide. One cited a reference that one group of bees (*halictids*) forage no more than 328 ft (100 m).

*Our Response:* We have included additional references and discussion in

the "Background" section of this rule to support our use of 820 ft (250 m) for a pollinator movement and habitat area. Please see the "Background" and "Criteria Used to Identify Critical Habitat" sections for a detailed discussion.

#### *Public Comments Related to Department of Defense Lands*

(40) *Comment:* One Federal agency commenter agreed with our exclusion of mission-critical areas on Camp Pendleton from critical habitat designation under section 4(b)(2) of the Act; however, they strongly disagreed with our determination in the proposed rule that Camp Pendleton's Integrated Natural Resource Management Plan (INRMP) does not provide a benefit for *Brodiaea filifolia*. The commenter characterized critical habitat as encroachment that would unacceptably degrade Camp Pendleton's mission. The commenter also provided information about programs and activities carried out under the INRMP for *B. filifolia*.

*Our Response:* We appreciate the information from the commenter and have reviewed Camp Pendleton's INRMP, completed in November 2001 (U.S. Marine Corps 2001). Based on our review of the INRMP and information provided by the commenter, we determined that the INRMP provides a benefit for *Brodiaea filifolia* and have exempted Camp Pendleton from critical habitat designation pursuant to section 4(a)(3) of the Act. We have also determined that exclusion of Camp Pendleton pursuant to section 4(b)(2) of the Act is also appropriate. Please see the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" section for more information.

(41) *Comment:* One commenter claimed we are inconsistent in excluding Camp Pendleton from critical habitat designation while other military installations have critical habitat on their lands.

*Our Response:* The commenter did not cite which military installation(s) had critical habitat designation(s); therefore, we cannot provide specific information about a particular installation. Under section 4(b)(2) of the Act, the Secretary shall designate critical habitat, and revise critical habitat on the basis of the best scientific data available and after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying a particular area as critical habitat. The Secretary may exclude any particular area from critical habitat if the benefits of such exclusion outweigh the benefits

of specifying such area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species. These determinations are made by the Secretary on a species-by-species and area-by-area basis.

Section 318 of the fiscal year 2004 National Defense Authorization Act (Pub. L. 108-136) amended the Act by adding a new section 4(a)(3)(B). This provision prohibits designation of critical habitat on any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an INRMP prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

The provisions of section 3(5)(A), 4(a)(3), and 4(b)(2) of the Act are fully considered by us when designating critical habitat. In some cases, critical habitat may have been designated on lands owned or controlled by the DOD prior to the 2004 amendments to the Act, or if otherwise determined to be appropriate. Please see the section "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information. Any revisions to designated critical habitat could be considered through the formal rulemaking process, subject to funding availability.

*Public Comments Related to NCCP/HCP Program, Section 7, and Section 404*

(42) *Comment:* One commenter stated that the Ranch Plan, a component of the draft Orange County Southern Subregion NCCP/HCP is designed to maximize gene flow for *Brodiaea filifolia* and that implementation of the Ranch Plan would not significantly reduce genetic exchange because of preexisting isolation. The commenter requested their property be excluded from critical habitat designation for *B. filifolia* because of the protections afforded the species under the draft NCCP/HCP.

*Our Response:* In general, it is our policy to consider excluding from critical habitat designation HCPs that are approved or are very close to completion as indicated by the fact that an Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) has already been prepared and released for public review and comment. We have not yet released a draft EIS/EIR for the Orange County Southern Subregion NCCP/HCP for public review and comment; however, we are excluding

from final critical habitat designation the portion of lands within the boundary of the draft NCCP/HCP that are owned by Rancho Mission Viejo and identified in the Ranch Plan under section 4(b)(2) of the Act, based on a recent Settlement Agreement. Please refer to the section "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information.

(43) *Comment:* One commenter stated that the City of San Marcos does not have an approved HCP and is not likely to have one in the near future that would warrant exclusion of their lands from critical habitat under section 4(b)(2) of the Act.

*Our Response:* We did not exclude any lands within the City of San Marcos under section 4(b)(2) of the Act; however, some lands in the City of San Marcos were removed from further consideration as critical habitat. Please refer to the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more information.

(44) *Comment:* Three commenters supported our practice of excluding critical habitat on areas covered by HCPs. One also suggested that we exclude areas covered under proposed HCPs, noting that failure to do so would remove incentives for them to participate in these planning efforts. This commenter also stated that exemptions from critical habitat should automatically follow approval of an HCP. Another commenter further stated that designating critical habitat in areas covered by an HCP would impose economic burdens, invite legal challenges, and be a disincentive to developing HCPs.

*Our Response:* It is our policy to exclude from critical habitat lands containing features essential to the conservation of a federally listed species that are covered by approved HCPs. Pursuant to section 4(b)(2) of the Act, critical habitat is to be designated or revised based on the best scientific data available and 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 any area from critical habitat if the benefits of excluding such area outweigh the benefits of including it in critical habitat, unless such exclusion will result in the extinction of the species. As part of the process of balancing the benefits of including or excluding any particular area as critical habitat, including lands covered by approved

HCPs and/or NCCP/HCPs, many factors are considered, including the issues identified by the commenters.

We make a determination to exclude lands within the boundaries of draft HCPs on a case-by-case basis. Generally, we exclude critical habitat from lands within the boundaries of draft HCPs or NCCP/HCPs if we can point to significant progress in the development of a draft HCP and/or NCCP/HCP, including the release of an EIR/EIS for public review and comment or development of some other identified conservation commitment, and we are confident the planning effort will lead to a successful outcome. With regard to automatic exemptions following approval of HCPs or NCCP/HCPs, section 4(b)(5)(A) of the Act requires that any proposed regulation, including revisions to critical habitat, be published in the **Federal Register** and that the public be afforded an opportunity to review and comment. Revisions to critical habitat designations without providing notice to the public would violate the Act. Please refer to the section "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for more discussion of this topic.

(45) *Comment:* Two commenters supported the designation of critical habitat in areas with HCPs, one noting that local agencies would welcome assistance from the Service and the other stating that critical habitat would ensure that an HCP would meet its success criteria.

*Our Response:* Both HCPs and critical habitat designations are designed to provide conservation measures to protect species and their habitats. The advantage of seeking new conservation partnerships (through HCPs or other means) is that they can offer active management and other conservation measures for the habitat on a full-time and predictable basis. Critical habitat requires Federal agencies that authorize, fund or carry out activities that may affect critical habitat to consult with us to ensure such actions do not destroy or adversely modify designated critical habitat. In some cases, the designation of critical habitat may remove incentives to participate in the HCP process because of added regulatory uncertainty; increased costs to plan development and implementation; weakened stakeholder support; delayed approval and development of an HCP; and greater vulnerability to legal challenge or other concerns. In some instances, we have received direct statements from landowners expressing their intent to withdraw from other types of cooperative efforts beneficial to

the conservation of listed species if their property was proposed for inclusion in critical habitat. We work with HCP applicants to ensure that their plans meet the issuance criteria and that the designation of critical habitat on lands where an HCP is in development does not delay the approval and implementation of the HCP. Additionally, HCPs include conservation actions for covered species whether or not the area is designated as critical habitat.

(46) *Comment:* One commenter wanted to know how we determined that the benefits of excluding HCP areas from critical habitat outweigh the benefits of their inclusion.

*Our Response:* We refer the reader to the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" section for an explanation of how we have weighed the benefits of including or excluding critical habitat for *Brodiaea filifolia* on lands covered by HCPs.

#### *Comments Related to Economic Analysis; and Other Relevant Impacts*

(47) *Comment:* Two commenters criticized our failure to include the economic analysis with the critical habitat proposal and one of these commenters also noted the lack of an EIS and National Environmental Policy Act (NEPA) analysis.

*Our Response:* We published our proposed designation of critical habitat for *Brodiaea filifolia* in the **Federal Register** on December 8, 2004 (69 FR 71284). At that time, our Division of Economics and their consultants initiated preparation of a draft economic analysis of the proposed designation. The draft economic analysis was released for public review and comment on October 6, 2005 (70 FR 58361), and we accepted comments on both the draft economic analysis and proposed rule until October 20, 2005. With regard to the preparation of an EIS and NEPA analysis, 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. Please see the "National Environmental Policy Act" section of this rule for additional information.

(48) *Comment:* One public commenter stated that we failed to assess the impact of multiple critical habitat designations on landowners.

*Our Response:* To comply with the 10th Circuit Court of Appeal's ruling in the New Mexico Cattle Growers Association case (248 F.3d at 1285) to include all co-extensive effects, the

economic analysis considers the potential economic impacts of efforts to protect the *Brodiaea filifolia* and its habitat in critical habitat. It does so by taking into account the cost of conservation related measures that are likely to be associated with future economic activities that may adversely affect the habitat within the proposed boundaries. Our economic analysis fully evaluated the economic and other impacts of designating critical habitat pursuant to section 4(b)(2) of the Act. The economic and other impacts of critical habitat are individually analyzed in our economic analysis report, which parallels our review of a Federal action under section 7(a)(2) of the Act. Our analysis of the effects of a Federal action under section 7(a)(2) of the Act would consider the effects to any designated critical habitat. In the proposed and final rules, we describe and evaluate potential activities that may adversely modify critical habitat or may be affected by such designation pursuant to section 4(b)(8) of the Act. Each critical habitat designation may be affected differently by a proposed action in a manner that reflects the specific physical and biological features that are considered essential for the listed species. Thus, our economic analysis would reflect the economic and other impacts specific to each designation.

(49) *Comment:* One commenter states that the draft economic analysis (DEA) is inconsistent with previous economic analyses for *Atriplex coronata* var. *notatior* and *Navarretia fossalis*, which provided little economic analysis of the loss of potentially developable acreage and instead emphasized administrative costs and impacts to public works projects. The commenter further states that the Service should develop consistent procedures for preparing economic analyses so that results between species are comparable, especially for areas such as the San Jacinto River, where occupied habitat for all three of these species overlap.

*Our Response:* Every economic analysis of proposed critical habitat rulemakings is undertaken following the same framework, described in pages 1–1 through 1–11 of the DEA. The reports focus on the economic activities identified in the proposed rule as likely to threaten the habitat and resulting in the greatest impacts. These activities, and the associated measures required to minimize impacts, will vary depending on the attributes of the habitat and the specific species. Urban development is identified in the proposed rule as a threat to *Brodiaea filifolia* throughout much of the proposed critical habitat. As discussed in paragraphs 91 to 95 of

the DEA, off-setting compensation for impacts to *B. filifolia* in essential habitat areas is based upon mitigation requirements for the plant contained within HCPs prepared pursuant to the NCCP Act of 2001 in California. These plans primarily require avoidance or call for conservation of the occurrences encompassed within the essential habitat areas identified in the proposed rule. This is in contrast to potential mitigation for *Atriplex coronata* var. *notatior* and *Navarretia fossalis*, for which developers are able to mitigate off-site and continue with planned projects.

(50) *Comment:* One commenter states that the DEA fails to address the greatest capital expenditure in western Riverside County, because it does not include the costs required to purchase and maintain reserves for the species. The comment further states that costs of restoring current habitat that could be lost to land-altering activities on private lands should also be included.

*Our Response:* The Western Riverside County MSHCP is a comprehensive, multi-jurisdiction HCP for conservation of species and their habitats in Western Riverside County. Under the Plan, we will grant take authorization under Section 10(a)(1)(B) of the Act for otherwise lawful activities such as private development that may incidentally take or harm listed wildlife species in exchange for assembly and management of an MSHCP Conservation Area. The MSHCP Conservation Area will be formed through a variety of methods, including inclusion of existing conservation banks and/or mitigation areas, establishment of new conservation banks and/or mitigation areas, incentives provided to private landowners to voluntarily convey their property for conservation, purchase of lands through the Local Development Mitigation Fee paid by project applicants seeking coverage, or direct purchase of land by the project proponent as an in-lieu payment. As stated in paragraph 94, based in part on the requirements of the MSHCP, the analysis assumes that 95 percent of *Brodiaea filifolia* habitat in areas susceptible to development activity are preserved. The costs of preserving these areas, along with the costs of relocating the plant, salvaging bulbs, and maintaining and monitoring populations for the remaining five percent of affected development, is captured in the analysis.

(51) *Comment:* One commenter questions the use of the IMPLAN model, given the DEA's caveat that the model overstates the long-term impacts of regulatory change.

*Our Response:* Input-output models are discussed as an example of one tool commonly used by economists to estimate regional impacts. However, this particular tool is not used in this analysis. Instead, the DEA relies on a partial equilibrium model to estimate regional effects.

(52) *Comment:* One commenter states that Exhibit ES-2 in the DEA should provide administrative costs as a separate line item.

*Our Response:* Exhibit ES-2 provides information to the reader concerning key impacts of the designation, including activities that may be most impacted by *Brodiaea filifolia* conservation efforts. Administrative costs are included in the cost estimates for each activity presented, rather than reported separately, because they represent only 2 percent of upper-bound total costs estimated for proposed critical habitat. In present value terms assuming a 7-percent discount rate, these administrative costs are approximately \$272,000; assuming a 3-percent discount rate, administrative costs total \$298,000.

(53) *Comment:* Several commenters question the DEA's inclusion of units/subunits 1b, 2, 4d, 4e, 8b, 8e, 10, EH-1, EH-2, EH-3, and EH-7 (as listed in the DEA) in the development analysis. The comments state that development-related impacts in these units are unlikely, because either these units have already been developed or they are permanently preserved open space.

*Our Response:* The DEA utilized the best available information locating developable land within areas containing features essential to the conservation of *Brodiaea filifolia*. This information includes a geographic information systems (GIS) layer from the San Diego Association of Governments (SANDAG) locating developable land within essential habitat units in San Diego County, and a GIS layer from the Southern California Association of Governments (SCAG) locating vacant land within essential habitat units in Los Angeles, San Bernardino, Orange, and Riverside Counties. Because the SANDAG and SCAG data are updated only every few years, it is possible that information for certain parcels is no longer current. Accordingly, the Service appreciates the new information provided during the public comment period that allows for a refinement of the DEA. Based on this information, the calculation of development impacts was revised to remove all of the units listed above, with the exception of subunit 1b. Subsequent research has shown that the subunit is privately owned, not developed, and the plants are not

currently located in a preserve. Note that all of the above referenced areas, except subunit 1b, have been removed or excluded from the final designation.

(54) *Comment:* One commenter states that the methodology should be refined so that the bias of overstatement in the analysis can be eliminated.

*Our Response:* The potential impacts of *Brodiaea filifolia* conservation activities on development within essential habitat are a function of the distribution of the plant within the unit, the ability of the developer or landowner to modify projects to avoid each locality, and the existence of alternative uses of the property that do not threaten the plant, all of which are unknown. The DEA uses the best available information to quantify potential impacts in light of the uncertainty associated with these factors.

(55) *Comment:* Two commenters state that there should be no additional costs associated with designating critical habitat in areas covered by approved HCPs. In particular, one comment states that many of the Federal Information Processing Standard (FIPS) places discussed in Exhibit 3-11 are included within approved HCPs and should be deleted from the analysis.

*Our Response:* We recognize that many of the FIPS listed in Exhibit 3-11 are located within approved or pending HCP jurisdictions and that these plans may require protection of *Brodiaea filifolia* habitat. However, as stated in the DEA, costs incurred due to conservation activities and other protective measures carried out by other Federal agencies, State and local governments, and other parties are considered co-extensive with the protection offered by critical habitat. Inclusion of co-extensive impacts in the economic analysis complies with direction from the U.S. Tenth Circuit Court of Appeals.

(56) *Comment:* One commenter states that the DEA should estimate costs associated with the potential loss of redevelopment increment funds in the City of San Marcos, because a majority of land in the proposed critical habitat within the City occurs in an adopted Redevelopment Project Area.

*Our Response:* Based on recent conversations with the City of San Marcos, we agree that redevelopment increment funds may be impacted if property construction is reduced in areas where funds would have been collected by San Diego County and allocated to the City. However, the city representatives were not able to provide information about the potential magnitude of the impact.

(57) *Comment:* One commenter states that the DEA should factor in costs of the proposed designation to infrastructure assessment districts in the City of San Marcos.

*Our Response:* We agree that impacts associated with reduced or delayed development in infrastructure assessment districts within the City of San Marcos are a possibility. Infrastructure assessment districts include Community Facilities Districts or Special Assessment Districts that levy additional taxes on properties within the district to finance the construction of public facilities. The additional tax for each included property may be based on a variety of factors such as lot size and benefit received by the property. Therefore, *Brodiaea filifolia* conservation activities may reduce taxes received by a particular district where new property construction that would occur absent the designation does not occur. However, an estimate of the degree of this reduction would require information on the type and value of future development at a parcel-specific level. This information is currently unknown.

Because the tax is used by the City to make payments on bonds issued to finance construction of public facilities, *Brodiaea filifolia* conservation activities may also impact the City, developers, and bondholders where development projects associated with special assessments are halted after bond issuance, leading to property indebtedness in which the developer is unable to finance its portion of the project and/or the City is unable to make payments to bondholders. The potential for *B. filifolia* conservation activities to render the developer and/or the City unable to meet its financial obligations is a function of currently unknown variables such as the location of *B. filifolia* on the project site, project specifications, and the financial status of the developer and/or the City.

(58) *Comment:* One commenter states that the development analysis is inaccurate, because it uses residential land values even though a number of the proposed critical habitat units in the City of San Marcos are zoned for non-residential uses. Specifically, the commenter states that the DEA does not factor in values of parcels that are zoned for industrial use in subunits 8c, 8d, and 8e. It also questions the appropriateness of the impact scenarios based on "supply of housing" and "home prices" in these areas. Another comment states that the per-acre land values estimated in the DEA and presented in Exhibit 3-7 appear low.

*Our Response:* The first scenario analyzed in the DEA captures potential losses to owners of developable parcels zoned for non-residential uses. This scenario assumes that in areas that must be avoided, or set-aside, from future development, the market value of those acres is lost. The market value of raw land implicitly incorporates all potential future uses of the property, be it residential, commercial, industrial, or otherwise. Thus, the loss in land value captures the lost value of future use of the property. The sample of property values used in this analysis includes a mix of properties zoned for residential and non-residential uses and therefore is reasonably representative of losses on average.

Market values used in the DEA are drawn from a data set of raw land values obtained from the San Diego County assessor for parcels located within areas containing features essential to the conservation of *Brodiaea filifolia*. Based on conversations with the assessor, to ensure that assessed values of raw land were consistent with market values, the DEA uses a sample from this dataset including only parcels sold and assessed in 2004. This sample includes parcels zoned for industrial use in subunit 8d. Considering public comment, an adjustment is made to the final analysis. In the DEA, the per-acre land value was calculated as a weighted average across the sample of parcels. This approach may understate per-acre values due to the presence of several parcels of relatively low value and high acreage in the sample. The economic analysis was revised, calculating a per-acre value based on the average of the per-acre values implied by each parcel, and by eliminating an outlying parcel from the sample. This revision results in a per-acre average land value for parcels in San Diego County of \$69,000.

We note that the second scenario estimated in the DEA (paragraphs 100 through 109), which measures consumer welfare losses associated with higher home prices, does not consider the impact of shifts in prices of commercial or industrial facilities. Analysis under the second scenario relies on an existing economic model estimating the shift in quantity of housing supplied as a result of critical habitat. No such model exists for non-residential development, therefore we are unable to estimate welfare losses in markets for commercial or industrial properties at this time.

(59) *Comment:* One commenter states that the DEA contains a misreading of the San Diego County MHCP standards as summarized in Exhibit 3–6. According to the comment, inclusion in

a soft-line area by and of itself does not dictate the high conservation standards of 95 percent provided in Exhibit 3–6 unless that population is also deemed to be critical by the MHCP. The comment notes that *Brodiaea filifolia* occurrences in the City of Carlsbad are located in a Major Amendment Area and not in a soft- or hard-line area. Another comment states that the DEA overlooks the relative importance of each of the *B. filifolia* localities and how this could affect compensation within conservation plans for the species.

*Our Response:* Information on conservation measures for *Brodiaea filifolia* contained in the MHCP relies on personal communication with the County, as noted in Exhibit 3–6. The sample of conservation requirements reviewed in this exhibit represent the best available information regarding uncertain future conservation requirements in areas, both within these plans and outside the boundaries. As discussed in paragraph 94, the analysis assumes that the highest level of conservation for *B. filifolia* provided across the approved plans will apply to future development projects. Given the uncertainty regarding the location of plants, the significance of particular populations, and the configuration of specific development projects, this assumption may overstate impacts for specific projects.

