Federal Register

Tuesday,
February 6, 2007

Part III

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Berberis nevinii* (Nevin's barberry); Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

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RIN 1018–AU84

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Berberis nevinii* (Nevin's barberry)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for *Berberis nevinii* (Nevin's barberry) under the Endangered Species Act of 1973, as amended (Act). The proposal includes approximately 417 acres (ac) (169 hectares (ha)) of land in Riverside County, California, that meet the definition of critical habitat for *B. nevinii.* Of this, we propose to exclude 385 ac (156 ha) of non-Federal land from the final designation under section 4(b)(2) of the Act, leaving a proposed final designation of 32 ac (13 ha) of Federal land.

DATES: We will accept comments from all interested parties until April 9, 2007. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by March 23, 2007.

ADDRESSES: If you wish to comment on the proposed rule, you may submit your comments and materials identified by RIN 1018–AU84, by any of the following methods:

(1) You may send comments by electronic mail (e-mail) to *fw8cfwocomments@fws.gov*. Include ''RIN 1018–AU84'' in the subject line.

(2) You may fax your comments to Jim Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office at 760–431–9624.

(3) You may mail or hand-deliver your written comments and information to Jim Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92011.

(4) You may submit your comments at the Federal eRulemaking Portal, *http://www.regulations.gov*. Follow the instructions for submitting comments.

Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the Carlsbad Fish and Wildlife Office at the above address (telephone 760–431–9440).

FOR FURTHER INFORMATION CONTACT: Jim Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office at the address or telephone number listed under **ADDRESSES.** Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339, 7 days a week, 24 hours a day.

SUPPLEMENTARY INFORMATION:

Public Comments Solicited

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

(1) The reasons any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act (16 U.S.C. 1531 *et seq.*), including whether the benefit of designation will outweigh any threats to the species due to designation;

(2) Specific information on the amount and distribution of *Berberis nevinii* habitat; what habitat or habitat features are essential to the conservation of this species and why; and which areas occupied at the time of listing containing these features should be included in the critical habitat designation, and which areas not occupied at the time of listing but currently occupied should be included in the final designation, and why;

(3) The geographical extent, number of plants, and/or reproductive status of native *Berberis nevinii* occurrences, particularly those in the Loma Linda Hills area (vicinity of San Timoteo Canyon and Scott Canyon) in San Bernardino County and those in western Riverside County (including in the vicinity of Vail Lake, the Agua Tibia Mountain foothills (Cleveland National Forest), in the Soboba Badlands east of the San Jacinto Wildlife Area, the Jurupa Hills area, and near Temecula);

(4) Specific information on three historical *Berberis nevinii* records from Los Angeles County, two from the Arroyo Seco near Pasadena (CNDDB element occurrence 8 and 9) and one from the Big Tejunga Wash near San Fernando (CNDDB element occurrence 10), such as whether the species still exists in this area and where;

(5) Whether any areas not currently known to be occupied by *Berberis nevinii*, but essential to the conservation of the species, should be included in the designation;

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

(7) Information that demonstrates a species-specific pollinator-plant relationship for *Berberis nevinii;* information on seed dispersal mechanisms and dispersal distance for *Berberis nevinii;* whether seed banks exist for this species and, if so, for how long and under what conditions; and whether such information should be applied to or considered a primary constituent element for the species;

(8) Our proposed exclusion of *Berberis nevinii* habitat covered under the approved Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) and whether the benefits of excluding these areas outweigh the benefits of their inclusion under section 4(b)(2) of the Act (see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act* for details on the Western Riverside County MSHCP). If the Secretary determines the benefits of including these lands outweigh the benefits of excluding them, they will not be excluded from final critical habitat;

(9) Additional information regarding management plans covering lands managed by the Bureau of Land Management (BLM) on Oak Mountain and by the United States Forest Service (USFS) on Cleveland National Forest, and whether these plans provide specific management for *Berberis nevinii* such that consideration of exclusion of these lands under section 4(b)(2) of the Act would be appropriate;

(10) Any foreseeable economic, national security, or other potential impacts resulting from the proposed designation and, in particular, any impacts on small entities; and

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

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES** section). Please include ''Attn: RIN 1018–AU84'' in your e-mail subject line and your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly by calling our Carlsbad Fish and Wildlife Office at phone number 760–431–9440. Please note that comments must be received by the date specified in the **DATES** section in order to be considered.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their names and home addresses, etc., but if you wish us to consider withholding this information, you must state this prominently at the beginning of your comments. In addition, you must present rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives of or officials of organizations or businesses, available for public inspection in their entirety.