(60) *Comment:* One commenter questions the disparity between costs for particular units. The commenter states that subunit 8d is in the center of the City of San Marcos while the Miller Mountain unit (subunit 5a) is on private and Forest Service land within the San Mateo Wilderness. For this reason, the commenter questions why the estimated costs for subunit 8d are low, relative to the estimated costs for the Miller Mountain property.

*Our Response:* The relative costs to development activities assigned to each unit are a function of the land value losses calculated in the first scenario and the impacts to the housing market calculated in the second scenario. In the first scenario, costs are driven by the quantity of private, developable land within the unit that is projected to be developed in the next 20 years. As shown in Exhibit 3–8, proposed subunit 8d contains 18.64 acres of projected development on private, developable acres while subunit 5a contains 21.36 acres; therefore, impacts under this scenario are greater for subunit 5a.

In the second scenario, impact estimates are driven by the overall amount of new housing anticipated in the FIPS place closest to the unit and median home values in that FIPS place

(FIPS places generally follow the legal boundaries of incorporated cities). The DEA assigned subunit 5a to the closest FIPS place, San Clemente and subunit 8d to San Marcos. The disparity in impacts estimated in this scenario results from difference in the median home price and projected number of future houses in the two cities. However, based on public comment and further reflection, a new assumption is applied to this scenario.

Some areas of essential habitat, such as subunit 5a, fall outside the boundaries of the 10 FIPS places included in the DEA. Several of these units fall within 3 miles of the nearest FIPS place and thus are assigned to that place. Five remaining units, including subunit 5a, are 10 or more miles from the nearest FIPS place. Zabel and Paterson's model, described in paragraph 101 and used to estimate market impacts, represents the best available tool for estimating impacts to the housing market resulting from critical habitat designation. However, this tool is not capable of assigning costs to these five units. Considering their more remote nature, as demonstrated by their distance from densely populated areas, designation is less likely to result in substantial impacts relevant to the housing market. Because the potential magnitude of market effects is unknown for these five areas, no consumer welfare losses are reported for these areas in the final economic analysis.

(61) *Comment:* One commenter states that the development analysis should evaluate a scenario of higher density development along with the benefits of adjacent open space conservation.

*Our Response:* The DEA analyzes two scenarios, as described in paragraphs 80 through 109. The first scenario assumes that no future housing stock is lost due to *Brodiaea filifolia* conservation activities, because substitute sites are available. The second scenario assumes that some future housing stock is lost (e.g., not constructed at other sites). Adding a third scenario of higher density development, as suggested by the comment, would result in an impact estimate similar to the estimate in the first scenario, and no larger than estimated in the second. Higher density development represents a substitution option similar to the availability of non-critical habitat developable land. It assumes that the same number of homes are built, but simply on a smaller footprint. In addition, such a scenario might require the assumption that existing zoning-related restrictions will be lifted to accommodate the higher density development. We have no

information to suggest such a change in existing regulation will occur.

If higher density development results from *Brodiaea filifolia* conservation activities, additional open space may be preserved. Various studies document the positive effect of environmental amenities, including open space, on the value of nearby residential and commercial properties (e.g., Thibodeau and Ostro (1981), Nelson (1985), Lacy (1990), Garrod and Willis (1992), Bockstael (1996), Geoghegan (1998), Acharya and Bennet (2001)). The enhancement of real estate values depends on, among other things, the proximity of homes to open space and the spatial extent of the effect (only the homes immediately adjacent to the space are affected, the entire neighborhood is affected, or the entire town or region is affected), whether the effect decreases with distance from the open space and at what rate, whether the community already contains a significant supply of conserved land, and the relationship between local development pressure and values for conserved open space (e.g., if open space is scarce, and development pressure high, the combination could affect the magnitude of the benefit).

To make a defensible transfer of "open space value" as identified in the literature to a community or neighborhood impacted by *Brodiaea filifolia* conservation activities, additional data are required. For example, information on the extent of existing open space in the affected communities and the additional amount likely to be conserved as a result of *B. filifolia* conservation activities must be compared to similar statistics for the communities assessed in the economics literature. In addition, the transfer requires an assessment of the similarities in the quality and attributes of the land to be conserved with the qualities and attributes of the land studied in the literature. The models and data required to complete this transfer are not readily available for *B. filifolia* habitat. As a result, the DEA is unable to estimate the potential benefits of open space conservation.

(62) *Comment*: One commenter questions the cost allocation across units in Exhibit 3–3. The comment states that, given that the preceding exhibit (Exhibit 3–2) contains only four subunits that have had a formal or informal consultation, it is questionable as to why the rest of the subunits are included if they have never been consulted on.

*Our Response*: Exhibit 3–3 does not include units where no consultation has taken place. Exhibit 3–2 presents a

summary of consultations for development projects that occurred in areas containing features essential to the conservation of the species in the proposed rule, but it does not reflect consultations or project modifications that have occurred for HCPs. Exhibit 3–3, on the other hand, presents the past costs of these development consultations (administrative and project modification costs) in addition to administrative costs of the development of HCPs that have jurisdiction over essential habitat areas. Footnote 45 notes that these HCPs are the County of San Diego Subarea Plan under the Multiple Species Conservation Program (MSCP) in March 1998, the Western Riverside County MSHCP in June 2004, and the City of Carlsbad's Habitat Management Plan (HMP) under the MHCP in November 2004. As stated in the note (a) to Exhibit 3.3, the analysis distributes the HCP costs evenly across the units covered by the plans.

(63) *Comment*: One commenter asks whether costs in Exhibit 3–2 are attributed solely to *Brodiaea filifolia* or whether other listed species benefited from the consultations and mitigation activities.

*Our Response*: Exhibit 3–2 summarizes four consultations for development projects that have occurred in areas containing features essential to the conservation of *Brodiaea filifolia* in the proposed rule. These consultations covered other species in addition to *B. filifolia*. The consultations covering subunits 6c and 8b also considered the coastal California gnatcatcher, as noted in Exhibit 3–2. The consultations covering subunit 7a note that other federally threatened and State species of special concern occur onsite, such as the coastal California gnatcatcher, northern harrier, Cooper's hawk, white-tailed kite, and California adolphia; however, the consultations were primarily focused on impacts to *B. filifolia*. For all of the consultations, project modification costs described in the table were driven by efforts to protect *B. filifolia* and, therefore, are attributed to this species.

(64) *Comment*: One commenter states that, typically, the developer will pass any increase in project cost to the ultimate consumer of the development (homeowner, business owner, building owner), not to the raw landowner. It is the experience of the commenter that developers simply recognize the cost of building constraints, work with them and build them into the ultimate cost of the product.

*Our Response*: The assumption referred to in this comment is derived

from the first development scenario analyzed in paragraphs 84 and 87 through 99 of the DEA. This scenario assumes that within regional housing markets, substitute land exists for development that would otherwise occur within essential habitat. Projected development shifts to less preferred sites (e.g., areas that were previously farther out in time on the development horizon or that were not anticipated to be developed within the next 20 years). This assumption may be reasonable for the proposed designation, because the potentially affected acres represent a small percentage of the total developable land in the municipalities where they are located. Accordingly, existing landowners whose land would otherwise be higher in the hierarchy of potentially developable sites must accept lower prices associated with *Brodiaea filifolia* conservation activities if development is to occur. This assumption is consistent with peer review by three economists of previous economic analyses of proposed critical habitat in California. Note that the second development scenario (described in paragraphs 100 through 109) makes the alternative assumption that land is scarce. Under this scenario, homebuyers experience costs associated with *B. filifolia* conservation activities.

(65) *Comment*: One commenter states that Exhibit 5–3 is flawed because not every unit contains a transportation issue. The commenter requests that a more realistic transportation scenario be evaluated based on specific subunits. Another commenter states that the transportation impacts analysis is incomplete, because the Service did not contact the Riverside County Transportation Commission or the local cities to identify transportation projects in areas containing features essential to the conservation of *Brodiaea filifolia*.

*Our Response*: We acknowledge that simplifying assumptions were made in the DEA to bound the potential magnitude of transportation-related impacts. During development of the DEA, the relevant district offices of California Department of Transportation (CALTRANS), which has responsibility for transportation-related projects in California, were contacted (see paragraphs 126 through 130). CALTRANS represents the best publicly available source of State transportation projects. The offices were unable to provide site-specific information about the potential location of future *Brodiaea filifolia* conservation activities. Therefore, the DEA used a historical rate of consultation, plus information about the project modifications associated with those consultations, to predict

future transportation costs. These impacts were assumed to be equally likely to occur in any unit (excluding lands on Camp Pendleton), resulting in an even distribution of costs shown in Exhibit 5–3. Note that, based on new information received during the public comment period, transportation-related impacts are removed from units where *B. filifolia* is not present, the land is already preserved, the land is already developed, or a plan is already in place to move the plants to another location. These units include units/subunits described in the DEA as 2, 4a, 4d, 4e, 8b, 8e, 10, EH–1, EH–2, EH–3, and EH–7.

Based on this comment, the Riverside County Transportation Commission was contacted, and information about potential impacts associated with the Highway 79 re-alignment project and the Mid-County Parkway was requested. At this time, due to the sensitive nature of the projects and their early stages, a representative of the commission was unable to provide specific information about whether habitat for *Brodiaea filifolia* would be impacted. However, he noted that if *B. filifolia* habitat is identified, project modifications would likely be similar to conservation requirements found in the Western Riverside County MSHCP. In areas containing features essential to the conservation of the plant, information from cities about potential transportation-related impacts is not readily available at this time.

(66) *Comment:* One commenter states that the DEA ignores the costs associated with designing, refining, and negotiating a preferred alternative to avoid *Brodiaea filifolia* in the Foothill-South Corridor. The commenter also states that the DEA ignores mitigation measures specially designed to address potential *B. filifolia* impacts, such as focused plant surveys, seed collection and salvage measures, soils collection and translocation, and translocation monitoring. Finally the commenter states that the DEA also ignores delay costs.

*Our Response:* As discussed in paragraphs 123 through 125, the DEA considered impacts to the Foothill-South project. At that time, the best information available suggested that the preferred alternative would completely avoid *Brodiaea filifolia* habitat. However, new information has since been provided by the Transportation Corridor Agencies (TCA), the organization responsible for this project. Specifically, TCA stated that three populations will be affected by the project and provided information about past costs, future mitigation costs, and

potential delay costs. These costs were incorporated in the final economic analysis. The three units where *B. filifolia* populations are anticipated to be affected by the Foothills-South project are subunits 4c, 4f, and 4h. All three of these units are excluded from the final designation.

(67) *Comment:* One commenter states that Exhibit 5–4 of the DEA may be flawed, because not every unit contains a utility corridor. The commenter requests that a more comprehensive subunit evaluation of potential impacts to utility projects be conducted.

*Our Response:* We acknowledge that simplifying assumptions are made in Section 5.2 in order to bound the analysis of impacts to utility activities. A rapid assessment of transmission lines and distribution systems operated by San Diego Gas and Electric was conducted in order to extrapolate potential impacts across San Diego and Orange counties. Therefore, actual future costs to utility activities may be higher or lower in certain units presented in Exhibit 5–4. However, the costs presented in the final economic analysis represent the best available information at this time. Also note that, based on new information received during the public comment period, utility-related impacts are removed from units where *Brodiaea filifolia* is not present, the land is already preserved, the land is already developed, or a plan is already in place to move the plants to another location. These units include 2, 4a, 4d, 4e, 8b, 8e, 10, EH–1, EH–2, EH–3, and EH–7.

(68) *Comment:* One commenter states that the DEA should consider the proposed Special Area Management Plan (SAMP) for the San Jacinto watershed and potential economic impacts of the critical habitat designation within the watershed.

*Our Response:* The ACOE is currently conducting a comprehensive aquatic resource plan, called a SAMP, for the San Jacinto watershed. The purpose of the SAMP is to establish a watershed-wide aquatic resource reserve program, and to minimize individual and cumulative impacts of future projects in this watershed. The SAMP will result in the issuance of programmatic and individual permits issued under section 404 of the Clean Water Act. Because the sensitive areas identified by the SAMP are likely to overlap critical habitat, the SAMP will not provide significant new information about the sensitivity of these acres. In addition, because the DEA assumes that 95 percent of habitat for *Brodiaea filifolia* that is likely to be developed in the next 20 years will be avoided (see paragraph 94), it is

unlikely that more burdensome actions will be required by the ACOE as a result of the SAMP. Therefore, the cost estimates calculated in the DEA are unlikely to be affected by the SAMP.

(69) *Comment:* One commenter states that the DEA should offer some cost estimates of the proposed flood control project discussed at paragraph 139.

*Our Response:* Section 5.3 of the DEA considers impacts to flood control activities in areas containing habitat for *Brodiaea filifolia* proposed for critical habitat designation. The best available data were utilized at the time to estimate these potential impacts. While we agree that *B. filifolia*-related conservation costs are likely, no additional information has become available since the drafting of the DEA that would allow us to quantify or monetize these impacts. The units potentially affected, EH5, EH6, and EH7, are excluded from the final designation.

(70) *Comment:* One commenter offered the following clarification to page 2–17, section 2.5, paragraph 71: “It is incorrect to assume that CEQA requires a lead agency to ‘presume that a project will result in a potentially adverse environmental impact and to prepare an EIR \* \* \*.’ Rather, CEQA requires that a project’s impacts be disclosed, and those disclosed impacts mitigated to a point beneath a level of significance. If the project is unable to do so, then an EIR is required when determined by the lead agency. A predisposition towards EIR preparation regardless of threshold determination is counter to CEQA precedence.”

*Our Response:* We have incorporated this clarification into the final economic analysis.

(71) *Comment:* One commenter offered the following clarification to page 2–17, section 2.5, paragraph 73: “Please note that the Service is an integral participant in the NCCP process. Witness that all letters to participating municipalities are signed by both the CDFG and the Service.”

*Our Response:* We appreciate the clarification and have incorporated it into the final economic analysis.

(72) *Comment:* One commenter noted that Exhibit 6–2 appears to project costs to conservancies from 2006–2024, but it is not clearly stated in the table or text.

*Our Response:* We have clarified this in the final economic analysis.

#### *Summary of Changes From Proposed Rule*

In developing the final critical habitat designation for *Brodiaea filifolia*, we reviewed peer and public comments received on our proposed rule and draft economic analysis; conducted further

evaluation of lands included in our proposal; and refined our mapping boundaries. This final rule reflects refinements of our mapping process, and removal of areas from critical habitat designation under section 3(5)(A), exemption under section 4(a)(3), and exclusions under section 4(b)(2) of the Act.

We refined our mapping to better delineate habitat containing features essential to the conservation of the species. For example, we found that there were areas within the boundaries of proposed critical habitat that did not contain the physical or biological features essential to the conservation of *Brodiaea filifolia* such as roads and buildings. In most cases developed areas were captured in the proposed critical habitat boundaries because we used a 328 ft (110 m) minimum grid cell size. When preparing this final designation, we identified areas where the majority of a grid cell included developed areas, then removed these particular cells from the boundaries of critical habitat. These refinements reduced the amount of land in subunit 6d (Taylor/Darwin) and subunit 8d (Upham) (Table 1) that contain features essential to the conservation of the species.

Along with refining our mapping, we re-evaluated the occurrences of *Brodiaea filifolia* included in proposed critical habitat. Criteria used to determine if an occurrence is significant included: occupied habitat supporting a minimum of 850 naturally occurring individuals of *B. filifolia* and/or populations associated with unique habitats (e.g. soils, vegetation, or elevation) or peripheral populations important for protecting genetic variability across the species' range.

Based on our review and re-evaluation, a total of 12 units/subunits were removed from consideration because we determined they were not significant occurrences (see "Criteria Used to Identify Critical Habitat").

Units/subunits removed from consideration because we determined they did not support significant occurrences of *Brodiaea filifolia* include: Unit 3 (Aliso Canyon), 4a (Arroyo Trabuco), 4d (Prima Deschecha), 4e (Forster Ranch), 4f (Talega/Segunda Deschecha), 4h (Cristianitos Canyon South), 4i (Blind Canyon), 6a (Alta Creek), 6c (Oceanside/Mission Avenue), 7b (Rancho Carrillo), 8a (Rancho Santa Fe Road North), and 8c (Grand Avenue).

Unit 2 (Arrowhead Hot Springs Unit) was removed from the final designation because it was incorrectly mapped. Although the proposed rule correctly describes the Arrowhead Hot Springs unit in the text, the map provided in the proposed rule depicted an area known as Waterman Canyon.

Subunits 8e (Linda Vista), 9 (Double LL Ranch), and 10 (Highland Valley) were removed from consideration because we could not verify reported occurrences of *Brodiaea filifolia*.

We removed subunit 5a (Miller Mountain) from consideration because the plants in this area are mostly hybrids between *Brodiaea filifolia* and *Brodiaea orcuttii* (Boyd et al. 1992). No information is available regarding the number of pure *B. filifolia* within this occurrence and whether they can be considered as contributors to the long-term conservation of the species.

We removed a portion of lands in subunit 5b (Devil Canyon) from consideration because the area is not known to be occupied by *Brodiaea filifolia*.

We removed subunit 8b (Rancho Santalina/Loma Alta) from consideration under section 3(5)(A) of the Act because it is already receiving special management considerations (see the "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act").

We removed 205 ac (83 ha) of land in Riverside County identified in the

proposed rule as containing features essential to the conservation of the species, but which were excluded under section 4(b)(2) of the Act. The lands removed were near Corona and in Moreno Valley. We removed these areas because they are not known to be occupied by *Brodiaea filifolia*. Approximately 3,062 ac (1,234 ha) of land in Riverside County containing features essential to the conservation of *B. filifolia* are excluded under section 4(b)(2) of the Act.

Six units/subunits are being excluded under section 4(b)(2) of the Act. Three subunits, including 4b (Casper's Park), 4c (Canada/Gobernadora), and 4g (Cristianitos Canyon) are within the boundaries of the pending Orange County Southern Subregion NCCP/HCP, which includes the participation of the County of Orange and Rancho Mission Viejo, both of which are parties to a Settlement Agreement for the Ranch Plan. Subunits 6b (Mesa Drive) and 6d (Taylor/Darwin) are within the boundaries of the pending City of Oceanside Subarea Plan of the Northwestern San Diego County MHCP. Subunit 7a (Fox-Miller) is covered under the City of Carlsbad's approved HMP.

In this final rule, lands on Camp Pendleton that were excluded from proposed critical habitat under section 4(b)(2) of the Act are now exempt pursuant to section 4(a)(3) of the Act.

For more discussion about the areas exempted or excluded from this final designation, please refer to the section "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act."

Overall, these refinements, removals, exemptions and exclusions resulted in a reduction from 4,690 ac (1,898 ha) included in the proposed designation to 597 ac (242 ha) included in the final designation (see Table 1 below).

Critical habitat unit/subunit	County	Proposed critical habitat (ac; ha)	Final critical habitat (ac; ha)
Unit 1: Los Angeles County .....	Los Angeles .....	Total 294; 119 .....	Total 294; 119
1a: Glendora .....	.....	96; 39 .....	96; 39
1b: San Dimas .....	.....	198; 80 .....	198; 80
Unit 2: Arrowhead Hot Springs .....	San Bernardino .....	89; 36 .....	0
Unit 3: Aliso Canyon .....	.....	151; 61 .....	0
Unit 4: Orange County .....	Orange .....	Total 1,860; 753 .....	Total 0
4a: Arroyo Trabuco .....	.....	74; 30 .....	0
4b: Casper's Wilderness Park .....	.....	259; 105 .....	0
4c: Cañada Gobernadora/Chiquita Ridgeline .....	.....	311; 126 .....	0
4d: Prima Deschecha .....	.....	119; 48 .....	0
4e: Forster Ranch .....	.....	96; 39 .....	0
4f: Talega/Segunda Deschecha .....	.....	190; 77 .....	0
4g: Cristianitos Canyon .....	.....	588; 238 .....	0
4h: Cristianitos Canyon South .....	.....	72; 29 .....	0
4i: Blind Canyon .....	.....	151; 61 .....	0



Critical habitat unit/subunit	County	Proposed critical habitat (ac; ha)	Final critical habitat (ac; ha)
Unit 5: Northern San Diego County .....	San Diego .....	Total 1,527; 618 .....	Total 249; 101
5a: Miller Mountain .....	.....	1,263; 511 .....	0
5b: Devil Canyon .....	.....	264; 107 .....	249; 101
Unit 6: Oceanside .....	.....	Total 198; 81 .....	Total 0
6a: Alta Creek .....	.....	49; 20 .....	0
6b: Mesa Drive .....	.....	5; 2 .....	0
6c: Oceanside East/Mission Avenue .....	.....	64; 26 .....	0
6d: Taylor/Darwin .....	.....	80; 32 .....	0
Unit 7 .....	.....	Total 125; 50 .....	Total 0
7a: Fox-Miller .....	.....	93; 38 .....	0
7b: Rancho Carrillo .....	.....	32; 13 .....	0
Unit 8: San Marcos .....	.....	Total 315; 127 .....	Total 54; 22
8a: Rancho Santa Fe Road North .....	.....	86; 35 .....	0
8b: Rancho Santalina/Loma Alta .....	.....	82; 33 .....	0
8c: Grand Avenue .....	.....	10; 4 .....	0
8d: Upham .....	.....	117; 47 .....	54; 22
8e: Linda Vista .....	.....	20; 8 .....	0
Unit 9: Double LL Ranch .....	.....	57; 23 .....	0
Unit 10: Highland Valley .....	.....	74; 30 .....	0
Total .....	.....	4,690; 1,898 .....	597; 242

### 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” means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

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 may 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.

To be included in a critical habitat designation, the habitat must contain the physical and biological features essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, areas that

provide for the essential life cycle needs of a species (*i.e.*, 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 require additional areas, 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 and commercial data available. They require Service biologists to the extent consistent with the Act and with the use of the best

scientific and commercial 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.

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)(1)(A) of the Act, we used the best scientific data available in determining areas that are essential to the conservation of *Brodiaea filifolia*. We used data and information contained in, but not limited to, the proposed listing rule (59 FR 64812, December 15, 1994); the final listing rule (63 FR 54975, October 13, 1998); data and information from research and survey observations in published, peer-reviewed articles; data provided by the California Department of Fish and Game (CDFG); and data provided by the California Natural Diversity Database (CNDDB); data and information included in reports submitted during section 7 consultations; information contained in species analyses for individual and regional HCPs where *B. filifolia* is a covered species or is being proposed for coverage; data collected on Camp Pendleton; data collected from reports submitted by researchers holding section 10(a)(1)(A) recovery permits; and information received from local species experts. We also used information contained in comments received during the comment periods for the proposed rule and the draft economic analysis.

We are not designating areas outside the geographical areas known to be occupied by the species and identified in the final listing rule (63 FR 54975). The listing rule noted that populations were centered in the cities of Vista, San Marcos, and Carlsbad in San Diego County, in the vicinity of the Santa Rosa Plateau in Riverside County, with additional "scattered" populations in Orange, Los Angeles, Riverside, San Bernardino, and San Diego counties. Critical habitat is not being designated in San Bernardino, Orange and Riverside counties. Areas in Los Angeles and San Diego counties designated as critical habitat and listed in Table 1 are within the geographical areas known to be occupied by the species.

Habitat that contains the features essential to the conservation of the

species was delineated by examining (1) species occurrence information in Los Angeles, San Bernardino, Orange, Riverside, and San Diego counties from the CNDDB and from survey reports; (2) vegetation data layers from Orange, Riverside, and San Diego counties and vegetation data layers from the U.S. Forest Service's Cleveland National Forest for Los Angeles and San Bernardino counties; (3) Natural Resources Conservation Service's Soil Survey Geographic Database (SSURGO) soil data layers for Orange, Riverside, and San Diego counties, and State Soil Geographic Database (STATSGO) soil data layers for Los Angeles and San Bernardino counties; and (4) slope data derived from a 30-meter digital elevation model (DEM). These layers were overlaid on digital ortho quarter quadrangle (DOQQ) satellite imagery layers, and habitat was delineated in areas that had an extant species occurrence within them, had not undergone development, had the PCEs, including suitable soil and vegetation types, and had a slope of less than 20 degrees. After creating a GIS coverage of the essential areas, we created legal descriptions of these areas. We used a 100-meter grid to establish Universal Transverse Mercator (UTM), North American Datum (NAD) 27 coordinates which, when connected, provided the boundaries of the areas containing features essential to the conservation of the species.

### 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, otherwise referred to as primary constituent elements (PCEs), essential to the conservation of the species, and that may require special management considerations or 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, rearing of offspring, germination, seed dispersal; and generally habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. The specific PCEs required for *Brodiaea filifolia* <sup>1/2</sup> are derived from the physical and biological needs of the species as

described below and in the final listing rule (63 FR 54975, October 13, 1998).

*Brodiaea filifolia* is a perennial herb in the Liliaceae (lily family) that annually produces leaves and flower stalks from underground corms (underground bulb-like storage stem). Corms are dormant in the summer, but leaves begin growing after the first significant rains in the fall saturate the soil. At the time of flowering, the leaves of *B. filifolia* are dead or nearly so. The flowering period lasts for two to three weeks in late spring to early summer. Young plants produce only leaves for a few seasons before being capable of producing flower stalks. Even mature specimens may not flower every year, depending upon environmental conditions. It is estimated that about 10 percent of all specimens flower in an average rainfall year (Vince Scheidt *in litt.* 2005). The six perianth segments are violet, with their tips spreading. The staminodia (characteristic sterile stamens) are narrow and pointed.

All species of *Brodiaea* are self-incompatible (incapable of producing seeds with pollen from flowers on the same plant or from flowers on plants with the same allele at the self-incompatibility locus), requiring cross-pollination from plants of the same species but with different alleles at this locus. Dispersal of seeds from an individual is likely localized, leading to patches of plants with the same self-incompatible alleles. This means that effective pollination for seed set requires pollen dispersal over a distance between plants with different self-incompatible alleles. Likewise, this necessitates maintenance of pollinator habitat and dispersal corridors. The vegetative production of small cormlets by the corm is the principal means by which plants of the genus *Brodiaea* perpetuate themselves (Niehaus 1971).

Members of the genus *Brodiaea* likely rely on Tumbling Flower Beetles (Mordellidae, Coleoptera) and Sweat Bees (Halictidae, Hymenoptera) for cross-pollination (Niehaus 1971). The home ranges and species fidelity of these pollinators is not known. Bell and Rey (1991) report that native bees observed pollinating *Brodiaea filifolia* on the Santa Rosa Plateau in Riverside County included *Bombus californicus* (Apidae, Hymenoptera), *Hoplitis* sp. (Megachilidae, Hymenoptera), *Osmia* sp. (Megachilidae, Hymenoptera), and an unidentified Anthophorid (digger-bee). Anthophoridae and Halictidae are reported to be important pollinators of *B. filifolia* at a study site in Orange County (Glen Lukos Assoc. 2004). Alternative pollen source plants may be necessary for the persistence of these

insects when *B. filifolia* is not in flower seasonally or annually because of poor environmental conditions.

Studies to quantify the distance that bees will fly to pollinate their host plants are limited in number, but the few that exist show that some bees will routinely fly from 328 to 984 feet (ft) (100 to 500 meters (m)) to pollinate plants (Thorp and Leong 1995; Schulke and Waser 2001). In a study of experimental isolation and pollen dispersal of *Delphinium nuttallianum* (Nuttall's larkspur), Schulke and Waser (2001) report that adequate pollen loads were dispersed by bumblebees within control populations and in isolated experimental "populations" from 328 to 1,312 ft (100 m to 400 m) distant from the control populations. One of the several pollinator taxa effective at 1,312 ft (400 m) was *Bombus californicus*, one of four bee species observed pollinating *Brodiaea filifolia* by Bell and Rey (1991). Studies by Steffan-Dewenter and Tscharrntke (2000) have demonstrated that it is possible for bees to fly as far as 3,280 ft (1,000 m) to pollinate flowers, and at least one study suggests that bumblebees may forage many kilometers from a colony (Sudgen 1985).

The historical range of *Brodiaea filifolia* extends from the foothills of the San Gabriel Mountains in Los Angeles County, east to the western foothills of the San Bernardino Mountains in San Bernardino County, south through eastern Orange and western Riverside counties to central (Vince Scheidt *in litt.* 2005) San Diego County. This species is usually found in herbaceous plant communities that occur in open areas on clay soils, soils with a clay subsurface, or clay lenses within loamy, silty loam, loamy sand, silty deposits with cobbles or alkaline soils, ranging in elevation from 100 ft (30 m) to 2,500 ft (765 m), depending on soil series. These herbaceous communities are generally classified as annual grassland, valley needlegrass grassland, valley sacaton grassland, alkali playa, southern interior basalt vernal pools, San Diego mesa hardpan vernal pools, and San Diego mesa claypan vernal pools (Holland 1986). Based upon dominant species, these communities have been further divided into series which include, but are not limited to, California annual grassland, nodding needlegrass, purple needlegrass, foothill needlegrass, saltgrass, alkali grassland, alkali playa, and bush seepweed and habitats such as San Diego mesa vernal pools, San Jacinto Valley vernal pools, and Santa Rosa Plateau vernal pools (Sawyer and Keeler-Wolf 1994). *B. filifolia* grows in interstitial areas (often narrow bands of habitat surrounded by other vegetation)

in association with coastal sage scrub in some locations, including portions of Los Angeles and San Bernardino counties.

*Brodiaea filifolia* has also been found in the San Mateo Wilderness near the northern border of San Diego and Riverside counties and in the Miller Mountain area in the Santa Ana Mountains of western Riverside County. These occurrences appear to be mostly hybrids between *B. filifolia* and *B. orcuttii*, although plants of both species can also be found. Plants in the San Mateo Wilderness, mostly hybrid types, have been observed along the banks of, and within, intermittent stream channels. Plants in the Miller Mountain area have been observed on clay soils in southern needlegrass grassland (Boyd *et al.* 1992). In Miller Canyon, a tributary that drains the southern flank of Miller Mountain, *B. filifolia* and some hybrids are found on deposits of gravel, cobble, and small boulders along the stream channel in association with tussocks of *Juncus macrophyllus* (long-leaved rush) and *Muhlenbergia rigens* (deer grass) and in vernal seeps and on open, clay benches (Boyd *et al.* 1992).

All members of the genus *Brodiaea* appear to require full sun, and many tend to occur on only one or a few soil series (Niehaus 1971). In San Diego, Orange, and Los Angeles counties, occurrences of *Brodiaea filifolia* are highly correlated with specific clay soil series such as, but not limited to, Alo, Altamont, Auld, and Diablo or clay lens inclusions in a matrix of loamy soils such as Fallbrook, Huerhuero, and Las Flores series (63 FR 54975, CNDDDB 2003, Service GIS data 2004). In San Bernardino County, the species is associated with Etsel family-Rock outcrop-Springdale and Tujung-Urban land-Hanford soils (Service GIS data 2004). In western Riverside County, the species is often found on alkaline silty-clay soil series such as, but not limited to, Domino, Grangeville, Waukena, and Willows or on clay loam soils underlain by heavy clays derived from basalt lava flows (*i.e.*, Murrieta series on the Santa Rosa Plateau) (U.S. Department of Agriculture 1971, Bramlet 1993, CNDDDB 2003). On these soils, *B. filifolia* is typically found as a component of native perennial and annual grasslands. In the City of San Marcos in San Diego County, and near Hemet and on the Santa Rosa Plateau in Riverside County, these grasslands are often part of the watersheds for vernal pool and playa complexes (Bramlet 1993; Service 1998; CNDDDB 2005). These soils facilitate the natural process of seed dispersal and germination, cormlet disposition to an appropriate soil depth, and corm

persistence through seedling and adult phases of flowering and fruit set described earlier.

Clay soils dry out and exhibit surface cracks as surface moisture is depleted prior to the next rainy season. During this period the capsules of many bulb and corm-forming species mature. The seeds are released to fall to the ground, either on the surfaces or into the cracks in the soil. In this manner some seeds are dispersed into several horizons in the soil. With the fall and winter rains, the clay matrix hydrates, softens, expands and the cracks close up. Seedlings at first only produce leaves and a specialized root. Seedlings of *Brodiaea filifolia* are equipped with a specialized succulent contractile root. This organ, lost by mature corms, facilitates the seasonal downward movement of the young plant (Niehaus 1971). The contractile root swells with moisture in the wet season, creating space below the developing cormlet. As the soil dries the contractile root dries and shrinks longitudinally, drawing the young cormlet downward in the soil. This process continues to a point at which the soil moisture is adequate to keep the contractile root from shrinking, resulting in the location of the corm in the appropriate soil horizon for survival. Cormlets produced annually from existing older corms, also produce contractile roots which draw them laterally away from the parent corm (Niehaus 1971).

The size of a particular population of *Brodiaea filifolia* and other members of the species, as well as other corm and bulb forming species, is often measured by counting numbers of standing flower stalks. However, because more plants flower in wet years than dry years, flowering plants likely represent only a portion of the total population of plants present at any given site. In addition to the annual fluctuation in numbers of flowering plants, seedlings and young plants likely only produce leaves for a few years before they are able to produce flower stalks. These vegetative plants may go undetected in surveys.

#### *Space for Growth of Individuals and Populations and for Normal Behavior*

Habitats with combinations of appropriate elevation and clay or clay associated soils, on mesas or low to moderate slopes that support open native or annual grasslands within open coastal sage scrub or coastal sage scrub-chaparral communities (PCE 1A), or in floodplains or in association with vernal pool or playa complexes that support various grassland or scrub communities (PCE 1B), or soils derived from olivine basalt lava flows on mesas and slopes

that supports vernal pools with grassland, oak woodland, or savannah communities (PCE 1C), or sandy loam soils derived from basalt and granodiorite parent material with deposits of cobbles and boulders supporting intermittent seeps, and open marsh communities (PCE 1D), provide space for the growth and persistence of *Brodiaea filifolia*. These habitats also sustain the pollinators needed for cross-pollination.

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

A natural generally intact surface and subsurface structure, not permanently altered by anthropogenic land use activities, and associated physical processes such as a hydrological regime (PCE 2) is necessary to provide water, minerals, and other physiological needs for *Brodiaea filifolia*. A natural hydrological regime includes seasonal hydration followed by drying out of the substrate to promote growth of active plants and new corms for the following season. These conditions are also necessary for the normal development of seedlings and young vegetative cormlets.

The conservation of *Brodiaea filifolia* is dependent on several factors that include, but are not limited to, maintenance of areas of sufficient size and configuration to sustain natural ecosystem components, functions, and processes (e.g., full sun exposure, natural fire and hydrologic regimes, adequate biotic balance to prevent excessive herbivory); protection of existing substrate continuity and structure, connectivity among groups of plants within geographic proximity to facilitate gene flow among the sites through pollinator activity and seed dispersal; and sufficient adjacent suitable habitat for vegetative reproduction and population expansion. The areas being designated as critical habitat provide one or more of the physical or biological features essential to the conservation of this species.

Lands designated as critical habitat for *Brodiaea filifolia* occur within the historical range of the species. Based on the best available scientific information available regarding the life history, ecology, and distribution of this species, we believe that the primary constituent elements for *B. filifolia* are:

(1) Appropriate soil series and associated vegetation at suitable elevations of either:

(A) Clay soil series of various origins (e.g., Alo, Altamont, Auld, Diablo), clay lenses found as unmapped inclusions in other soils series, or within loamy soils

underlain by a clay subsoil (e.g., Fallbrook, Huerhuero, Las Flores) that generally occur on mesas and gentle to moderate slopes, or in association with vernal pools, between the elevations of 100 ft (30 m) and 2,500 ft (765 m) and support open native or annual grassland communities, within open coastal sage scrub or coastal sage scrub-chaparral communities; or

(B) Silty loam soil series underlain by a clay subsoil or caliche that are generally poorly drained, moderately to strongly alkaline, granitic in origin (e.g., Domino, Grangeville, Waukena, Willows), that generally occur in low-lying areas and floodplains, often in association with vernal pool or playa complexes, between the elevations of 600 ft (180 m) and 1,800 ft (550 m) and support native, annual, or alkali grassland or scrub communities; or

(C) Clay loam soil series (e.g., Murrieta) underlain by heavy clay loams or clays derived from olivine basalt lava flows that generally occur on mesas and gentle to moderate slopes between the elevations of 1,700 ft (520 m) and 2,500 ft (765 m) and support native or annual grassland or oak woodland savannah communities associated with basalt vernal pools; or

(D) Sandy loam soils derived from basalt and granodiorite parent materials, deposits of gravel, cobble, and boulders, or hydrologically fractured weathered granite in intermittent streams and seeps that support open riparian and freshwater marsh communities associated with intermittent drainages, floodplains, and seeps generally between 1,800 ft (550 m) and 2,500 ft (765 m).

(2) Areas with an intact surface and subsurface structure not permanently altered by anthropogenic land use activities (e.g., deep, repetitive disking; grading). These features as well as associated physical processes (e.g., full sunlight exposure) are essential to maintain those substrate and vegetation types where *Brodiaea filifolia* is found and to support pollinator assemblages necessary to facilitate gene flow within and among populations of *B. filifolia*.

**Criteria Used To Identify Critical Habitat**

We delineated critical habitat using the following criteria: (1) Essential occurrences; (2) presence of suitable vegetation; (3) presence of suitable soil types; and (4) an area about 820 ft (250 m) of vegetation surrounding each occurrence to provide for pollinator movement and habitat. We then evaluated the critical habitat areas to determine if any areas should be exempted or excluded from designation

under sections 4(a)(3) or 4(b)(2) of the Act.

We defined habitat containing features essential to the conservation of the species as areas of intact, occupied habitat and/or areas necessary to maintain gene flow, and/or areas containing significant populations.

In our proposed rule we defined significant populations supporting 1,000 or more naturally occurring individuals of *Brodiaea filifolia* and/or those found in unique habitat; for example, populations found within an atypical vegetative community, on atypical soils, and/or at an atypical elevation. Populations found within unique habitat types may harbor genetic diversity that facilitates their persistence in these areas. This overall diversity may be important to the conservation of the species.

In this final designation, we defined significant occurrences as those containing 850 plants or more. This threshold of significance was derived from a review of all known population estimates in areas proposed for critical habitat designation. A review of the population estimates in the proposed units revealed a significant step between populations containing 250 or fewer plants and those supporting 850 or more. Barrett and Kohn (1991) have discussed the consequences of small population size in plants. They stress the need for maintaining genetic variability, especially for rare alleles. Maintaining diversity of self-incompatible alleles is important to ensure production of fertile seeds and thus is important for the survival of smaller populations. The likelihood of maintaining this diversity is increased with more individuals. We believe that occurrences supporting at least 850 plants have the most potential to contribute to the long-term conservation of the species.

Often significant populations are also peripheral populations. Peripheral populations of a species are separable by geographical and/or ecological differences from central populations (Lesica and Allendorf 1995). Conservation of species may depend upon protection of the genetic variability present across the range of a species. Reduced gene flow and limited seed dispersal may contribute to the genetic diversity of peripheral populations attributable to genetic drift from central populations. Population divergence may also be attributed to differences in habitat such as soil types, fire frequency, and climate (Lesica and Allendorf 1995). Ornduff (1966) found the highest concentration of morphological and cytological variants

at the margin of the geographic range of species of *Lasthenia*. For these reasons, conservation of geographically (e.g., Los Angeles County) and ecologically (e.g., Devil Canyon) peripheral populations may be essential for the conservation of *B. filifolia*.

Currently, the exact number of extant populations or occurrences of *Brodiaea filifolia* is unknown. Reasons for this include the lack of surveys in all areas of suitable habitat, false negative survey results yielded during inappropriate seasons, and variation in how survey data is recorded. For example, some surveyors may record populations within close proximity as a single occurrence while others may record each population as an individual occurrence. Table 3 of Bramlet and White (2004) contains a working list of approximately 83 sites where *B. filifolia* has been reported. However, some of these sites are included with others as single occurrences by the CNDDDB, others have no locator, no population description, are translocated populations, or were considered extirpated. These sites were not considered further. Occurrences comprised solely of translocated plants were not considered to contain the features essential to the conservation of the species because their potential for long-term survival and contribution to the species' gene pool is currently unknown.