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

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

Currently, 483 species, or 37 percent of the 1,311 listed species in the United States under the jurisdiction of the Service, have designated critical habitat. We address the habitat needs of all 1,311 listed species through conservation mechanisms such as listing, section 7 consultations, the section 4 recovery planning process, the section 9 protective prohibitions of unauthorized take, section 6 funding to the States, the section 10 incidental take permit process, and cooperative, nonregulatory efforts with private landowners. The Service believes that these measures may make the difference between extinction and survival for many species.

In considering exclusions of areas proposed for designation, we evaluate the benefits of designation in light of *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir 2004) (hereinafter *Gifford Pinchot*). In that case, the Ninth Circuit court invalidated the Service's regulation defining ''destruction or adverse modification of critical habitat.'' In response, on December 9, 2004, the Director issued guidance to be considered in making section 7 adverse modification determinations. This proposed critical habitat designation does not use the invalidated regulation in our consideration of the benefits of including areas. The Service will carefully manage future consultations that analyze impacts to designated critical habitat, particularly those that appear to be resulting in an adverse modification determination. Such consultations will be reviewed by the Regional Office prior to finalizing to ensure that an adequate analysis has been conducted that is informed by the Director's guidance.

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

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

Procedural and Resource Difficulties in Designating Critical Habitat

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

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

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

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*). These costs, which are not required for many other conservation actions, directly reduce the funds available for direct and tangible conservation actions.

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on the biology and ecology of *Berberis nevinii*, refer to the final listing rule published in the **Federal Register** on October 13, 1998 (63 FR 54956).

Species Description

Berberis nevinii is a 3 to 13 foot (ft) (1 to 4 meter (m)) tall rhizomatous,

evergreen shrub in the barberry family (Berberidaceae) that is endemic to southern California. This species naturally occurs in scattered locations, ranging from the foothills of the San Gabriel Mountains in northern Los Angeles County, south and east to the Loma Linda Hills in southern San Bernardino County, and south to near the foothills of the Peninsular Ranges of southwestern Riverside County (63 FR 54958; California Natural Diversity Database (CNDDB) 2006). *Berberis nevinii* generally occurs between 900 and 2,000 ft (300 and 650 m) in elevation (63 FR 54958), with scattered occurrences found outside this elevation range (California Native Plant Society (CNPS) 2001, p. 96; CNDDB 2006). This species generally grows on sandy soils in low-gradient washes, alluvial terraces, and canyon bottoms, along gravelly wash margins, or on coarse soils on steep, generally north-facing slopes in association with the following plant communities: alluvial scrub, cismontane (*e.g.*, chamise) chaparral, coastal sage scrub, oak woodland, and/or riparian scrub or woodland (Boyd 1987, pp. 2, 7; Boyd 1989, pp. 6–8; 63 FR 54958; CNPS, 2001, p. 96; CNDDB 2006). While it is typically found growing on soils of sedimentary origin (Boyd 1987, p. 3), *B. nevinii* is also found on clay soils originating from gabbro bedrock and in association with metasedimentary substrates and springs or seeps (Soza 2003).

Species Distribution

Berberis nevinii appears never to have been common, even within its limited range (Neihaus 1977, p. 2; Mistretta and Brown 1989, p. 7). Its historic distribution probably consisted of fewer than 30 scattered occurrences in Los Angeles, San Bernardino, and Riverside Counties (63 FR 54958), and possibly San Diego County (Neihaus 1977, p. 1; Reiser 2001, unpaginated; CNDDB 2006). This species was first discovered in 1882 in the San Fernando Valley near Los Angeles (Gray 1895, p. 69; Wolf 1940, unpaginated). This was likely one of the most extensive occurrences of the species consisting of approximately 100 plants scattered over 1 to 2 miles (1.6 to 3.2 kilometers (km)) of gravel washes southeast of the City of San Fernando (Wolf 1940, unpaginated). However, the species is presumed extirpated from this location (Boyd 1987, p. 3).