Where possible, we delineated a vegetative area of 820 ft (250 m) around each occurrence included in this designation to provide for pollinator movement and habitat. One study found a 50 percent reduction in seed set when pollinator habitat was 3,280 ft (1,000 m) from a target plant species and at 820 ft (250 m) for another target plant species (Steffan-Dewenter and Tschardtke 1999). Studies also suggest that the degradation of pollinator habitat is likely to adversely affect the abundance of pollinator species (Jennersten 1988; Rathcke and Jules 1993; Steffan-Dewenter and Tschardtke 1999). The various pollinator species associated with *Brodiaea filifolia* as well as studies quantifying insect pollinating flight distances are discussed in the "Background" section of this rule. Studies to quantify the distance that bees will fly to pollinate their host plants are limited in number, but the few that exist indicate that some bees will routinely fly from 328 to 984 ft (100 to 500 m) to pollinate plants with some flying at least 3,280 ft (1,000 m) to pollinate flowers (Schulke and Waser 2001; Steffan-Dewenter and Tschardtke 2000). Because we do not currently have much information on specific visitation

behavior of the pollinator species identified on *B. filifolia*, we based the 820 ft (250 m) distance on a conservative estimate for mean routine flight distance for bees. These 820 ft (250 m) areas contain suitable soils and vegetation required by all stages of the species' lifecycle and provide for gene flow, pollen dispersal, seed dispersal, and germination.

When determining critical habitat boundaries, we made every effort to avoid the designation of developed land such as buildings, paved areas, and other structures that lack PCEs for *Brodiaea filifolia*. Any such structures, and the land under them, inadvertently left inside the mapped critical habitat boundaries due to scale have been excluded by text in the rule and are not designated as critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultations, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

#### **Special Management Considerations or Protection**

When designating critical habitat, we assess whether the identified primary constituent elements (PCEs) may require special management considerations or protection. Threats to the PCEs for *Brodiaea filifolia* include the direct and indirect effects of habitat loss and degradation from urban development; invasive plant species; recreational activities; agricultural practices; mowing; and dumping of manure and sewage sludge on suitable habitat.

Loss and degradation of habitat from development was cited in the final listing rule as a primary cause for the decline of *Brodiaea filifolia*. Most of the populations of this species are located in San Diego, Orange, and Riverside counties. These counties have had and continue to have increasing populations and attendant housing pressure. Natural areas in these counties are frequently near or bounded by urbanized areas. Urban development removes the plant community components and associated clay soils identified in the primary constituent elements. This eliminates or fragments the populations of *B. filifolia*. Urbanization may also indirectly alter surface as well as subsurface layers to the degree that they will no longer support plant community types known to be associated with *B. filifolia*.

Invasive plant species may alter the vegetation composition or physical structure identified in the primary constituent elements to an extent that the area does not support *B. filifolia* or its associated vegetation and invasive

species may compete for space and resources.

Authorized and unauthorized recreation activities may impact the vegetation composition and soil structure to an extent that the area will no longer have intact soil surfaces or support associated vegetation as identified in the primary constituent elements. Public hiking trails and/or off-road vehicle activity are examples of this type of activity.

Some methods of mowing and disking for agricultural or fire management may preclude the full and natural development of *Brodiaea filifolia* by adversely affecting the primary constituent elements. Mowing may reduce the production and dispersal of seeds, alter the associated vegetation needed for pollinator activity, or reduce the number and vigor of plants present by cutting off the leaves (PCE# 2). Dumping of sewage sludge can cover plants as well as the soils they need. In addition this practice can alter the chemistry of the substrate and lead to alterations in the vegetation supported at the site (PCE# 1).

Several management actions can preserve the PCEs for *Brodiaea filifolia*. Foremost among these is avoidance of habitat known to be occupied. However, set-aside areas must usually include some form of management to address other threats to the PCEs (e.g., non-native plant invasion). Loss of habitat or degradation of soils can be avoided with appropriate grading and soil management as part of development. Slope grading so as to avoid inflow or outflow of sediments may protect the integrity of the onsite soils that support *B. filifolia* and associated vegetation. Dumping of sewage sludge should be avoided in all areas containing *B. filifolia*. The components in sludge can permanently alter the soil chemistry as well as the vegetation it supports.

Invasive plant species may be managed by reducing the overgrowth of these plants through a combination of clearing, mowing, and/or thatch removal. Any temporary impacts from recreational activities could be timed to avoid the most sensitive time of year and hydrological conditions for *Brodiaea filifolia*. Mowing and disking for agricultural or fire suppression purposes could be located in such a manner so as to avoid known populations of the species. Habitat enhancement can allow for additional habitat for pollinators as well as for *B. filifolia*.

#### **Critical Habitat Designation**

We are designating 597 ac (242 ha) of critical habitat within 4 units/subunits

in Los Angeles and San Diego counties. Habitat containing features essential to the conservation of *Brodiaea filifolia* in Riverside, Orange, and San Diego counties covered by approved and/or pending HCPs, or a Settlement Agreement has been excluded from this final designation. Habitat containing features essential to the conservation of *B. filifolia* on Camp Pendleton is exempt

under section 4(a)(3) of the Act (see "Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act" for a detailed discussion). Areas designated as critical habitat are under Federal and private ownership. The species is not currently known to occur on any Tribal-owned lands within its range; therefore, no Tribal-owned lands

are included in this designation. Table 2 provides the approximate area of critical habitat by county and land ownership. Table 3 provides the approximate area of areas containing features essential to the conservation of the species, areas excluded from the final designation, and total critical habitat designated for *B. filifolia*.

TABLE 2.—LAND OWNERSHIP ACREAGE (ACRES (AC); HECTARES (HA)) AND COUNTY OF UNITS AND SUBUNITS DESIGNATED AS FINAL CRITICAL HABITAT FOR BRODIAEA FILIFOLIA.

Critical habitat unit & subunit	County	Private (ac; ha)	*Federal (ac; ha)	Total (ac; ha)
Unit 1: Los Angeles County	Los Angeles			
1a: Glendora		96; 39	0	96;39
1b: San Dimas		178; 72	20; 8	198; 80
Unit 5: Northern San Diego County	San Diego			
5b: Devil Canyon		0	249; 101	249; 101
Unit 8: San Marcos				
8d: Upham		54; 22	0	54; 22
Total		328; 133	269; 109	597; 242

\*Federal lands included in this designation are managed by the Angeles National Forest and the Cleveland National Forest.

TABLE 3.—AREAS CONTAINING FEATURES ESSENTIAL TO THE CONSERVATION OF THE SPECIES, AREAS EXEMPTED OR EXCLUDED FROM THE DESIGNATION, AND TOTAL CRITICAL HABITAT DESIGNATED FOR *Brodiaea filifolia* IN ACRES (AC) AND HECTARES (HA)

Please note that discrepancies in totals are due to rounding.

County	Total habitat with features essential to the conservation of the species	Habitat exempted/excluded from the final designation	Designated critical habitat
Los Angeles	294 ac 119 ha	0 ac 0 ha	294 ac. 119 ha.
San Bernardino	0 ac 0 ha	0 ac 0 ha	0 ac. 0 ha.
Orange	1,158 ac 469 ha	1,158 ac 469 ha	0 ac. 0 ha.
Riverside	3,062 ac 1,239 ha	3,062 ac 1,239 ha	0 ac. 0 ha.
San Diego	1884 ac 762 ha	1580 ac 639 ha	303 ac. 123 ha.
Total	6,397 ac 2589 ha	5800 ac 2,347 ha	597 ac. 242 ha.

The units described below constitute our best assessment at this time of those areas containing features essential to the conservation of *Brodiaea filifolia*. Each unit or subunit contains the PCEs related to an intact surface and subsurface structure essential to maintain the identified soil and vegetation types where the species is found, and support for pollinator assemblages necessary to facilitate gene flow within and among populations of *B. filifolia*. Lands within each unit or subunit are also currently occupied and within the historical range of *B. filifolia*.

Descriptions of each final critical habitat unit and the reasons why they

are included in the designation are listed below. Unit descriptions also include the size of the unit, the general vegetation and soil types present in the unit, any known threats specific to the unit, and numbers of individual plants, if known. Because the species may be present as mature but non-flowering corms or immature corms rather than flowering plants, the number of individuals given should be considered an estimate of the minimum number of plants present. In this final rule we have retained the same unit/subunit identifiers that we used in the proposed designation for this species. We believe the consistent use of one set of unit/

subunit identifiers allows for easier comparison between the proposed critical habitat and final critical habitat maps.

**Unit Descriptions**

Unit 1: Los Angeles County Unit— This unit consists of 294 ac (119 ha) divided into 2 subunits.

*Subunit 1a: Glendora.* This subunit, known to be occupied at the time of listing, consists of 96 ac (39 ha) of private lands in the City of Glendora, in the foothills of the San Gabriel Mountains, eastern Los Angeles County. Lands within this subunit contain Cieneba-Exchequer-Sobrant soils, a type

of silty loam, and consist primarily of southern mixed chaparral and coastal sage scrub. This population represents only one of two occurrences located in the foothills of the San Gabriel Mountains part of the Transverse Range, where the species was historically found, and represents the nearest genetic connection to the San Dimas subunit. This unit supports a significant occurrence of about 2,000 *Brodiaea filifolia* associated with annual grassland interstices in mixed chaparral. This occurrence is also significant because it is the northernmost known occurrence of the species. Populations reported at this site in 1991 represent the rediscovery of a population last documented in 1921 (CNDDDB 2005). The site is owned and managed by the Glendora Community Conservancy (GCC). Currently, no management plan has been developed for these lands, although the GCC has indicated that they are willing to develop a management plan for this species on their property (Ann Croissant, GCC pers. comm. to G. Wallace USFWS 2005). Special management considerations may be required to control invasive plant species; to maintain the identified vegetation types as well as pollinator habitat essential to the conservation of the species.

*Subunit 1b: San Dimas subunit.* This subunit consists of 198 ac (80 ha) of Federal (Angeles National Forest) and privately owned lands on the boundary between the City of Glendora and the City of San Dimas in the foothills of the San Gabriel Mountains of eastern Los Angeles County. Lands within this subunit contain Cieneba-Exchequer-Sobrant soils, a type of silty loam, and consist primarily of coastal sage scrub and southern mixed chaparral. Lands in this subunit support two significant populations totaling about 6,000 plants associated with interstitial annual grassland near chaparral (CNDDDB 2005). The occurrences are also significant because they are peripheral to the range of the species. This is one of only two areas in the foothills of the San Gabriel Mountains of the Transverse Range where *Brodiaea filifolia* occurred historically, and represents the only likely genetic connection to plants in the Glendora subunit. While *B. filifolia* is not currently known to occur on the Angeles National Forest, it occurs just outside the boundary. Approximately 20 ac (8 ha) of Angeles National Forest lands are included in the designation to provide for pollinator habitat. The City of Glendora conducted an appraisal for a portion of the area for consideration of acquisition, but no action to acquire the

property has been taken (D. Walter, Senior Planner City of Glendora pers. comm. to G. Wallace USFWS 2005). This site is threatened by urban development. The City of Glendora has reviewed several proposals for development of this area (D. Walter, Senior Planner City of Glendora pers. comm. to G. Wallace USFWS 2005). In addition, the City of Glendora has halted illegal grading on a property in the northern portion of the subunit. Therefore, special management may be required to minimize disturbance to the surface and subsurface structure within this subunit and to maintain the identified soil and vegetation types as well as pollinator habitat essential to the conservation of the species.

*Subunit 5b: Devil Canyon.* This subunit consists of 249 ac (101 ha) of federally managed land (Cleveland National Forest) in northeastern San Diego County. Lands within this subunit support an occurrence of *Brodiaea filifolia* estimated in the thousands (CNDDDB 2005). Although there are some hybrids of *B. filifolia* and *B. orcuttii* in this subunit, the level of hybridization is less extensive than in the Miller Mountain area; therefore, it is likely that a minimum of 850 plants are pure *B. filifolia*. This occurrence is also significant in that it is found at the uppermost elevation range within the geographic area occupied by the species. This occurrence is found in an ecologically unique habitat of vernal seeps and drainages on low granitic outcrops in chamise chaparral (CNDDDB 2005). The Cleveland National Forest does not currently have a management plan specific to *Brodiaea filifolia*, however, timing of cattle grazing has been adjusted to avoid the flowering period for the species (Kirsten Winter, Forest Botanist, pers. comm. 2004). Special management may be required to minimize disturbance to the surface structure within this subunit, to control invasive species, and to maintain the identified vegetation types as well as pollinator habitat essential to the conservation of the species.

*Subunit 8d: Upham.* This subunit consists of 54 ac (22 ha) of privately owned land in the City of San Marcos, northern San Diego County. The subunit is immediately surrounded by urban development. However, areas of extant valley and foothill grasslands exist in the surrounding area. This occurrence contained about 1,000 plants in 1986 and again in 1995 (CNDDDB 2005). In addition, the occurrence of *Brodiaea filifolia* in this subunit occurs in a unique habitat in that the plants are in association with vernal pools. Plants in this subunit are threatened by urban

development, and special management may be required to minimize disturbance to the surface and subsurface structure within this subunit and to maintain the identified soil and vegetation types.

## 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. 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. We are currently reviewing the regulatory definition of adverse modification in relation to the conservation of 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. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain an opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. We may adopt the formal conference report as the biological opinion when the critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). Until such a time as a proposed designation is finalized, any reasonable and prudent alternatives or reasonable and prudent measures included in a conference report are advisory.

If a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed

species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, the action agency ensures that their actions do not destroy or adversely modify critical habitat.

When we issue a biological opinion concluding that a project is likely to result in 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 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 critical habitat is subsequently designated 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 or conference with us on actions for which formal consultation has been completed, if those actions may affect designated critical habitat or adversely modify or destroy proposed critical habitat.

Federal activities that may affect *Brodiaea filifolia* or its critical habitat will require section 7 consultation. Activities on non-Federal lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act, a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (e.g., Federal Highway Administration or Federal Emergency Management Agency) will also continue to be subject to the section 7 consultation requirement. Federal actions not affecting listed species or critical habitat and actions on non-Federal and private lands that are not federally funded, authorized, or

permitted do not require section 7 consultation.

Each of the areas designated in this rule has been determined to contain sufficient PCEs to provide for one or more of the life history requirements of *B. filifolia*. In some cases, the PCEs are being taken into consideration in 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.

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 *Brodiaea filifolia*. Federal activities that, when carried out, may adversely affect critical habitat for *B. filifolia* include, but are not limited to:

(1) Removing, thinning, or destroying *Brodiaea filifolia* habitat (as defined in the "Primary Constituent Elements" discussion), whether by burning, mechanical, chemical, or other means (e.g., plowing, grubbing, grading, grazing, woodcutting, construction, road building, mining, mechanical weed control, herbicide application, etc.);

(2) Activities that degrade or destroy *Brodiaea filifolia* habitat (and its PCEs) including, but not limited to, livestock grazing, clearing, disking, farming, residential or commercial development, introducing or encouraging the spread of nonnative species, off-road vehicle use, and heavy recreational use;

(3) Activities that diminish habitat value or quality through indirect effects (e.g., edge effects, invasion of exotic plants or animals, or fragmentation);

(4) Any activity, including the regulation of activities by the Corps of Engineers under section 404 of the Clean Water Act or activities carried out by or licensed by the Environmental Protection Agency (EPA), that could alter watershed or soil characteristics in ways that would alter or reduce the quality or quantity of surface and subsurface flow of water needed to maintain *Brodiaea filifolia* habitat (these activities include, but are not limited to, altering the natural fire regime either through fire suppression or by using prescribed fires that are too frequent or poorly timed; development, including road building and other direct or indirect activities; and agricultural activities, livestock grazing, and vegetation manipulation such as

clearing or grubbing in the watershed upslope from *B. filifolia*);

(5) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities, or any activity funded or carried out by the Department of Transportation or Department of Agriculture that could result in excavation, or mechanized land clearing of *Brodiaea filifolia* habitat; and

(6) Licensing of construction of communication sites by the Federal Communications Commission or funding of construction or development activities by the U.S. Department of Housing and Urban Development that could result in excavation, or mechanized land clearing of *Brodiaea filifolia* habitat.

The 4 critical habitat units are within the geographical area occupied by the species and contain the features essential to the conservation of *Brodiaea filifolia*. Additionally, all habitats within this designation are likely to be used by the pollinators for the species.

*Application of Section 3(5)(A), Exemption Under Section 4(a)(3), and Exclusions Under Section 4(b)(2) of the Act*

In our critical habitat designations, we use the provisions outlined in sections 3(5)(A), 4(a)(3), and 4(b)(2) of the Act to evaluate those specific areas that we are considering for critical habitat designation. Lands that we determined do not meet the definition of critical habitat under section 3(5)(A), lands that have been exempted under section 4(a)(3), and areas excluded under section 4(b)(2) include those already receiving special management considerations or protection, are covered by legally operative HCPs that include *Brodiaea filifolia* as a covered species, are covered by a INRMP that was determined to provide a benefit to the species, or are proposed for coverage in a draft HCP or other identified conservation effort for which we have a reasonable expectation will reach a successful outcome.

*Application of Section 3(5)(A) of the Act*

Section 3(5)(A) of the Act defines critical habitat as the specific areas within the geographical area occupied by the species at the time of listing on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection. Therefore, areas within the geographical area occupied by the species at the time of listing that do not contain the features essential to the conservation of the



species are not, by definition, critical habitat. Similarly, areas within the geographical area occupied by the species at the time of listing containing essential physical or biological features that do not require special management considerations or protection also are not, by definition, critical habitat. To determine whether an area requires special management, we first determine if the features essential to the conservation of the species located there generally require special management to address applicable threats. If those features do not require special management, or if they do in general but not for the particular area in question because of the existence of an adequate management plan or for some other reason, then the area does not require special management.

We consider a current plan to provide adequate management or protection if it meets two criteria: (1) The plan provides management, protection or enhancement to the PCEs at least equivalent to that provided by a critical habitat designation; and (2) the Service has a reasonable expectation that the management, protection or enhancement actions will continue for the foreseeable future.

We are not including habitat containing features essential to the conservation of *Brodiaea filifolia* in subunit 8b (Rancho Santalina/Loma Alta) in the City of San Marcos, San Diego County, California, under section 3(5)(A) of the Act. This subunit is composed of two properties, Rancho Santalina and Loma Alta. Rancho Santalina has completed a long-term management plan that specifically addresses *B. filifolia*. Likewise, the Loma Alta development has submitted a Perpetual Habitat Management Plan that addresses *B. filifolia*. In determining whether an area is adequately managed and does not require special management, the Service generally evaluates existing management to determine whether it provides (1) a conservation benefit to the species; (2) reasonable assurances for implementation; and (3) reasonable assurances that conservation efforts will be effective.

The Rancho Santalina project includes a completed a long-term management plan in November 2003, specifically for the long-term protection and enhancement of *Brodiaea filifolia* (Dudek and Associates 2003). Approximately 1,500 plants on 5.8 acres will be included in a Preserve Site. Impacted plants (about 430) from the site will be translocated to the contiguous 1 ac (.4 ha) area. Additional plants will be translocated from the Las

Posas Road/State Route 78 Interchange Project. The total acreage of the Preserve Site is 6.8 acres. The site will be preserved and managed in perpetuity with funding provided through a non-wasting endowment of \$103,888 (Office of Administrative Law 2003). The site will be protected from human and vehicular access by perimeter fencing and signage and will be part of the Northwestern San Diego County Multiple Habitat Conservation Program preserve area.

The goals of the management plan are to preserve the natural population and translocated plants of *Brodiaea filifolia*, and to sustain the coastal sage scrub and grassland vegetation to support and buffer the population on site. The site will be monitored for translocation success for seven years.

The Loma Alta project has completed a Perpetual Land Management Plan that provides a conservation benefit for *Brodiaea filifolia*. An area of 0.74 ac (0.3 ha) that has been known to support approximately 4,000 plants will be included in the 4.86 acre Loma Alta Environmental Preserve. A conservation easement was placed over the Preserve area in December 2003 (City of San Marcos 2003). Management provisions for the site include 12 visits per year to the site: 9 visits to check for fence breaks and unauthorized activities, 1 visit to complete vegetation assessments including the current year's population of *B. filifolia*, 1 visit to remove trash and exotic species, and 1 visit for a spring point avian survey.