Berberis nevinii was introduced into horticulture around 1920 (Wolf 1940, unpaginated) and was subsequently planted at numerous sites throughout the species' range (Boyd 1987, p. 2; Boyd and Banks 1995, unpaginated; Reiser 2001, unpaginated). The availability of *B. nevinii* in the nursery trade and the introduction of cultivated specimens into native habitats have contributed to confusion regarding the species'' native range. Table 1 summarizes our current understanding of *B. nevinii*'s occurrence, origin, and status, by county, for records in the CNDDB (2006). Additional occurrence records not in the CNDDB, and therefore not included in Table 1, are discussed below.

TABLE 1.—KNOWN OCCURRENCES OF *Berberis Nevinii* IN THE CALIFORNIA NATURAL DIVERSITY DATABASE (2006) AND STATUS BY COUNTY [1]

County	Extant,[2] native	Extant, cultivated origin	Extant, unknown origin	Extirpated [3]	Unknown Status [4]	Other [5]
Los Angeles	1	4	1	4	3	1
San Bernardino	2	0	0	2	0	0
Riverside	16	1	1	0	0	1
San Diego	0	1	0	0	0	1
Total	19	6	2	6	3	3

[1] Other records that are not in the California Natural Diversity Database (CNDDB) are discussed below.
[2] Extant = still existing.
[3] Extirpated = no longer existing.
[4] Possibly extirpated or unknown status.
[5] Location questionable and/or may be the same as another CNDDB record.

As stated in the final listing rule (63 FR 54956, October 13, 1998), the majority of native *Berberis nevinii* occurrences were located in two geographic areas: In the vicinity of Vail Lake and Oak Mountain in western Riverside County (16 occurrences collectively consisting of 200 to 250 individuals) and in San Francisquito Canyon on the Angeles National Forest in Los Angeles County (130 to 250 individuals) (63 FR 54957 and 54958). The majority of *B. nevinii* plants in the Vail Lake/Oak Mountain area were located on private lands, with a few plants on BLM lands north of Vail Lake and on the Cleveland National Forest southeast of Vail Lake (63 FR 54958). At the time of listing, two other native occurrences were known from private lands in the Loma Linda Hills area in southern San Bernardino County, one consisting of single large individual and the other consisting of seven individuals (Boyd 1987, pp. 5, 7; CNDDB 1997); in addition, a single naturally-occurring plant was known from Lopez Canyon in the foothills of the San Gabriel Mountains on the Angeles National Forest in Los Angeles County (63 FR 54958). Other *B. nevinii* occurrences were known or suspected to be of cultivated origin, and were located primarily on private lands.

We are aware of several occurrences of *Berberis nevinii* that have been identified since the final listing rule (63 FR 54956, October 13, 1998). One occurrence is at the mouth of Cobal Canyon at the south base of the San Gabriel Mountains in Los Angeles County; it consists of three plants adjacent to a fire road in the Claremont Hills Wilderness Park (CNDDB 2006). The location of these individuals and the presence of other introduced plant species nearby has led to speculation that *B. nevinii* was planted here (Soza and Boyd 2000, p. 4). We are also aware of several occurrences in western Riverside County from the vicinity of Vail Lake/Oak Mountain, the Soboba Badlands, Jurupa Hills, and the Temecula area that have been identified since the species was federally listed. Of these, two occurrences in the Jurupa Hills and two occurrences in the Temecula area have presumably been extirpated due to residential or agricultural development. The Soboba Badlands occurrence, east of the San Jacinto Wildlife Area, is presumed extant, as are those in the vicinity of Vail Lake and Oak Mountain (Service 2004, p. 331).

In total, we are aware of 32 records of *Berberis nevinii* in the vicinity of Vail Lake and Oak Mountain that were documented by multiple observers between 1987 and 1990 (Service 2004, p. 331). These records were compiled in association with the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) (MSHCP records). According to location descriptions, some MSHCP records appear to be duplicates of CNDDB records, although they are not always mapped the same (Service GIS data 2006). Many of the MSHCP records overlap spatially and others are recorded in close proximity to each other, making it difficult to determine if each record is a distinct occurrence of the species or separate observations of a single occurrence (Service 2004, pp. 330–331). Accompanying data, such as number of plants, origin (native versus cultivated), and habitat information, is generally lacking, making it difficult to accurately quantify the number of distinct occurrences or plants in the Vail Lake area. We are seeking additional information to clarify and verify these occurrences, as well as those mentioned in the preceding paragraph (see *Public Comments Solicited* section).

At least six extant occurrences in Los Angeles, Riverside, and San Diego Counties are of cultivated origin or are thought to be outplanted individuals originating from another part of the species' range (CNDDB 2006; Table 1). The largest of these is in San Francisquito Canyon on the Angeles National Forest. This location is in the Liebre Mountains, a northwestern extension of the San Gabriel Mountains, which extends the species' overall range to the north and west in Los Angeles County. At the time of the final listing rule (63 FR 54956, October 13, 1998), we believed *Berberis nevinii* to be naturally occurring in San Francisquito Canyon. We are now aware that this species was planted in the bottom of the canyon in 1929 following a flood. Moreover, one of the individuals used in the planting originated as a seedling in the San Fernando Valley in Los Angeles County (Payne 1945) where the species is thought to no longer occur (Niehaus 1977, p. 1; Boyd 1987, p. 3; CNDDB 2006). *Berberis nevinii* appears to have naturalized (established as a part of the flora of a locale other than their place of origin; i.e., nonnative) within San Francisquito Canyon, spreading beyond the canyon floor where it was planted (Payne 1945) to the canyon slopes (Soza and Boyd 2000, p. 2; Soza and Fraga 2003, p. 1). We are unaware of any evidence indicating that this species naturally occurred in San Francisquito Canyon prior to it being planted there in 1929. However, Boyd (Soza and Boyd 2000, p. 3) noted that oaks in the canyon appear to pre-date the flood, which indicates that not all vegetation was scoured from the site by floodwaters and if *B. nevinii* naturally occurred in the canyon prior to this event, some individuals may have survived. The San Francisquito Canyon occurrence has been estimated at 130 to 200 plants in the past (Soza and Boyd 2000, p. 2; CNDDB 2006), but recent surveys estimate the population at 91 plants after a fire burned through the entire occurrence in 2002 (Soza and Fraga 2003, p. 2).

No native occurrences of *Berberis nevinii* have been located in San Diego County (Reiser 2001, unpaginated). A report of this species in the desert foothills of Anza-Borrego near Ranchita (San Felipe Wash) in Eastern San Diego County remains unconfirmed (Niehaus 1977, p. 1; Reiser 2001, unpaginated; CNDDB 2006). Isolated plants or small stands (groupings of individuals) of *B. nevinii* may occur in the little explored foothills at the northern edge of the Agua Tibia Wilderness Area, potentially into San Diego County (Reiser 2001, unpaginated), as it occurs nearby in southern Riverside County (Boyd and Banks 1995, unpaginated; CNDDB 2006). At least two occurrences of *B. nevinii* in San Diego County are likely of cultivated origin: Torrey Pines State Park (Reiser 2001, unpaginated) and near the base of Mount Palomar on the La Jolla Indian Reservation (Boyd 1987, p. 3; Reiser 2001, unpaginated; CNDDB 2006).

At least seven occurrences of *Berberis nevinii* have been extirpated (63 FR 54958), including six records in the 2006 CNDDB (Table 1) and potentially others from the eastern San Fernando Valley that were not included in the CNDDB because of inadequate data (63 FR 54961). *Berberis nevinii* has been extirpated from several historic locations in Los Angeles and San Bernardino Counties, including the San Fernando Valley and Pacoima Wash area (CNDDB 2006), the confluence of San Francisquito Canyon and Santa Clara River (Boyd 1987, p. 2), and north of the City of Claremont (CNDDB 2006). We are unable to ascertain whether two of the three historic records from the Arroyo Seco near Pasadena and one 1904 record from Big Tejunga Wash are extant and/or accurately mapped. A historic record of *B. nevinii* from south of Rim Forest in the San Bernardino Mountains in San Bernardino County is suspected to be of cultivated origin and is apparently extirpated (Boyd 1987, p. 2). In the Loma Linda Hills area of southern San Bernardino County, two historic occurrences of *B. nevinii* from side canyons off San Timoteo Canyon appear to have been impacted by fire-related and/or landowner activities within the last 10 years (Latch 1997; Sanders 2006). One occurrence, which consisted of a single large clonal individual, has been extirpated (Sanders 2006). The other occurrence has been reduced from seven individuals to perhaps only one or two (Latch 1997; Sanders 2006); we are unsure if the remaining plant(s) are located in southern San Bernardino County or extreme northern Riverside County. We are seeking additional information to clarify and verify these occurrences (see *Public Comments Solicited* section).