We found that most of the management actions proposed in the two management plans outlined above would be effective and provide a conservation benefit for *B. filifolia*. Therefore, all of these areas containing features essential to the conservation of *B. filifolia* within the Rancho Santalina/Loma Alta subunit (8b) are being removed from consideration in this final critical habitat designation because these lands are deemed to be adequately managed pursuant to section 3(5)(A) of the Act.

#### *Relationship of Critical Habitat to Department of Defense Lands*

Section 318 of the fiscal year 2004 National Defense Authorization Act (Pub. L. 108-136) amended the Act by adding a new section 4(a)(3)(B) to address the relationship of INRMPs to critical habitat. This provision prohibits the Service from designating as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an INRMP prepared under section 101

of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

We received comments from the U.S. Marine Corps regarding the proposed critical habitat designation, and economic impact and national security impact on Department of Defense lands. We specifically requested information from the Department of Defense regarding the benefits of any INRMP to *Brodiaea filifolia* in the proposed rule (69 FR 71284).

#### *Application of Section 4(a)(3) to Camp Pendleton*

In the proposed rule, we excluded habitat containing features essential to the conservation of *Brodiaea filifolia* within mission-critical training areas on Camp Pendleton (Camp Pendleton) under section 4(b)(2) of the Act. In this final rule, Camp Pendleton is exempt from critical habitat pursuant to section 4(a)(3) of the Act. Thus, no lands owned or controlled by Camp Pendleton are being designated as critical habitat for *B. filifolia*.

In November 2001, Camp Pendleton completed their INRMP (U.S. Marine Corps 2001), which includes the following conservation measures for *Brodiaea filifolia*: (1) Surveys and monitoring, studies, impact avoidance and minimization, and habitat restoration and enhancement; (2) species survey information stored in Camp Pendleton's GIS database and recorded in a resource atlas which is published and updated on a semi-annual basis; (3) use of the resource atlas to plan operations and projects to avoid impacts to *B. filifolia* and to trigger section 7 consultations if an action may affect the species; and (4) transplantation when avoidance is not possible. These measures are established, ongoing aspects of existing programs that provide a benefit to *B. filifolia*. Camp Pendleton also has Base directives and Range and Training Regulations that are integral to their INRMP, and that provide benefits to *B. filifolia*. Camp Pendleton implements Base directives to avoid and minimize adverse effects to *B. filifolia*, such as: (1) Bivouac, command post, and field support activities should be no closer than 164 ft (50 m) to occupied habitat year round; (2) limiting vehicle and equipment operations to existing road and trail networks year round; and (3) requiring environmental clearance prior to any soil excavation, filling, or grading. Camp Pendleton has also contracted for and funded surveys for *B. filifolia* in summer 2005 and a GIS-

based monitoring system which will allow them to better manage listed species on Camp Pendleton, including *B. filifolia*.

Camp Pendleton has also demonstrated ongoing funding of their INRMP and management of endangered and threatened species. In Fiscal Year 2002, Camp Pendleton spent approximately \$1.5 million on the management of federally listed species. In Fiscal Year 2003, they expended over \$5 million to fund and implement their INRMP, including management actions that provided a benefit for *Brodiaea filifolia*. Moreover, in partnership with the Service, Camp Pendleton is funding two Service biologists to assist in implementing their Sikes Act program and buffer lands acquisition initiative.

Based on Camp Pendleton's past funding history for listed species and their Sikes Act program (including the management of *Brodiaea filifolia*), there is a high degree of certainty that Camp Pendleton will implement their INRMP in coordination with the Service and the CDFG in a manner that provides a benefit to *B. filifolia*, coupled with a high degree of certainty that the conservation efforts of their INRMP will be effective. Service biologists work closely with Camp Pendleton on a variety of endangered and threatened species issues, including *B. filifolia*. The management programs, Base directives, and Range and Training Regulations to avoid and minimize impacts to *B. filifolia* are consistent with section 7 consultations with Camp Pendleton. Therefore, the Secretary has found that the INRMP for Camp Pendleton

provides a benefit for *B. filifolia* and is exempting all lands on Camp Pendleton from critical habitat pursuant to section 4(a)(3) of the Act.

Currently, we are in the process of completing a programmatic section 7 consultation for upland species on Camp Pendleton. *Brodiaea filifolia* is addressed in this uplands species consultation. When this consultation is completed, we anticipate that Camp Pendleton will incorporate the conservation measures from the Biological Opinion into their INRMP. At that time, Camp Pendleton's INRMP will provide further benefits to *B. filifolia*.

*Relationship of Critical Habitat to Approved and Pending Habitat Conservation Plans (HCPs)—Exclusions Under Section 4(b)(2) of the Act*

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. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of specifying a particular area as critical habitat, unless the failure to designate such area as critical habitat will result in the extinction of the species. Consequently, we may exclude an area from critical habitat based on economic impacts, impacts on national security, or other relevant impacts, such as preservation of conservation

partnerships, if we determine the benefits of excluding an area from critical habitat outweigh the benefits of including the area in critical habitat, provided the action of excluding the area will not result in the extinction of the species.

Under section 4(b)(2) of the Act, we are excluding critical habitat from approximately 4,883 ac (1,976 ha) of non-Federal lands within approved or pending HCPs. We are excluding non-Federal lands from critical habitat within the approved (1) Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (3062 ac, 1239 ha); (2) Villages of La Costa Habitat Conservation Plan (HCP) (208 ac, 84 ha); and (3) Northwestern San Diego County Multiple Habitat Conservation Program (MHCP); City of Carlsbad Subarea Plan/Habitat Management Plan (City of Carlsbad HMP) (414 ac, 168 ha). We are also excluding non-Federal lands from critical habitat within two pending HCPs, the (4) City of Oceanside HMP, also a Subarea Plan under the Northwestern San Diego County MHCP (41 ac, 17 ha) and (5) Orange County Southern Subregion Natural Communities Conservation Plan (NCCP)/HCP (1,158 ac, 468 ha). Table 4 below provides a list of the exemptions and exclusions in this rule. We have determined that the benefits of excluding areas within these legally operative and pending HCPs from final critical habitat designation outweigh the benefits of including them in critical habitat.

TABLE 4.—ACREAGE OF HABITAT CONTAINING FEATURES ESSENTIAL TO THE CONSERVATION OF THE SPECIES, AREAS EXCLUDED OR EXEMPTED FROM CRITICAL HABITAT, AND DESIGNATED CRITICAL HABITAT (ACRES (AC); HECTARES (HA)) FOR BRODIAEA FILIFOLIA

Total habitat containing features essential to the conservation of <i>Brodiaea filifolia</i> .....	6,397 ac. 2,589 ha.
Habitat excluded from the final critical habitat designation under section 4(b)(2) of the Act:	
Western Riverside County Multiple Species Habitat Conservation Plan (Riverside County) .....	3,062 ac. 1,239 ha.
Villages of La Costa Habitat Conservation Plan (San Diego County) .....	208 ac. 84 ha.
City of Carlsbad Habitat Management Plan (San Diego County) .....	414 ac. 368 ha.
Pending City of Oceanside Subarea Plan (San Diego County) .....	41 ac. 17 ha.
Pending Orange County Southern Subregion Natural Community Conservation Plan/Habitat Conservation Plan (Orange County).	1,158 ac. 469 ha.
Habitat exempted from critical habitat designation under section 4(a)(3) of the Act: Marine Corps Base, Camp Pendleton (San Diego County).	917 ac. 371 ha.
Total habitat containing features essential to the conservation of <i>Brodiaea filifolia</i> excluded or exempted from final critical habitat.	5,800 ac. 2,347 ha.
Total habitat containing features essential to the conservation of <i>Brodiaea filifolia</i> designated as final critical habitat .....	597 ac. 242 ha.

*Brodiaea filifolia* is a covered species under the approved Western Riverside

County MSHCP, the Villages of La Costa HCP, and the City of Carlsbad HMP and,

as such, receives protection and management of features essential for the

species' conservation. We issued the section 10(a)(1)(B) permit for the Western Riverside County MSHCP on June 22, 2005; the Villages of La Costa HCP on June 7, 1995; and the City of Carlsbad HMP on November 9, 2004. Significant conservation of *B. filifolia* is also identified and committed to under a pending HMP for the City of Oceanside and for the Orange County Southern Subregion NCCP/HCP through a signed Settlement Agreement for the Ranch Plan, a comprehensive land use and open space plan that is a component of the draft Orange County Southern Subregion NCCP/HCP, addressing lands owned by the County of Orange and lands owned by Rancho Mission Viejo. The Settlement Agreement was signed on August 16, 2005. These approved and legally operative HCPs, the pending City of Oceanside HMP, and the pending Orange County Southern Subregion NCCP/HCP and associated Settlement Agreement provide special management and protection for the physical and biological features essential for the conservation of *B. filifolia* that exceed the level of regulatory control that would be afforded this species by the designation of critical habitat. We have determined that the benefits of excluding critical habitat within these areas from the critical habitat designation will outweigh the benefits of including them as critical habitat and this exclusion will not result in the extinction of *B. filifolia*.

Below we first provide general background information on each approved or pending HCP, followed by an analysis pursuant to section 4(b)(2) of the Act of the benefits of including lands in all five areas within the critical habitat designation, an analysis of the benefits of excluding these lands from the designation, and an analysis of why we believe the benefits of exclusion are greater than the benefits of inclusion. Finally, we provide a determination that exclusion of lands within these approved and pending HCPs will not result in the extinction of *Brodiaea filifolia*.

#### *Western Riverside County Multiple Species Habitat Conservation Plan*

We excluded 3,062 ac (1,239 ha) of non-Federal lands within the Western Riverside County MSHCP under section 4(b)(2) of the Act. The Western Riverside County MSHCP was finalized and approved on June 22, 2004. Participants in this HCP include 14 cities; the County of Riverside, including the Riverside County Flood Control and Water Conservation Agency, Riverside County

Transportation Commission, Riverside County Parks and Open Space District, and Riverside County Waste Department; the California Department of Parks and Recreation; and CALTRANS (Riverside County *et al.*). The Western Riverside County MSHCP is a subregional plan under the State's NCCP Act of 2001 and was developed in cooperation with the California Department of Fish and Game (CDFG).

The Western Riverside County MSHCP establishes a multiple species conservation program to minimize and mitigate the expected loss of habitat values and, with regard to "covered" animal species, the incidental take of such species. Within the 1.26-million ac (510,000 ha) planning area of the MSHCP, approximately 153,000 ac (62,000 ha) of diverse habitats are being conserved. The conservation of 153,000 ac (62,000 ha) complements approximately 347,000 ac (140,431 ha) of other existing natural and open space areas that are already conserved through other means (*e.g.*, State parks, USFS, and County park lands). These lands together will form an overall 500,000-ac MSHCP Conservation Area.

The MSHCP Plan Area includes a portion of the range of *Brodiaea filifolia*, which is a covered species under this NCCP/HCP. The Service concluded that the MSHCP would not jeopardize the continued existence of *B. filifolia* in its Biological and Conference Opinion (Service 2004).

The MSHCP identifies the following specific conservation goals that will be implemented for the long-term conservation of *Brodiaea filifolia*: (1) To include within the MSHCP Conservation Area at least 6,900 ac (2,792 ha) of grassland and playa/vernal pool habitat within the San Jacinto River, Mystic Lake and Salt Creek areas that include the 3,062 ac of land that containing features essential to the conservation of the species, including occurrences of *B. filifolia* identified in the proposed rule; (2) to include within the MSHCP Conservation Area at least 11 major locations supporting *B. filifolia* in two core areas along the San Jacinto River and on the Santa Rosa Plateau, including occurrences identified in the proposed rule as significant; (3) to conduct surveys for the species in certain areas of suitable habitat until the conservation goals are met; and (4) to include within the MSHCP Conservation Area the floodplain along the San Jacinto River consistent with objective 1 and to maintain floodplain processes along the San Jacinto River. In addition, the MSHCP requires surveys to be conducted for *B. filifolia* within the MSHCP Conservation Area at least

every 8 years to verify occupancy at a minimum 75 percent of the known locations. Management measures will be triggered, as appropriate, if a decline in species distribution is documented below this threshold. Other management actions will help maintain habitat and populations of *B. filifolia* by preventing alteration of hydrology and floodplain dynamics, off-road vehicle use, grazing, and competition from non-native plants.

Occurrences of *Brodiaea filifolia* are frequently associated with or near vernal pool complexes. The Western Riverside County MSHCP provides for special protection of vernal pool complexes and associated species through its *Protection of Species Associated with Riparian/Riverine areas and Vernal Pools* policy. Implementation of this policy will assist in providing protection to this species' essential habitat by avoiding and minimizing direct impacts to vernal pools and associated habitats. In addition, *B. filifolia* is considered an *Additional Survey Needs and Procedures* species under the MSHCP. Under this policy, surveys for *B. filifolia* will be conducted where suitable habitat is present in identified species survey areas until such time as the conservation objectives for this species are met. Finally, the MSHCP's *Guidelines Pertaining to the Urban/Wildlands Interface* provides some assurance that future urbanization will maintain the existing water quality and quantity needed to maintain floodplain areas and vernal pools supporting *B. filifolia* along the San Jacinto River and at upper Salt Creek west of Hemet. Thus, the Western Riverside County MSHCP provides significant conservation benefits to *B. filifolia*, including an MSHCP Conservation Area that protects core habitat areas and known occurrences, long-term management and monitoring of the preserve area, and special guidelines, policies, and survey requirements to ensure that significant occurrences of *B. filifolia* and its essential habitat are protected under the plan.

#### *The Villages of La Costa Habitat Conservation Plan—San Diego County*

We excluded 208 ac (84 ha) of non-Federal lands within the Villages of La Costa HCP under section 4(b)(2) of the Act. Under this HCP, Fieldstone/La Costa Associates proposed to construct housing, limited commercial development, a school, a park, and various roadways on 1,252 ac (507 ha) of the 1,955 ac (791ha) property at two locations within the City of Carlsbad. All *Brodiaea filifolia* on the site

occurred in the northwest parcel and was estimated to consist of 7,000 individuals. The project was permitted to directly impact 1,190 individuals (17 percent). As part of the HCP and section 10(a)(1)(B) permit, the following conservation measures were required and have been implemented for the long-term conservation of *B. filifolia*: (1) Permanent protection of approximately 5,800 individuals (83 percent) in a 702.5-ac (284 ha) natural open space preserve configured to provide connectivity to other significant areas of natural habitat; (2) long-term management of conserved habitat; (3) monitoring; (4) habitat restoration and enhancement; (5) control of invasive plant species; (6) implementation of a fire management program; (7) access control measures; and (8) public education. The 702.5 ac preserve area contains the significant occurrence of *B. filifolia* identified in the proposed rule. Open space areas on Fieldstone/La Costa Associates lands are actively managed to maintain and enhance biological values by the Center for Natural Lands Management (Don Rideout, City of Carlsbad, pers. comm. 2004). In the Service's 1995 Biological and Conference opinion for this HCP, we found that the issuance of the incidental take permit and execution of the Implementing Agreement were not likely to jeopardize the continued existence of *B. filifolia* (Service 1995). We determined that impacts to this species and its habitat, when viewed in conjunction with the conservation measures required under the HCP and Implementing Agreement that will provide long-term benefits to *B. filifolia*, were not anticipated to result in an appreciable reduction in the numbers, reproduction, or distribution of this species throughout its range.

#### *City of Carlsbad Habitat Management Plan—San Diego County*

We excluded approximately 414 ac (168 ha) of non-Federal lands within the City of Carlsbad HMP under section 4(b)(2) of the Act. The City of Carlsbad HMP is a subarea plan under the Northwestern San Diego County MHCP. The MHCP is a comprehensive, multi-jurisdictional planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County. The MHCP preserve system is intended to protect viable populations of native plant and animal species and their habitats in perpetuity, while accommodating continued economic development and quality of life for residents of North County. The MHCP includes an approximately 112,000-ac (45,324 ha) study area

within the cities of Carlsbad, Encinitas, Escondido, San Marcos, Oceanside, Vista, and Solana Beach (USFWS and SANDAG 2003).

The 10(a)(1)(B) permit for the City of Carlsbad HMP was issued on November 9, 2004, and the City was the first of the seven participating cities to receive a permit on their subarea plan. *Brodiaea filifolia* is a conditionally covered species under the HMP. Occurrences of *B. filifolia* exist within the boundaries of the HMP in the following identified areas: Calavera Heights, Lake Calavera, Fox-Miller, Carlsbad Oaks North, and Poinsettia. Under the HMP, all known populations of *B. filifolia* within existing preserve areas will be conserved at 100 percent. All *B. filifolia* outside of already preserved areas are required to be consistent with the MHCP's narrow endemic policy which requires mitigation for unavoidable impacts and management practices designed to achieve no net loss of narrow endemic populations, occupied acreage, or population viability within Focused Planning Areas. In addition, cities cannot permit more than 5 percent gross cumulative loss of narrow endemic populations or occupied acreage within the Focused Planning Areas, and no more than 20 percent cumulative loss of narrow endemic locations, population numbers or occupied acreage outside of Focused Planning Areas (AMEC Earth and Environmental, Inc. 2003). All conserved populations of *B. filifolia* will be incorporated into the preserve areas of the HMP. Additionally, the HMP includes provisions to manage the populations within the preserve areas in order to provide for the long-term conservation of the species.

Occurrences of *Brodiaea filifolia* at Calavera Heights, Lake Calavera, Carlsbad Oaks North, and Poinsettia covered under the HMP were excluded from proposed critical habitat. However, occurrences on the Fox-Miller property were not excluded from the proposed designation because initially, the proposed hard-lined reserve on Fox-Miller did not meet the conditions for coverage of the species under the HMP. The property owners worked with the Service, CDFG, and the City of Carlsbad to develop a project that meets the HMP's standards for *B. filifolia* conservation. Ninety-five percent of the 19,100 plants on the property will be conserved. The site's preserve will be incorporated into the HMP's preserve system, partially restored to native grassland, and managed to sustain both the native grassland community and the population of *B. filifolia*. With modification of this hard-lined reserve

and associated restoration and management actions, the City of Carlsbad will receive full coverage for *B. filifolia*. In our biological opinion for the issuance of the section 10(a)(1)(B) permit to the City of Carlsbad, we determined that the proposed action would not jeopardize the continued existence of *B. filifolia*. The preserve area includes the significant occurrence of *B. filifolia* identified in the proposed rule. Thus, we are excluding the Fox-Miller property (subunit 7a) in this final rule.

#### *City of Oceanside HMP—San Diego County*

We excluded approximately 41 ac (17 ha) of non-Federal lands in two subunits within the City of Oceanside under section 4(b)(2) of the Act. The City of Oceanside has accepted and committed to the conservation standards for *Brodiaea filifolia* established under the Northwestern San Diego MHCP. These conservation standards will be included in the City of Oceanside's HMP, currently in development.

Subunit 6b (Mesa Drive) consists of 5 ac (2 ha) of primarily grasslands supporting an occurrence of *Brodiaea filifolia* estimated to contain 2,800 plants (Roberts in litt. 2004). The site is under the control of a home owner's association and includes a San Diego Gas & Electric utility easement. There are currently no development plans for the site, but under the conservation standards of the overarching, Northwestern San Diego County MHCP and agreed to by the City, no more than 20 percent of this population may be impacted.

Subunit 6d (Taylor/Darwin) contains several properties under different ownership. The Taylor Estates property had 1,268 flowering *Brodiaea filifolia* plants identified in 2001. Seventy-one of these plants in the direct development footprint of the project were translocated elsewhere on the Taylor Estates property. These translocated individuals and the remaining plants will be managed and monitored in perpetuity. The Darwin portion of the subunit has also been partially developed. Approximately 6 ac (2 ha) of open space, which includes an occurrence of *B. filifolia*, has been preserved and will be managed in perpetuity. Thirty-six ac (15 ha) of extant valley and foothills grassland supporting a major population of *B. filifolia*, as defined by the MHCP, remain within the subunit. Under the conservation standards of the MHCP and agreed to by the City, 95 percent of this population will be preserved and managed within the preserve system.

The preserve area includes the significant occurrence of *B. filifolia* identified in the proposed rule.

*Orange County Southern Subregion NCCP/HCP*

We excluded approximately 1,158 ac (469 ha) of non-Federal lands in three subunits within the Southern Subregion of Orange County under section 4(b)(2) of the Act.