The total number of *Berberis nevinii* may be fewer than 500 from all known sites; about half are naturally occurring individuals and over half are on private lands (CNDDB 2006; 63 FR 54958). The majority of occurrences consist of five or fewer plants, with many consisting of only one or two large (old) individuals (CNDDB 2006). Potential habitat within the species' range has been fairly extensively botanically explored and/or surveyed (Boyd 1987, p. 3), including surveys of potential habitat on the San Bernardino National Forest in 1988 and 1989, which yielded no new occurrences (Mistretta 1989, unpaginated). Additional survey efforts for *B. nevinii* likely will not yield new large occurrences of the species. However, the discovery of new occurrences within the last 15 to 20 years (*e.g.,* from Lopez Canyon in Los Angeles County and from western Riverside County) suggests that individual plants and small stands remain to be found (Boyd 1987, p. 3; Boyd and Banks 1995, unpaginated; Soza and Boyd 2000, p. 4). Potential habitat for *B. nevinii* may occur on the Angeles National Forest on the south slope of the San Gabriel and Liebre Mountains (Soza and Boyd 2000, p. 4), potentially from Pacoima to Lopez Canyon, within the vicinity of San Antonio Wash, and within Cajon Canyon (Soza 2003, based on expertise of Boyd, Rancho Santa Ana Botanic Garden); on the San Bernardino National Forest in the Crafton Hills area and on the west side of the San Jacinto Mountains (Soza 2003); on the Cleveland National Forest in the front range of the Agua Tibia/Palomar Mountains, including the northern edge of the Agua Tibia Wilderness (Boyd and Banks 1995, unpaginated; Reiser 2001, unpaginated; Soza 2003); and south and

east of Vail Lake (*e.g.*, Temecula Creek drainage, the hills between Temecula Creek and Wilson Creek), and the canyons draining Big Oak Mountain north of Vail Lake (Boyd *et al.* 1989, p. 16; Soza 2003).

To summarize, native, extant occurrences of *Berberis nevinii* include a single individual in Lopez Canyon in the San Gabriel Mountains on the Angeles National Forest in Los Angeles County (CNDDB 2006); a single individual on private land in Scott Canyon in the Loma Linda Hills south of Redlands in San Bernardino County (Boyd 1987, pp. 5, 7); one or two individuals on private land in a side canyon off San Timoteo Canyon near the San Bernardino/Riverside County line (referred to herein as the San Timoteo Canyon occurrence) (Boyd 1987, pp. 5, 7; Latch 1997; Sanders 2006); an unknown number of individuals in the Soboba Badlands east of the San Jacinto Wildlife Area (Service 2004, p. 331); and other scattered occurrences in Riverside County, including the largest remaining and most significant group of native occurrences in the Vail Lake/Oak Mountain area in southern Riverside County (Service 2004, p. 331; CNDDB 2006). This latter site has many scattered stands of *B. nevinii*, each with one or more individuals, collectively consisting of about 200 to 250 plants (Boyd *et al.* 1989, p. 14; 63 FR 54958). The majority of the individuals in the Vail Lake/Oak Mountain area are located on private land to the south of the lake, with the largest stand on the Vail Lake peninsula (formerly a ridge separating Kolb Creek and Temecula Creek prior to the flooding of Vail Lake). Two plants on Big Oak Mountain north of Vail Lake are on BLM lands, and five plants occur southeast of Vail Lake on the Cleveland National Forest, close to the Agua Tibia Wilderness Area (herein referred to as the Cleveland National Forest occurrence) (63 FR 54956; CNDDB 2006).

Species Reproduction

There appears to be little to no regeneration by seed occurring at most *Berberis nevinii* sites, and low seed set (including plants bearing fruit without seed) and lack of viable seed has been noted over the years by both botanists and horticulturalists trying to obtain seed for propagation, even from within larger occurrences (Wolf 1940; Boyd 1987, pp. 3, 44, 56; Mistretta and Brown 1989, pp. 4–5; Mistretta 1994, p. 186). According to Mistretta (1994, p. 187) and O'Brien (2001, p. 19), unpublished molecular studies from the early 1990s revealed almost no genetic diversity within *B. nevinii*, with one exception at Vail Lake, suggesting that the species has been subjected to a series of population bottlenecks that may have led to severe inbreeding depression and reproductive failure (Mistretta 1994, p. 187). However, Mistretta (2006) cautioned against drawing conclusions from this study because the techniques used, which were state-of-the-art at the time, require far more conjecture in determining relationships, especially at the population level, than newly-developed techniques. On the other hand, cultivators of *B. nevinii* have long observed an apparent lack of morphological differences between individual plants, even young seedlings (O'Brien 2001, p. 19), which may also indicate low genetic variation within the species.