Rancho Mission Viejo, the County of Orange, the Endangered Habitats League, the Natural Resources Defense Council, Inc., Sea and Sage Audubon Society, Laguna Greenbelt, Inc., and the Sierra Club reached an agreement on August 16, 2005, to settle a lawsuit challenging the November 2004, approval for a General Plan Amendment, Zone Change and Development Agreement issued by the County of Orange for Rancho Mission Viejo's Ranch Plan, a comprehensive land use and open space plan for the remaining 22,815 acres of undeveloped land owned by Rancho Mission Viejo, in Orange County. Rancho Mission Viejo's Ranch Plan is integral to the pending Orange County Southern Subregion NCCP/HCP, currently in development.

We are excluding from critical habitat designation a total of approximately 899 ac (364 ha) of land owned by Rancho Mission Viejo in subunits 4c (Cañada Gobernadora/Chiquita Ridgeline) and 4g (Cristianitos Canyon). Conservation identified in the Settlement Agreement assures that significant occurrences of *Brodiaea filifolia* will be preserved, including a major occurrence of over 4,000 plants in subunit 4c. Within subunit 4c, only small occurrences (generally less than 100 plants) are slated for development. Subunit 4g (Cristianitos Canyon) is primarily conserved as open space under the Settlement Agreement. Rancho Mission Viejo is allowed to establish and maintain 50 ac (20 ha) of orchards in this subunit in areas that may impact some small occurrences of *Brodiaea filifolia*. The orchards will be consistent with the location of, or criteria for location of, the orchards established by an approved NCCP or, in the absence of an approved NCCP, located to avoid sensitive species and habitats. The Settlement Agreement also calls for the establishment of a long-term funding program for management and oversight of all defined open space areas placed under conservation easements.

We are also excluding approximately 259 ac (105 ha) within subunit 4b (Casper's Wilderness Park) in the City of San Juan Capistrano under 4(b)(2) of the Act. Lands within this unit support an occurrence of *Brodiaea filifolia* of about

850 plants. The occurrence is protected from urban development and managed by the County of Orange's Division of Harbors, Beaches and Parks. The County of Orange is a landowner within and a major sponsor of the Southern Subregion NCCP/HCP. Thus, the major occurrences of *B. filifolia* (i.e., those with greater than 850 plants) encompassed within the 1158 acres of essential habitat identified in the proposed rule are protected and included within the planning area boundary of the draft HCP or committed for conservation under the Settlement Agreement.

The following analysis considers all five plans discussed above: (1) The Western Riverside County MSHCP; (2) the Villages of La Costa HCP; (3) the City of Carlsbad HMP; (4) the City of Oceanside HMP (pending); and (5) the Orange County Southern Subregion NCCP/HCP (pending).

(1) Benefits of Inclusion

Overall, we believe that there is minimal benefit from designating critical habitat for *Brodiaea filifolia* within the Western Riverside County MSHCP, the Villages of La Costa HCP, the City of Carlsbad NCCP/HCP, the City of Oceanside HMP (pending), and the Orange County Southern Subregion NCCP/HCP (pending) because, as explained above, almost all of the significant occurrences of *B. filifolia* are already protected and managed or will be protected and managed for the long-term conservation of the species. Below we discuss benefits of inclusion of these lands.

A benefit of including an area within a critical habitat designation is the protection provided by section 7(a)(2) of the Act that directs Federal agencies to ensure that their actions do not result in the destruction or adverse modification of critical habitat. The designation of critical habitat and the analysis to determine if the proposed Federal action may result in the destruction or adverse modification of critical habitat for *Brodiaea filifolia* may provide a different level of protection under section 7(a)(2) of the Act that is separate from the obligation of a Federal agency to ensure that their actions are not likely to jeopardize the continued existence of *B. filifolia*. Under the *Gifford Pinchot* decision, critical habitat designations may provide greater benefits to the recovery of a species than was previously believed, but it is not possible to quantify this benefit at present. However, the protection provided under section 7(a)(2) of the Act is still a limitation on the harm that occurs to the species or critical habitat

as opposed to a requirement to provide a conservation benefit.

The inclusion of these 4,883 ac (1,976 ha) of non-Federal lands as critical habitat may provide some additional Federal regulatory benefits for the species consistent with the conservation standard based on the Ninth Circuit Court's decision in *Gifford Pinchot*. A benefit of inclusion would be the requirement of a Federal agency to ensure that their actions on these non-Federal lands do not likely result in the destruction or adverse modification of critical habitat. This additional analysis to determine destruction or adverse modification of critical habitat is likely to be small because the lands are not under Federal ownership and any Federal agency proposing a Federal action on these 4,883 ac (1,976 ha) of non-Federal lands would likely consider the conservation value of these lands as identified in the approved and pending HCPs and the Settlement Agreement and take the necessary steps to avoid jeopardy or the destruction or adverse modification of critical habitat.

The areas excluded as critical habitat include vegetation communities supporting *Brodiaea filifolia* and an area 820 ft (250 m) around each occurrence to provide for pollinator movement and habitat. If these areas were designated as critical habitat, any actions with a Federal nexus, such as the issuance of a permit under section 404 of the Clean Water Act, which might adversely affect the critical habitat would require a consultation with us, as explained previously, in the "Effects of Critical Habitat Designation" section. However, inasmuch as portions of these areas currently support *B. filifolia*, consultation for Federal activities which might adversely impact the species would be required even without the critical habitat designation. For the surrounding areas that may lack individual plants (i.e., areas not occupied by *B. filifolia*), the Federal action agency would need to determine if the proposed action would affect the species rather than determining whether the proposed action would cause destruction or adverse modification of critical habitat. A potential benefit of critical habitat would be to signal the importance of the surrounding areas not occupied by *B. filifolia* to Federal agencies and to ensure their actions do not result in the destruction or adverse modification of critical habitat pursuant to section 7(a)(2) of the Act. However, approved and pending HCPs because almost all of the significant occurrences of *B. filifolia* are protected and managed or will be protected and managed for the long-term benefit of the species. Thus,

the approved and draft HCPs provide or will provide a greater level of protection and management for *B. filifolia* than the simple avoidance of adverse effects to critical habitat.

If these areas were included as critical habitat, primary constituent elements would be protected from destruction or adverse modification by Federal actions using a conservation standard based on the Ninth Circuit Court's decision in *Gifford Pinchot*. This requirement would be in addition to the requirement that proposed Federal actions avoid likely jeopardy to the species' continued existence. However, for those areas supporting *Brodiaea filifolia*, consultation for activities which may adversely affect the species would be required, even without the critical habitat designation.

In *Sierra Club v. Fish and Wildlife Service*, 245 F.3d 434 (5th Cir. 2001), the Fifth Circuit Court of Appeals stated that the identification of habitat essential to the conservation of the species can provide informational benefits to the public, State and local governments, scientific organizations, and Federal agencies. The court also noted that heightened public awareness of the plight of listed species and their habitats may facilitate conservation efforts. The inclusion of an area as critical habitat may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation values for certain species. However, we believe that this educational benefit has largely been achieved for *Brodiaea filifolia* by the public outreach and environmental impact reviews required under the National Environmental Policy Act (NEPA) for the Western Riverside County MSHCP, the Villages of La Costa HCP, the Northwestern San Diego County MHCP, and the City of Carlsbad HMP and the recognition by the County of Riverside *et al.*, Fieldstone/La Costa Associates, the City of Carlsbad, the City of Oceanside, the County of Orange, and Rancho Mission Viejo of the presence of *B. filifolia* and the value of their lands for the conservation and recovery of the species. There would be little additional informational benefit gained from including these lands as critical habitat because of the level of information that has been made available to the public as part of these regional planning efforts.

Similarly, while the Settlement Agreement was not open to public comment, it results from an application requesting a General Plan Amendment, Zone Change and Approval of a Development Agreement that was subject to extensive public review through circulation of an Environmental

Impact Report under CEQA. A major commitment to the conservation presented in the Settlement Agreement has been made public through media outreach. In addition, the Settlement Agreement and revisions made to the Ranch Plan Development Agreement are now being incorporated into the draft documents for the Orange County Southern Subregion NCCP/HCP. The planning process for this regional NCCP/HCP has been ongoing for several years and has included significant scoping and planning workshops with opportunity for public comment. The Settlement Agreement has now provided the impetus for the County of Orange, local jurisdictions, and Rancho Mission Viejo to complete the Southern Subregion NCCP/HCP. While the Draft HCP/EIS has not yet been released for public review, major portions of the document, including the conservation analysis sections are complete, and the Service and the CDFG are coordinating efforts to review the document. Thus, the Settlement Agreement and status of the preliminary Draft HCP/EIS provide us with reasonable assurance that this significant regional plan will be completed.

The pending City of Oceanside HMP has a similar status to the Orange County Southern Subregion NCCP/HCP, in that a conservation strategy for *Brodiaea filifolia* has been agreed to and the planning documents, while not yet released for public review, are well underway. In addition, the Oceanside HMP is a Subarea Plan under the MHCP, which underwent public review through a joint CEQA/NEPA process; based on this, and the cooperation and efforts of the City of Oceanside to support the goals of the overarching MHCP, we have reasonable assurance that the City of Oceanside HMP will be completed.

In addition there has been public notice and opportunity for comment on this proposal, which identified lands eligible for designation as critical habitat, and the economic analysis for the proposal, which also identified those lands. Consequently, we believe that the informational benefits are already provided even though these areas are not designated as critical habitat.

For 30 years prior to the Ninth Circuit Court's decision in *Gifford Pinchot*, the Fish and Wildlife Service equated the jeopardy standard with the standard for destruction or adverse modification of critical habitat. However, in *Gifford Pinchot* the court noted the government, by simply considering the action's survival consequences, was reading the concept of recovery out of the

regulation. The court, relying on the CFR definition of adverse modification, required the Service to determine whether recovery was adversely affected. The *Gifford Pinchot* decision arguably made it easier to reach an "adverse modification" finding by reducing the harm, affecting recovery, rather than the survival of the species. However, there is an important distinction: Section 7(a)(2) limits harm to the species either through jeopardy or destruction or adverse modification analyses. It does not require positive improvements or enhancement of the species status. Thus, any management plan which considers enhancement or recovery as the management standard will almost always provide more benefit than the critical habitat designation.

## (2) Benefits of Exclusion

As mentioned above, the Western Riverside County MSHCP, the Villages of La Costa HCP, the City of Carlsbad HMP, the pending City of Oceanside HMP, and the pending Orange County Southern Subregion NCCP/HCP and associated Settlement Agreement provide for the conservation of *Brodiaea filifolia* through avoidance, minimization, and/or mitigation of impacts, management of habitat, and maintenance of watershed. These HCPs and the Settlement Agreement provide or will provide for protection of the PCEs for *B. filifolia* and address special management needs such as maintenance of clay soils and hydrology. Designation of critical habitat would therefore not provide as great a benefit to the species as the positive management measures in these HCPs and the Settlement Agreement.

The benefits of excluding lands within HCPs from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by a critical habitat designation consistent with the conservation standard based on the Ninth Circuit Court's decision in *Gifford Pinchot*. Many HCPs, particularly large regional HCPs, such as the Orange County Southern Subregion NCCP/HCP, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery objectives for listed species that are covered within the plan area. Additionally, many of these HCPs provide conservation benefits to unlisted, sensitive species. Imposing an additional regulatory review after an HCP is completed solely as a result of the designation of critical habitat may undermine conservation efforts and partnerships in many areas. In fact, it

could result in the loss of species' benefits if participants abandon the voluntary HCP process because the critical habitat designation may result in additional regulatory requirements than are faced by other parties who have not voluntarily participated in species conservation. Designation of critical habitat within the boundaries of approved HCPs could be viewed as a disincentive to those entities currently developing HCPs or contemplating them in the future.

The signed Settlement Agreement represents a similar commitment to the conservation of *Brodiaea filifolia* as would be found in Draft NCCP/HCP documents. The Settlement Agreement is integral to completion of the Orange County Southern Subregion NCCP/HCP. We believe designating critical habitat within the area covered by the signed Settlement Agreement would be viewed as a disincentive. Similarly, designating critical habitat within park lands designated as wilderness and owned and managed by the County of Orange, a major sponsor of the Orange County Southern Subregion NCCP/HCP, would be viewed as a disincentive to completing their regional plan.

Another benefit from excluding these lands is to maintain the partnerships developed during the planning phase through the implementing phases of the HCPs. Instead of using limited funds to comply with administrative consultation and designation requirements which cannot provide protection beyond what is currently in place, the partners could instead use their limited funds for the conservation of this species. A related benefit of excluding lands within HCPs from critical habitat designation is the unhindered, continued ability to seek new partnerships with future HCP participants including States, Counties, local jurisdictions, conservation organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. If lands within HCP plan areas are designated as critical habitat, it would likely have a negative effect on our ability to establish new partnerships to develop HCPs, particularly large, regional HCPs that involve numerous participants and address landscape-level conservation of species and habitats. By excluding these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

Furthermore, an HCP or NCCP/HCP application must itself be consulted upon. While this consultation will not look specifically at the issue of adverse modification to critical habitat, unless

critical habitat has already been designated within the proposed plan area, it will determine if the HCP jeopardizes the species in the plan area. In addition, Federal actions within the HCP plan areas that may affect listed species would still require consultation under section 7 of the Act. HCPs typically provide for greater conservation benefits to a covered species than section 7 consultations because HCPs assure the long-term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5 Point Policy for HCPs (64 FR 35242) and the HCP "No Surprises" regulation (63 FR 8859). Such assurances are typically not provided by section 7 consultations that, in contrast to HCPs, often do not commit the project proponent to long-term special management or protections. Thus, a consultation typically does not accord the lands it covers the extensive benefits an HCP provides. The development and implementation of HCPs provide other important conservation benefits, including the development of biological information to guide the conservation efforts and assist in species conservation and the creation of innovative solutions to conserve species while allowing for development.

#### (3) Benefits of Exclusion Outweigh the Benefits of Inclusion

We have reviewed and evaluated the exclusion of critical habitat for *Brodiaea filifolia* from approximately 4,883 ac (1,976 ha) of non-Federal lands within the approved Western Riverside County MSHCP, the Villages of La Costa HCP, and the City of Carlsbad HMP, and the pending City of Oceanside HMP and pending Orange County Southern Subregion NCCP/HCP with its associated Settlement Agreement. Based on this evaluation, we find that the benefits of exclusion (avoid increased regulatory costs which could result from including those lands in this designation of critical habitat, ensure the willingness of existing partners to continue active conservation measures, maintain the ability to attract new partners, and direct limited funding to conservation actions with partners) of the lands containing features essential to the conservation of the *Brodiaea filifolia* within these lands outweigh the benefits of inclusion (limited educational and regulatory benefits, which are largely otherwise provided for under the HCPs) of these lands as critical habitat. The benefits of including these 4,883 ac (1,976 ha) of non-Federal lands as critical habitat are lessened because of the significant level

of conservation provided to *B. filifolia* under the approved Western Riverside County MSHCP, the Villages of La Costa HCP, and the City of Carlsbad HMP; the pending City of Oceanside HMP; and the pending Orange County Southern Subregion NCCP/HCP and associated Settlement Agreement (conservation of occupied and potential habitat, monitoring, and maintenance of soils and hydrology). In contrast, the benefits of excluding these 4,883 ac (1,976 ha) of non-Federal lands as critical habitat are increased because of the high level of cooperation by the County of Riverside *et al.*, Fieldstone/La Costa Associates, the City of Carlsbad, the City of Oceanside, the County of Orange, Rancho Mission Viejo, the State of California, and the Service to conserve this species, and these partnerships exceed any conservation value provided by a critical habitat designation.

#### (4) Exclusion Will Not Result in Extinction of the Species

We believe that exclusion of these 4,883 ac (1,976 ha) of non-Federal lands will not result in extinction of *Brodiaea filifolia* since most of these lands are protected and managed or will be protected and managed for the benefit of this species pursuant to the approved Western Riverside County MSHCP, the Villages of La Costa HCP, and the City of Carlsbad HMP; the pending City of Oceanside HMP; and the pending Orange County Southern Subregion NCCP/HCP and the associated Settlement Agreement. These approved and pending HCPs and the Settlement Agreement include specific conservation objectives, avoidance and minimization measures, and management that exceed any conservation value provided as a result of a critical habitat designation.

Some small occurrences of *Brodiaea filifolia* within approximately 311 ac (ha) of privately owned lands in subunit 4c (Gobernadora/Chiquita Ridgeline) are proposed for development as part of Rancho Mission Viejo's development plan. These lands are covered by the signed Settlement Agreement. Any Federal Agency authorizing an action to develop these lands (*e.g.*, USCOE) would likely consider the conservation actions in the Settlement Agreement as appropriate mitigation for loss of *B. filifolia* habitat. We believe the loss of these small occurrences of this species is not likely to result in extinction of the species. Likewise, the approximately 588 acres (238 ha) of privately owned lands containing features essential to the conservation of *B. filifolia* in subunit 4g (Cristianitos Canyon) will be protected and managed by Rancho

Mission Viejo as stipulated in the Settlement Agreement. This level of protection will occur as a result of the Settlement Agreement and thus regardless of whether these lands are excluded as critical habitat. The occurrence of *B. filifolia* in subunit 4b (Casper's Wilderness Park) is protected and is within the pending Orange County Southern Subregion NCCP/HCP plan boundary. Thus, we believe that exclusion of this occurrence as critical habitat will not result in extinction of the species.

In our Biological and Conference Opinions for the issuance of a section 10(a)(1)(B) permit for the Western Riverside County MSHCP, the Villages of La Costa HCP, and the City of Carlsbad HMP, the Service concluded that the proposed permit issuances would not appreciably reduce the likelihood of the survival and recovery of *Brodiaea filifolia* because of the avoidance and minimization measures, long-term management, and commitment to a preserve system. The jeopardy standard of section 7 and routine implementation of habitat conservation through the section 7 process also provide assurances that the species will not go extinct. The exclusion leaves these protections unchanged from those that would exist if the excluded areas were designated as critical habitat. Critical habitat is being designated for *B. filifolia* in other areas that will be accorded the protection from adverse modification by Federal actions using the conservation standard based on the Ninth Circuit Court's decision in *Gifford Pinchot*.

Additionally, the major occurrences of *Brodiaea filifolia* within the Western Riverside County MSHCP, the Villages of La Costa HCP, the City of Carlsbad HMP, and the pending Oceanside HMP and within lands covered by the Settlement Agreement and within Casper's Wilderness Park are or will be protected and managed either explicitly for the species or indirectly through more general objectives to protect natural values. These factors, acting in concert with the other protections provided under the Act, lead us to find that exclusion of these 4,883 ac (1,976 ha) within lands owned by the County of Orange and Rancho Mission Viejo and within the Western Riverside County MSHCP, the Villages of La Costa HCP, the City of Carlsbad HMP, and the pending City of Oceanside HMP will not result in extinction of *B. filifolia*.

#### Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific data available and

to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of such exclusions outweigh the benefits of specifying such areas as critical habitat. We cannot exclude such areas from critical habitat when such exclusion will result in the extinction of the species concerned.

Following publication of the proposed critical habitat rule, an analysis of the economic impacts of proposed critical habitat for *Brodiaea filifolia* was prepared. The notice of availability (NOA) of a draft economic analysis (DEA) was announced in the **Federal Register** on October 6, 2005 (70 FR 58361). Copies of the draft economic analysis were available for downloading from the Internet at <http://carlsbad.fws.gov>, or by contacting the Carlsbad Fish and Wildlife Office directly. In the NOA, we announced the reopening of the comment period on proposed critical habitat and solicited public review and comment. We accepted comments until October 20, 2005.

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for *Brodiaea filifolia*. This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. The economic analysis considers the economic efficiency effects that may result from the designation, including habitat protections that may be coextensive with the listing of the species. It also addresses distribution of impacts, including an assessment of the potential effects on small entities and the energy industry. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector.

This analysis determined that costs involving conservation measures for *Brodiaea filifolia* would be incurred for activities involving residential, industrial, and commercial development; water supply; flood control; transportation; agriculture; the development of HCPs; and the management of military bases, other Federal lands, and other public or conservation lands.