We know of only a few native occurrences where regeneration by seed may have occurred in the recent past. As noted by Nishida in Boyd (1987, p. 62), the largest stand of *Berberis nevinii* located on the Vail Lake peninsula consists of approximately 111 individuals of various sizes, including a seedling, which suggests a range of ages and past reproduction. Another occurrence on the peak located north of Vail Lake (referred to as ''Big'' Oak Mountain; Boyd *et al.* 1989, p. 1) consists of two plants: a very old one and a substantially smaller one at some distance to the northeast (Wallace 2006) (hereinafter, we also refer to this peak as ''Big Oak Mountain,'' whereas ''Oak Mountain'' refers to the general area to the north and west of Vail Lake). Additionally, fruit with seed was noted at the *B. nevinii* occurrence on Cleveland National Forest to the southeast of Vail Lake in 2006 (Wallace 2006). The San Timoteo Canyon occurrence also contained individuals of several size (age) classes (Boyd 1987, pp. 51–52); however, regeneration by seed probably has not occurred at this site in many decades, and this occurrence has been at least partially destroyed (Sanders 2006).

Regeneration by seed has been noted at a few naturalized (i.e., nonnative) stands of *Berberis nevinii*. The San Francisquito Canyon site appears to have one of the most vigorous naturally regenerating occurrences of the species, as indicated by a wide range of ages of mature individuals, the presence of numerous seedlings and immature plants (Boyd 1987, p. 7; Mistretta and Brown 1989, p. 10; Soza and Boyd 2000, p. 2), and fruits containing seed (Boyd 1987, p. 7). Reproduction has also been observed at the Palomar site in San Diego County, a site presumed to be of cultivated origin (Boyd 1987, pp. 3, 73). The role that naturalized occurrences will have in conservation of the species is not known at this time. The San Francisquito Canyon occurrence may at some point be determined to play a recovery role because it is one of only three occurrences for the species that we know has more than 20 individuals (CNDDB 2006), it is one of only a few occurrences with any evidence of reproduction by seed, and it may contain the only verifiable remnant of the extirpated San Fernando Valley population.

According to the California Department of Fish and Game (CDFG) (2005, p. 272), ''the lack of reproduction and recruitment at most sites, and the very low number of individuals at most populations [of *Berberis nevinii*] in the absence of fire are indicative of fire responsive species.'' Fire is a normal occurrence in chaparral communities, and chaparral species, including *B. nevinii*, which is known to stump sprout (i.e., generate new growth from burnt stumps) following fire (Soza and Fraga 2003, p. 2; Sanders 2006), are resilient and/or adapted to such perturbations (Keeley 1991, p. 84; Tyler 1996, p. 2182. However, the specific response of *B. nevinii* to changes to the natural fire regime (fire frequency, intensity, and/or timing), such as has occurred or may occur in southern California's chaparral/shrublands due to increased urbanization, are not fully understood (63 FR 54964, 54965).

The final listing rule (63 FR 54956, October 13, 1998) identified urbanization, off-road vehicle use, brush fires, recreation, and roadway projects (e.g., widening) as factors contributing to the imperilment and/or extirpation of *Berberis nevinii* from within parts of its native range (63 FR 54961). The alluvial scrub communities within the San Fernando and San Gabriel valleys have been greatly modified, damaged, or destroyed, including several sites where *B. nevinii* presumably had occurred. Other threats to the long-term survival of the species, as identified in the final listing rule, include the introduction of invasive, nonnative plants that compete with native species and contribute to combustible fuel loads, and fire management strategies that alter natural fire processes (63 FR 54961).