Pre-designation costs include those *Brodiaea filifolia*-related conservation activities associated with sections 4, 7, and 10 of the Act that have accrued

since the time that *Brodiaea filifolia* was listed as threatened (63 FR 54975; October 13, 1998), but prior to the designation of critical habitat. Total pre-designation costs associated with lands proposed as critical habitat are estimated to be \$2.9 million to \$3.0 million on a present value basis and \$2.4 million to \$2.5 million expressed in undiscounted dollars. Pre-designation costs associated with areas excluded from the proposed designation are estimated to be \$110,000 to \$180,000 on a present value basis and \$100,000 to \$150,000 expressed in undiscounted dollars.

Post-designation effects would include likely future costs associated with *Brodiaea filifolia* conservation efforts in the 20-year period following the final designation of critical habitat (effectively 2005 through 2024). If critical habitat were designated as proposed, total costs were estimated to be \$12.2 million to \$14.7 million on a present value basis and \$12.2 million to \$16.9 million expressed in undiscounted dollars (an annualized cost of \$0.6 to \$0.8 million annually). If all habitat with features essential to the conservation of the species were designated critical habitat in this final rule, total costs would be expected to range between \$24.5 and \$43.6 million over the next 20 years (an annualized cost of \$1.2 to \$2.2 million). However, due to significant reductions made to critical habitat in this final rule (see "Summary of Changes from Proposed Rule"), the estimated costs for the units actually designated are estimated to range between \$1.0 and \$3.3 million over the next 20 years expressed in undiscounted dollars.

The final economic analysis and supporting documents are included in our administrative record and may be obtained by contacting U.S. Fish and Wildlife Service, Branch of Endangered Species (see **ADDRESSES** section) or for downloading from the Internet at <http://carlsbad.fws.gov>.

#### Required Determinations

##### *Regulatory Planning and Review*

In accordance with Executive Order 12866, this document is a significant rule in that it may raise novel legal and policy issues. However, because the draft economic analysis indicates the potential economic impact associated with a designation of all habitat with features essential to the conservation of this species would total no more than \$24.5 million to \$43.6 million over the next 20 years (an annualized cost of \$1.2 million to \$2.2 million), we do not anticipate that this final rule will have



an annual effect on the economy of \$100 million or more or affect the economy in a material way. Due to the time line for publication in the **Federal Register**, the Office of Management and Budget (OMB) did not formally review the proposed rule.

The availability of the draft economic analysis was announced in the **Federal Register** on October 6, 2005 (70 FR 58361), and was made available for public review and comment.

*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.

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

To determine if this rule to designate critical habitat for *Brodiaea filifolia* would affect a substantial number of small entities, we considered the number of small entities affected within

particular types of economic activities (e.g., residential, industrial, and commercial development). We considered each industry or category individually to determine if certification is appropriate. In estimating the numbers of small entities potentially affected, we also considered whether their activities have any Federal involvement; some kinds of activities are unlikely to have any Federal involvement and so will not be affected by the designation of critical habitat. Designation of critical habitat only affects activities conducted, funded, permitted, or authorized by Federal agencies; non-Federal activities are not affected by the designation.

The designation of critical habitat requires Federal agencies to consult with us if activities they authorize, fund, or carry out may affect designated critical habitat. Consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process. Our analysis determined that costs involving conservation measures for *Brodiaea filifolia* would be incurred for activities involving residential, industrial, and commercial development; water supply; flood control; transportation; agriculture; the development of HCPs; and the management of military bases, other Federal lands, and other public or conservation lands.

In our draft economic analysis of this designation, we evaluated the potential economic effects on small business entities resulting from conservation actions related to the listing of this species and proposed designation of its critical habitat. Of these potentially affected activities, impacts to small entities are not anticipated for the following reasons: 1. Military lands management: The analysis predicts that the Department of Defense (DoD), which manages Marine Corps Base Camp Pendleton (EH units 15 to 19), will experience administrative and project modification costs associated with *Brodiaea filifolia* conservation activities. DoD does not meet SBA's definition of a small government. 2. Transportation, utilities, and flood control: The analysis estimates that additional project modification costs associated with *B. filifolia* conservation activities are likely for transportation project undertaken by CALTRANS, the Transportation Corridor Agencies (TCA), and the Riverside County Transportation Commission, utility projects undertaken by San Diego Gas & Electric, and the San Jacinto River Flood Control Project of the Riverside County Flood Control and Water Conservation District. None of

these five entities are small businesses or governments as defined by SBA and, therefore, are not considered further in this screening analysis. 3. Public and conservancy lands management: The United States Forest Service manages Cleveland National Forest; Orange County's Department of Harbors, Beaches and Parks manages Aliso-Wood Canyon Regional Park and Casper's Regional Park; and the Glendora Community Conservancy manages the Conservancy of the same name. With the exception of the Glendora Community Conservancy, these entities exceed the threshold established for small governments (service population of 50,000 or less). Accordingly, this screening analysis focuses on economic impacts related to residential development and the management of Glendora Community Conservancy.

The final critical habitat designation is expected to result in additional costs to real estate development projects due to mitigation and other conservation costs that may be required. The affected land is located within Los Angeles, Orange, and San Diego counties and under private ownership by individuals who will either undertake a development project on their own or sell the land to developers for development. For businesses involved with land development, the relevant threshold for "small" is annual revenues of \$6 million or less. The North American Industry Classification System (NAICS) code 237210 is comprised of establishments primarily engaged in servicing land (e.g., excavation, installing roads and utilities) and subdividing real property into lots for subsequent sale to builders. Land subdivision precedes actual construction, and typically includes residential properties, but may also include industrial and commercial properties.

The DEA (See Section 3.2.1) estimates that 390 acres within areas originally proposed for critical habitat designation are projected to be developed over the next 20 years. The analysis assumes that as a result of *Brodiaea filifolia* conservation activities, 95 percent of the acres are conserved, and the plant is salvaged from the remaining five percent. As a result, landowners of 100 percent of these acres bear costs of *B. filifolia* conservation activities.

To estimate the number of landowners potentially impacted by *B. filifolia* conservation activities, the analysis estimates the average parcel size within proposed units/subunits in each county that contains habitat with features essential to the conservation of the species and compares it to the

estimate of affected acres in these areas. At the aggregate county level, in units proposed for inclusion, one individual may be impacted in Los Angeles County, one individual may be impacted in San Bernardino County, 22 individuals may be impacted in Orange County, and 27 individuals may be impacted in San Diego County. Note that this estimate may be understated if habitat partially overlaps several parcels or overstated if one person owns more than one parcel with *B. filifolia*.

The loss in land value experienced by an individual landowner will depend on how much of a parcel is inhabited by *Brodiaea filifolia*, the extent to which development activities can be planned around sensitive areas, and the existence of alternative uses of the property that do not threaten the plant or its habitat. For example, if *B. filifolia* exist on only a small portion of the parcel that can be incorporated into existing open space requirements, then a small percentage of the land value is lost. However, if *B. filifolia* are found throughout the parcel, most or all of development value of that parcel may be lost. In such a circumstance, the parcel may continue to derive value from other, nondevelopment-oriented uses.

#### *Effects on Homebuyers and Small Construction Firms*

The DEA (See Section 3.2.2) estimates a potential shift in the supply of housing resulting from increased land scarcity. Scenario Two assumes that as a result of on-site conservation requirements, less land is available for development, and therefore fewer new homes are built. Under this scenario, small construction firms may be indirectly affected. This analysis uses a methodology used by Charles River Associates (CRA) to estimate the potential impact to small construction firms. The analysis uses the following steps to estimate the number of firms potentially affected:

(1) The analysis estimates the number of new homes typically built by a small construction firm in one year. Average annual revenues for a small construction firms are \$694,000. Using the average construction costs for a single family home of \$236,000 obtained from CRA's vernal pool analysis, a small firm is assumed to build on average three houses a year (\$694,000/\$236,000 = 2.9).

(2) Next, the analysis estimates the number of homes that would have been built by small businesses in the absence of *Brodiaea filifolia* conservation efforts. As described in Section 3.2.2 of the DEA, the analysis predicts 316 homes will not be built in cities with habitat

proposed for designation (summarized in Exhibit A-2 of the DEA). In an analysis of building permits in Sacramento County conducted by CRA, researchers determined that 22 percent of permits for single family dwellings were requested by small businesses. This analysis assumes that a similar proportion of new home construction activity is conducted by small construction firms in the five Southern California counties included in this analysis. As shown in Exhibit A-2 of the DEA, multiplying 22 percent by the number of homes not built in each county provides an estimate of lost home construction for small firms.

(3) Next, using the number of homes not built by small firms, the analysis estimates the number of small businesses affected. Results of this calculation are presented in Exhibit A-2. At the high-end, assuming that each lost house would have been built by a separate firm, the number of firms potentially affected is equal to the number of lost homes. For a low-end estimate, the number of houses not built is divided by the average number of houses built per year by small firms (three houses). In summary, in a given municipality containing critical habitat, between one and 18 small construction firms may be affected annually by *Brodiaea filifolia* conservation activities. In Hemet, Moreno Valley, and Perris, where habitat is excluded from critical habitat, approximately nine to 82 small firms could be affected if habitat were designated. The impact to affected small businesses is estimated to be between one-third and all of their revenues for the year, depending on the estimate of the number of businesses affected. Note that the impact to small construction firms may be overstated. As discussed in Section 3 of the DEA, the analysis of lost housing units is partial equilibrium in nature (e.g., does not consider substitution of displaced development to other nearby areas), which is consistent with the best currently available empirical information. If, instead, homes not built in these municipalities are constructed in neighboring communities unaffected by *B. filifolia* conservation activities, the impact to small construction firms is likely to be less than presented in Exhibit A-2. As a result, impacts to these firms are more likely overstated than understated in this analysis.

Based on these data, we have determined that this designation will not result in a significant economic impact on a substantial number of small entities, in particular to land developers or farmers in Los Angeles, San Bernardino, Orange, Riverside, and San

Diego counties. Please refer to Appendix A of our draft economic analysis of this designation for a more detailed discussion of potential economic impacts to small business entities.

#### *Executive Order 13211*

On May 18, 2001, the President issued Executive Order (E.O.) 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule is considered a significant regulatory action under E.O. 12866 because it raises novel legal and policy issues, but it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant action, and no Statement of Energy Effects is required. Please refer to Appendix A of our draft economic analysis of the proposed designation for a more detailed discussion of potential effects on energy supply.

#### *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. Non-Federal entities that receive Federal funding, assistance, permits, or otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat. However, 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) The U.S. Forest Service manages Angeles National Forest and Cleveland National Forest (subunits 1b, 5a and 5b); Orange County's Department of Harbors, Beaches and Parks manages Aliso and Woods Canyon Regional Park (unit 3) and Casper Wilderness Park (unit 4); and the Glendora Community Conservancy manages the Conservancy (subunit 1a) of the same name. With the exception of the Glendora Community Conservancy, these entities exceed the threshold established for small governments (service population of 50,000 or less). Therefore, the Glendora Community Conservancy is the only land manager considered in this screening analysis.

The DEA (See Section 6) estimates potential costs to public and private land management entities. Of the entities analyzed, the Glendora Community Conservancy is the only small entity. This section estimates potential impacts of *Brodiaea filifolia* conservation activities to the Conservancy.

The Conservancy's overall annual budget ranges from \$15,000 to \$30,000 and includes such elements as insurance, discounted land taxes, weed abatement, and trail maintenance. The analysis estimates that potential future

costs associated with *Brodiaea filifolia* conservation activities at the Conservancy may range from \$1,600 to \$2,600 on an annualized basis (assuming a seven percent discount rate). These costs represent approximately 11 percent to 17 percent of annual expenditures assuming the low-end estimate of the annual budget (\$15,000) and 5 percent to 9 percent assuming the high-end estimate (\$30,000). Considering that the Glendora Community Conservancy is in the business of conservation this is not an unexpected expenditure for the Conservancy. Consequently, we do not believe that the designation of critical habitat for *B. filifolia* will significantly or uniquely affect any small governmental entity addressed in the DEA. As such, a Small Government Agency Plan is not required.

#### Federalism

In accordance with Executive Order 13132, this rule does not have significant Federalism effects and, therefore, a Federalism assessment is not required. In keeping with Department of the Interior policies, we requested information from, and coordinated the development of the proposed critical habitat designation with appropriate State resource agencies in California. We anticipate that the designation of critical habitat in the areas currently occupied by *Brodiaea filifolia* will impose no additional significant restrictions beyond those currently in place and, therefore, should have little incremental impact on State and local governments and their activities.

The designation of critical habitat may have some benefit to the State and local resource agencies in that the areas and features essential to the conservation of this species are more clearly defined, and the primary constituent elements of the habitat necessary to the conservation of this species are specifically identified. While this definition and identification does not alter where and what federally sponsored activities may occur, it may assist local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

#### Civil Justice Reform

In accordance with Executive Order 12988, the Department of the Interior's Office of the Solicitor has determined that this rule does not unduly burden the judicial system and does meet the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with provisions of

the Endangered Species Act. The 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 *Brodiaea filifolia*.

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

This rule does not contain new or revised information collections for which OMB approval is required under the Paperwork Reduction Act. Information collections associated with certain Act permits are covered by an existing OMB approval and are assigned OMB Control No. 1018-0094, which expires September 30, 2007. This includes FWS Forms 3-200-55 and 3-200-56. 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), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no tribal lands essential for the conservation of *Brodiaea filifolia*. Therefore, critical habitat has not been designated on Tribal lands.

#### References Cited

A complete list of all references cited herein is available, upon request, from

the Field Supervisor, Carlsbad Fish and Wildlife Office (see ADDRESSES section).

**Author**

This rule was prepared by staff at the Carlsbad Fish and Wildlife Office (see ADDRESSES section).

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

Endangered and threatened species, Exports, Imports, Reporting and

recordkeeping requirements, Transportation.

**Regulation Promulgation**

Accordingly, the Service hereby amends 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 entry in the table for “*Brodiaea filifolia*” 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 names						
FLOWERING PLANTS							
* <i>Brodiaea filifolia</i> .....	* Thread-leaved brodiaea.	* U.S.A. (CA) .....	* Liliaceae—Lily .....	* T	* 650	* 17.96(a)	* NA.
*	*	*	*	*	*	*	*

3. In § 17.96(a), add critical habitat for *Brodiaea filifolia*, in alphabetical order under Family Liliaceae to read as follows:

**§ 17.96 Critical habitat—plants.**

(a) Flowering plants.

\* \* \* \* \*

Family Liliaceae: *Brodiaea filifolia* (Thread-leaved brodiaea)

(1) Critical habitat units are depicted for *Brodiaea filifolia* on the maps below.

(2) The primary constituent elements of critical habitat for *Brodiaea filifolia* consist of the following:

(i) Appropriate soil series and associated vegetation at suitable elevations of either:

(A) Clay soil series of various origins (e.g., Alo, Altamont, Auld, Diablo), clay lenses found as unmapped inclusions in other soil series, or within loamy soils underlain by a clay subsoil (e.g., Fallbrook, Huerhuero, Las Flores) that generally occur on mesas and gentle to moderate slopes, or in association with vernal pools, between the elevations of 100 ft (30 m) and 2,500 ft (765 m) and support open native or annual grassland communities, open coastal sage scrub or

coastal sage scrub-chaparral communities; or

(B) Silty loam soil series underlain by a clay subsoil or caliche that are generally poorly drained, moderately to strongly alkaline, granitic in origin (e.g., Domino, Grangeville, Waukena, Willows), that generally occur in low-lying areas and floodplains, often in association with vernal pool or playa complexes, between the elevations of 600 ft (180 m) and 1,800 ft (550 m) and support native, annual, or alkali grassland or scrub communities; or

(C) Clay loam soil series (e.g., Murrieta) underlain by heavy clay loams or clays derived from olivine basalt lava flows, that generally occur on mesas and gentle to moderate slopes between the elevations of 1,700 ft (520 m) and 2,500 ft (765 m) and support native or annual grassland or oak woodland savannah communities associated with basalt vernal pools; or

(D) Sandy loam soils derived from basalt and granodiorite parent materials, deposits of gravel, cobble, and boulders, or hydrologically fractured weathered granite in intermittent streams and seeps that support open riparian and

freshwater marsh communities associated with intermittent drainages, floodplains, and seeps generally between 1,800 ft (550 m) and 2,500 ft (765 m).

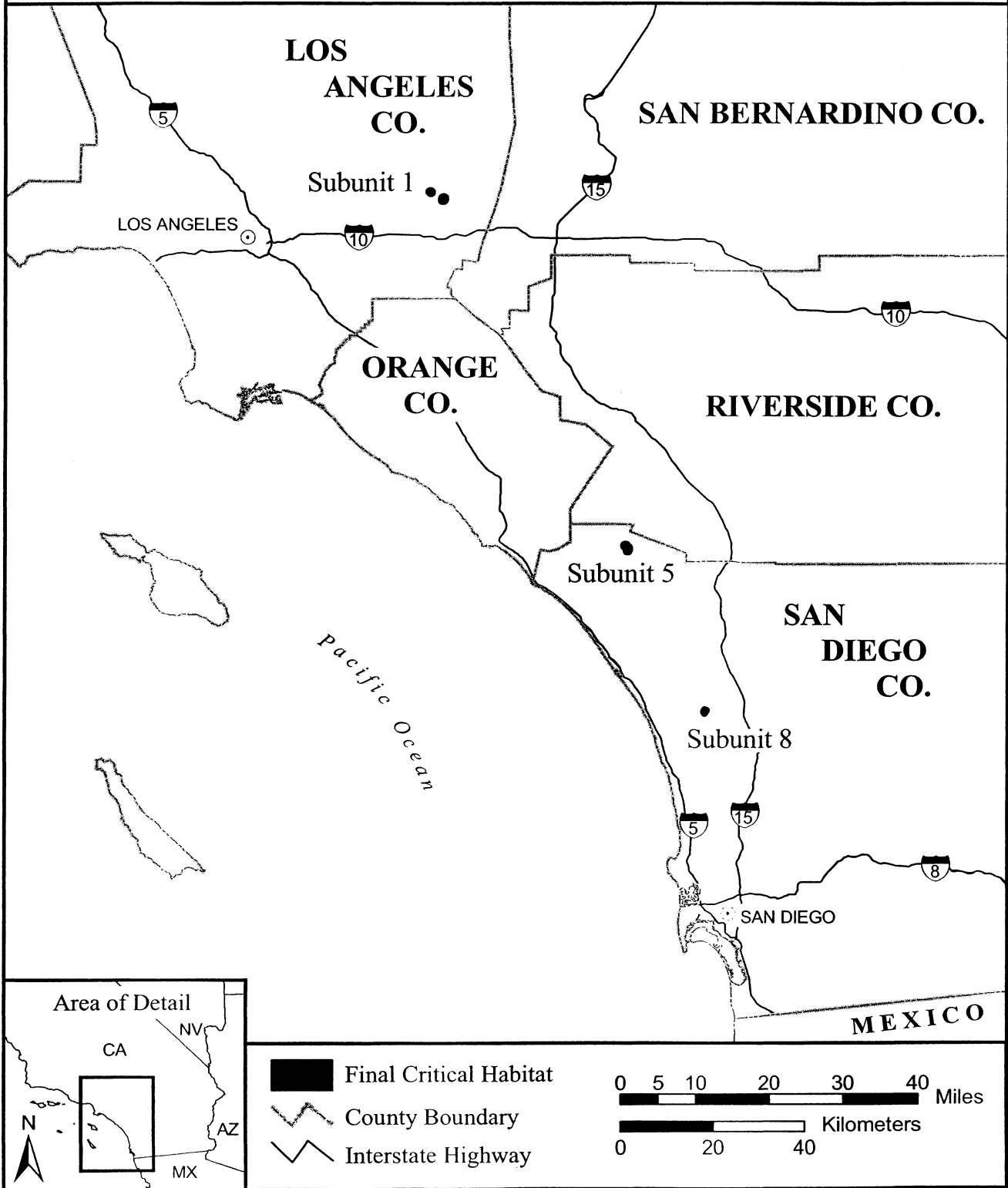
(ii) Areas with an intact surface and subsurface structure not permanently altered by anthropogenic land use activities (e.g., deep, repetitive disking; grading). These features as well as associated physical processes (e.g., full sunlight exposure) are essential to maintain those substrate and vegetation types where *Brodiaea filifolia* is found and to support pollinator assemblages necessary to facilitate gene flow within and among populations of *B. filifolia*.