Previous Federal Actions

Berberis nevinii was listed as endangered by the State of California in January 1987, and federally listed as endangered on October 13, 1998 (63 FR 54956). In the final listing rule, we determined that the designation of critical habitat was not prudent because the designation would not be beneficial

to the conservation of the species. On August 10, 2004, the Center for Biological Diversity and the CNPS filed a lawsuit in U.S. Federal Court, Northern District of California against the Secretary of the Interior challenging the not prudent determination of critical habitat for *B. nevinii* and four other plant species that occur in southern California (*Center for Biological Diversity et al.* v. *Gale Norton*, *Secretary of the Department of the Interior, C–04–3240 JL*). On December 21, 2004, a U.S. District Court Judge signed an order granting a stipulated settlement agreement between the parties. The Service agreed to propose critical habitat for *B. nevinii*, if prudent, on or before January 30, 2007, and finalize the designation on or before January 30, 2008. We are hereby withdrawing our previous not prudent determination of critical habitat for *B. nevinii.* We have reconsidered our not prudent finding, and now believe that identification of primary constituent elements and essential areas (critical habitat designation) may provide educational information to individuals, local and State governments, and other entities. We also do not have any documentation that over-collection has increased significantly since the species was listed. We now believe that the benefits of identifying essential habitat for *B. nevinii* outweigh the potential risk of over-collection and thus we are now proposing critical habitat for this species.

A recovery plan for *Berberis nevinii* has not yet been completed. For more information on previous Federal actions concerning *B. nevinii*, refer to the final listing rule published in the **Federal Register** on October 13, 1998 (63 FR 54956).

Critical Habitat

Critical habitat is defined in section 3 of the Act as (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) Essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7(a)(2) 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(a)(2) requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Section 7(a)(2) is a purely protective measure and does not require implementation of restoration, recovery, or enhancement measures.

To be included in a critical habitat designation, the habitat within the area occupied by the species must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (*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 considerations or protection. Areas outside of the geographic area occupied by the species at the time of listing may only be included in critical habitat if they are essential for the conservation of the species. 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 that was not known to be occupied at the time of listing will likely, but not always, be essential to the conservation of the species and, therefore, typically included in the critical habitat designation.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), and Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service, provide criteria, establish procedures, and provide guidance to ensure that decisions made by the Service represent the best scientific data available. They require Service biologists to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information is generally the listing package for the species. Additional information sources include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge. All information is used in accordance with the provisions of Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service.

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

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available information at the time of the action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the

direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by section 4(b)(2) of the Act, we used the best scientific data available in determining areas that contain the features essential to the conservation of *Berberis nevinii*. This included information from the following sources: (1) Final listing rule (63 FR 54956, October 13, 1998); (2) CNDDB (2006); (3) California Native Species Field Survey Forms submitted to the CDFG; (4) herbarium collection records from the Consortium of California Herbaria and Rancho Santa Ana Botanic Garden; (5) Western Riverside County MSHCP; (6) botanical assessments and inventories of southern California; (7) management documents and survey/monitoring reports for *B. nevinii* on U.S. Forest Service land; (8) technical reports prepared by the Rancho Santa Ana Botanic Garden; (9) communications from species experts; (10) aerial photography; and (11) regional Geographic Information System (GIS) layers for land ownership, soils, and vegetation (California Wildlife Habitat Relationships (CWHR) System). We also used information collected by Service biologists who conducted site visits to Big Oak Mountain (CNDDB element occurrence 38) and the Cleveland National Forest (CNDDB element occurrence 31).

We have also reviewed available information that pertains to the habitat requirements of *Berberis nevinii*. There is limited information on habitat requirements for this species, but the primary sources are: (1) CNDDB (2006); (2) California Native Species Field Survey Forms submitted to CDFG; (3) habitat parameters compiled by Boyd (Rancho Santa Ana Botanic Garden) based on the results of a field survey by Nishida (Rancho Santa Ana Botanic Garden technical report No. 3 (1987, p. 7)); (4) botanical assessment of the Vail Lake property for the Riverside County Planning Department (1989) and of Cleveland National Forest (1995); (5) monitoring data and reports for the Angeles National Forest (Soza and Boyd 2000 and Soza and Fraga 2003); (6) information from regional GIS layers for soils, vegetation, and percent slope values; and (7) information received from local species experts, including descriptions of suitable habitat by the USFS (Soza 2003) that were based on the expertise and extensive field experience of Boyd (Rancho Santa Ana Botanic Garden). A variety of other peer-reviewed and non-peer-reviewed articles were reviewed for background information on plant ecology, natural history, and biology, as well as plant response to fire and other disturbances in California shrubland (*e.g.*, chaparral) communities.

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 consider those physical or biological features (PCEs) that are essential to the conservation of the species, and within areas occupied by the species at the time of listing, 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, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The specific primary constituent elements required for *Berberis nevinii* are derived from the biological needs of the species as described in the final listing rule (63 FR 54956, October 13, 1998), as well as information contained in this proposed rule.