(iii) Critical habitat does not include existing features and structures, and the land beneath them, such as open water, buildings, roads, aqueducts, railroads, airport runways and buildings, other paved areas, lawns, and other urban landscaped areas not containing one or more of the primary constituent elements.

(3) Index map of critical habitat units for *Brodiaea filifolia* (Thread-leaved brodiaea) follows:

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# Index Map: Critical Habitat Units for *Brodiaea filifolia* (Thread-leaved Brodiaea)



(4) All map units are in the Universal Transverse Mercator (UTM) coordinate system, North American Datum of 1927 (NAD27) projection.

(5) Map Unit 1: Los Angeles, County, California, from USGS 1:24,000 quadrangle map Glendora California.

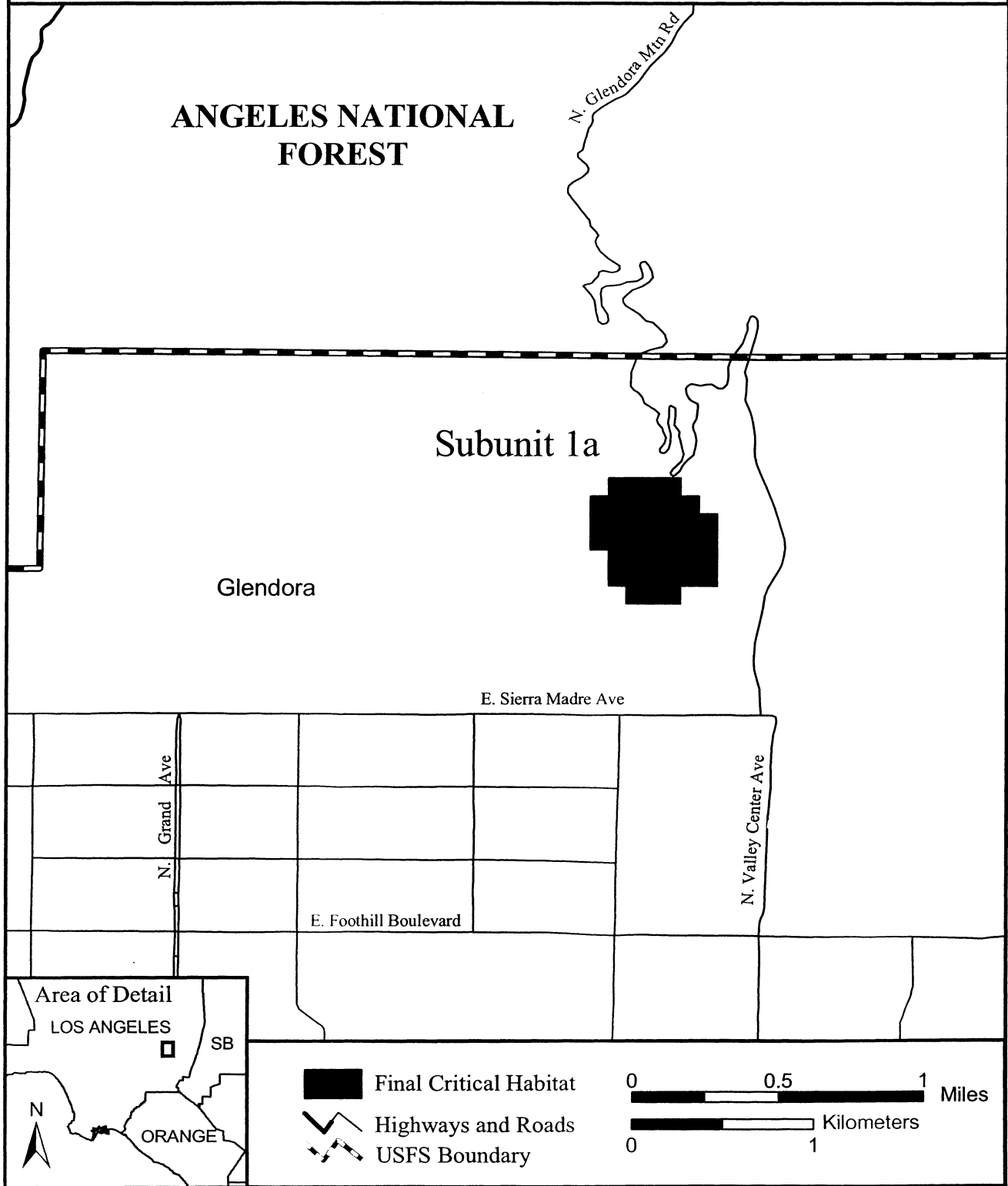
(i) Subunit 1a: Glendora, Los Angeles County, California; land bounded by the following UTM coordinates (E, N):  
422400, 3779900; 422400, 3779800;  
422500, 3779800; 422500, 3779700;  
422600, 3779700; 422600, 3779300;  
422400, 3779300; 422400, 3779200;  
422100, 3779200; 422100, 3779300;

422000, 3779300; 422000, 3779500;  
421900, 3779500; 421900, 3779800;  
422000, 3779800; 422000, 3779900;  
returning to 422400, 3779900.

(ii) Map of critical habitat Subunit 1a for *Brodiaea filifolia* (Thread-leaved brodiaea) follows:

# *Brodiaea filifolia* (Thread-leaved Brodiaea) Critical Habitat

## Subunit 1a, Glendora, Los Angeles County, CA.



(iii) Subunit 1b: San Dimas; land bounded by the following UTM coordinates (E, N): 425300, 3778600; 425300, 3778500; 425400, 3778500; 425400, 3778400; 425500, 3778400; 425500, 3777900; 425400, 3777900;

425400, 3777800; 425300, 3777800; 425300, 3777700; 425200, 3777700; 425200, 3777500; 424700, 3777500; 424700, 3777600; 424600, 3777600; 424600, 3778200; 424700, 3778200; 424700, 3778500; 424900, 3778500;

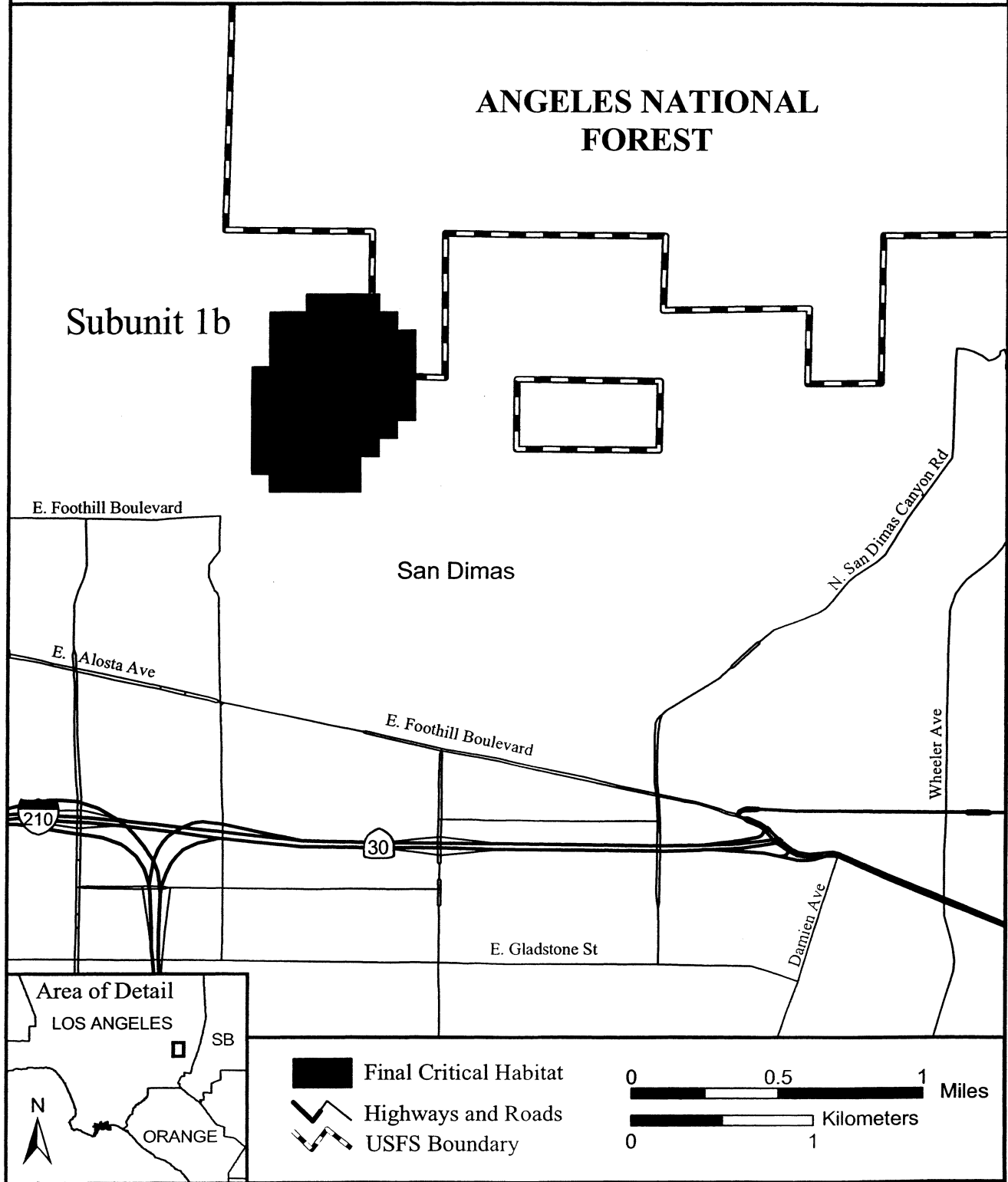
424900, 3778600; returning to 425300, 3778600.

(iv) Map of critical habitat Subunit 1b for *Brodiaea filifolia* (Thread-leaved brodiaea) follows:



# *Brodiaea filifolia* (Thread-leaved Brodiaea) Critical Habitat

Subunit 1b, San Dimas, Los Angeles County, CA.



(6) Map Unit 5: Northern San Diego County, California, from USGS 1:24,000 quadrangle maps Margarita Peak, and Fallbrook, California.

(i) Subunit 5b: Devil Canyon, San Diego County; land bounded by the following UTM coordinates (E, N): 465000, 3702200; 464800, 3702200; 464800, 3702100; 464500, 3702100; 464500, 3702200; 464300, 3702200; 464300, 3702700; 464400, 3702700; 464400, 3702800; 464800, 3702800;

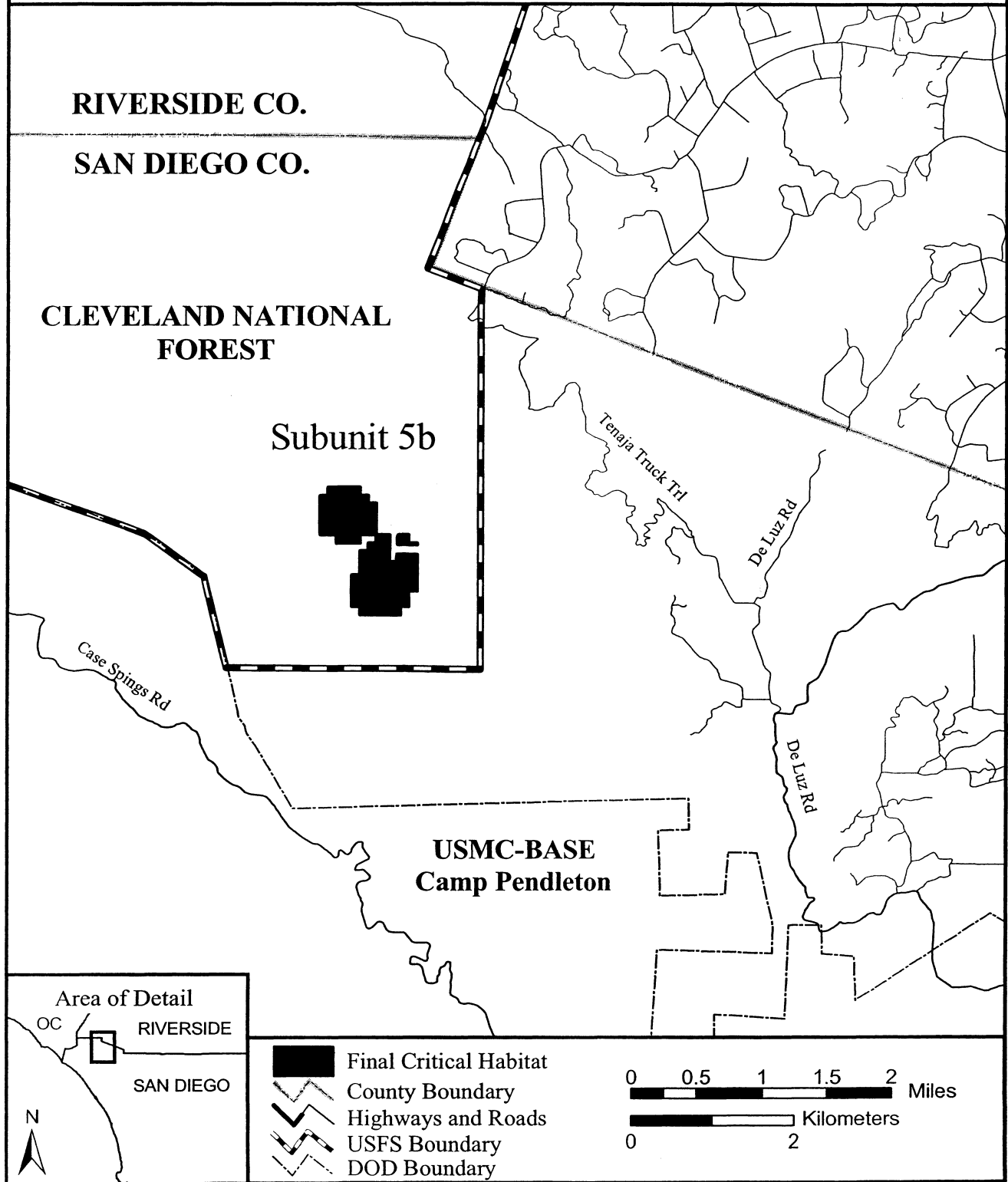
464800, 3702700; 464900, 3702700; 464900, 3702600; 465000, 3702600; returning to 465000, 3702200; and land bounded by 465000, 3702200; 465166, 3702200; 465160, 3701865; 465246, 3701865; 465259, 3701960; 465500, 3701955; 465500, 3701500; 465400, 3701500; 465400, 3701300; 465300, 3701300; 465300, 3701200; 464800, 3701200; 464800, 3701300; 464700, 3701300; 464700, 3701700; 464800, 3701700; 464800, 3702000; 464900,

3702000; 464900, 3702100; 465000, 3702100; returning to 465000, 3702200; and land bounded by 465272, 3702200; 465400, 3702200; 465400, 3702100; 465500, 3702100; 465500, 3702078; 465261, 3702085; 465264, 3702184; returning to 465272, 3702200.

(ii) Map of critical habitat Subunit 5b for *Brodiaea filifolia* (Thread-leaved brodiaea), follows:

# *Brodiaea filifolia* (Thread-leaved Brodiaea) Critical Habitat

Subunit 5b, Devil Canyon, San Diego County, CA.



(7) Map Unit 8: San Marcos, San Diego County, California, from USGS 1:24,000 quadrangle map San Marcos, California.

(i) Subunit 8d: Upham; land bounded by the following UTM coordinates (E, N): 481588, 3666600; 481600, 3666600; 481600, 3666627; 481672, 3666791; 482059, 3666627; 481935, 3666339;

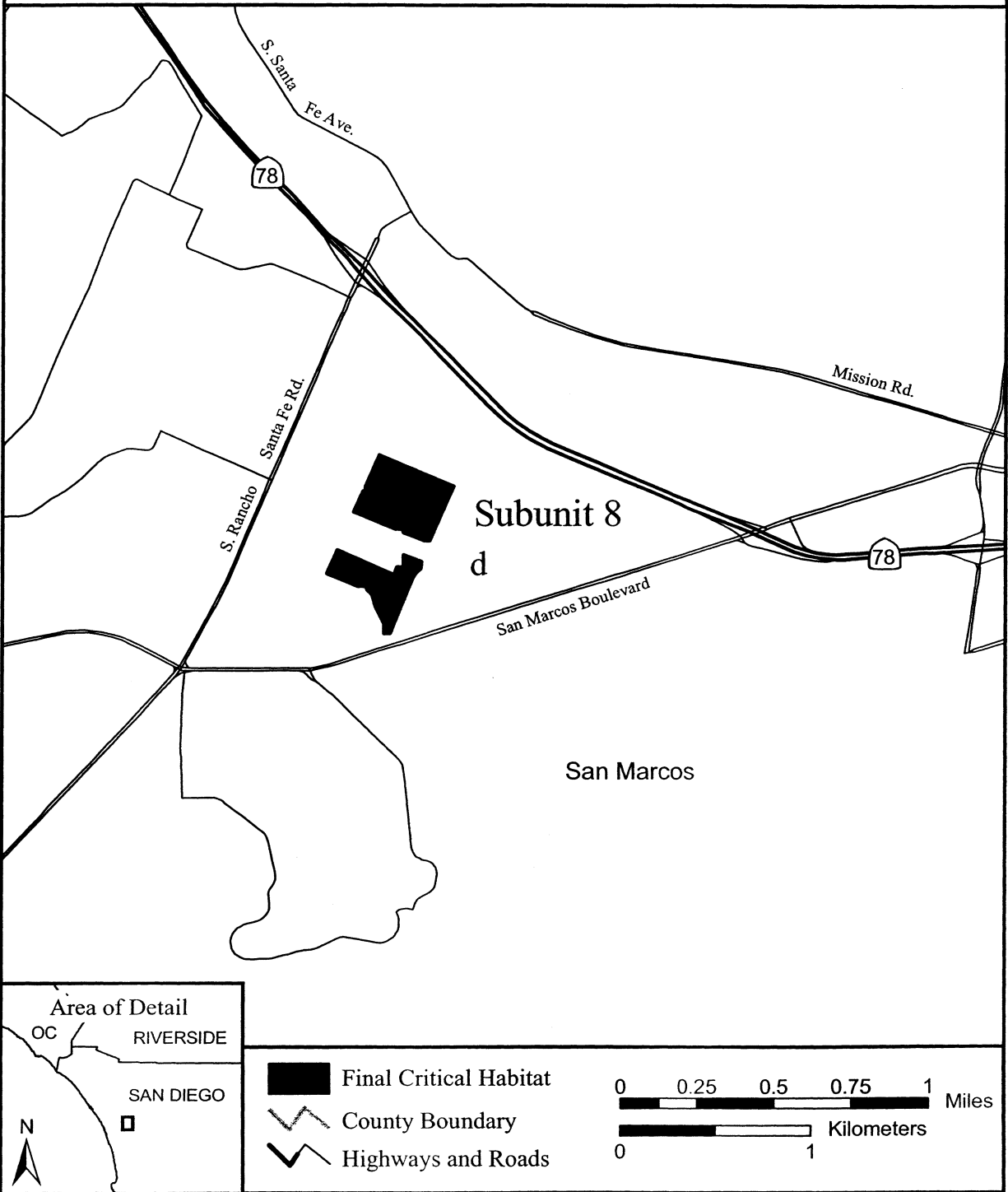
481905, 3666339; 481800, 3666382; 481800, 3666400; 481758, 3666400; 481540, 3666490; returning to 481588, 3666600; and land bounded by: 481765, 3666200; 481800, 3666200; 481800, 3666266; 481893, 3666230; 481892, 3666214; 481890, 3666191; 481866, 3666173; 481848, 3666144; 481729, 3665850; 481700, 3665849; 481700,

3665900; 481655, 3665990; 481635, 3666053; 481622, 3666069; 481612, 3666077; 481611, 3666077; 481600, 3666100; 481561, 3666100; 481401, 3666167; 481454, 3666290; 481750, 3666160; returning to 481765, 3666200.

(ii) Map of critical habitat Subunit 8d for *Brodiaea filifolia* (Thread-leaved brodiaea) follows:

# *Brodiaea filifolia* (Thread-leaved Brodiaea) Critical Habitat

Subunit 8d, Upham, San Diego County, CA.



Dated: November 30, 2005.

**Craig Manson,**

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 05-23693 Filed 12-12-05; 8:45 am]

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