Space for Growth and Reproduction

Berberis nevinii has a limited natural distribution; it typically occurs in small stands (less than 20 individuals, and often only one or two) in scattered locations in Los Angeles, San Bernardino, and Riverside Counties, with the largest native occurrence (as defined by CNDDB) consisting of several stands and totaling about 134 individuals to the south of Vail Lake in Riverside County (Boyd 1987; CNDDB 2006). Within these areas, *B. nevinii* requires appropriate soils, topography, cover, and drainage within the landscape to provide space, food, water, air, light, minerals, or other nutritional or physiological requirements for individual and population growth and reproduction.

Characterizing *Berberis nevinii* habitat is difficult due to the varied soils, bedrock substrates, and topography on which this species naturally occurs. Additionally, this species is known to tolerate a wide range of environmental conditions in cultivation (Mistretta and Brown 1989, p. 6). *Berberis nevinii* typically occurs at elevations from 900 to 2,000 ft (300 to 650 m) (63 FR 54958), but most native occurrences and the naturalized San Francisquito population are between 1,400 and 1,700 ft (427 to 518 m) in elevation (Boyd 1987, p. 2; CNDDB 2006). One native occurrence on the Big Oak Mountain summit north of Vail Lake in Riverside County is at approximately 2,700 ft (823 m) elevation, and scattered naturalized occurrences are found outside the 900 to 2,000-foot (300 to 650 m) elevation range (Boyd 1987, pp. 42, 75; CNDDB 2006). *Berberis nevinii* has been found in varied topography from nearly flat sandy washes, terraces, benches, and canyon floors to gravelly wash margins, steeply-sloped banks of drainages, steep rocky slopes, ridges, and mountain summits (CNDDB 2006).

Based on 1987 field surveys by Nishida, native *Berberis nevinii* occurring on slopes in Scott Canyon and south of Vail Lake were found in areas with slopes of 35 to 70 percent slope (Boyd 1987, pp. 7, 45, 62, 65, 68). Other *B. nevinii* plants occurring on slopes in the Vail Lake/Oak Mountain area generally occupy areas of less than 70 percent slope, based on Service GIS data (2006). Naturalized (*i.e.*, nonnative) occurrences are known to grow on steeper slopes (*e.g.*, 85 to 120 percent slope) in San Francisquito Canyon (Boyd 1987, p. 7, based on field surveys by Nishida). *Berberis nevinii* generally occurs on north, northeast, or northwest-facing slopes; however, exceptions to this have been noted, including several occurrences, both native and naturalized, found on south and west-facing slopes (Boyd 1987, pp. 7, 40, 77; Boyd *et al.* 1989, p. 24; Soza and Boyd 2000, p. 22; CNDDB 2006).

Berberis nevinii is found on a variety of soils and bedrock substrates. Native occurrences appear to be strongly associated with alluvial soils or soils derived from nonmarine sedimentary based substrates, especially sandy arkose (sandstone derived from granitic material) (Boyd 1987, p. 7; Boyd and Banks 1995, unpaginated; Soza and Boyd 2000, p. 25). Most of the plants at Vail Lake are found in small stands on Temecula arkose soils around the southern end of the lake, with scattered individuals in the ''badlands'' to the southeast and southwest (Boyd and Banks 1995, unpaginated). Several small, isolated stands on the south flank of Big Oak Mountain are associated with metasedimentary substrates and springs or seeps (Boyd *et al.* 1989, p. 14; Soza 2003), and two plants at the Big Oak Mountain summit occur on heavy adobe/gabbro type soils with high water-holding capacity formed from metavolcanic geology (Mesozoic basic

intrusive rock) (Soza 2003). The Cleveland National Forest occurrence is found at the contact between sedimentary (arkose) and metasedimentary substrates (Boyd and Banks 1995, unpaginated). *Berberis nevinii* has also been found growing on Pelona schist outcrops and granitic knolls (Boyd 1987, p. 7; Soza and Boyd 2000, p. 22).

Overlying occurrence polygons with NRCS soils data, native *Berberis nevinii* occurrences appear to be associated with the following soil series: Riverwash at the Lopez Canyon site in Los Angeles County; sandy loam of the Saugus series in Scott Canyon and coarse sandy loam of the Metz series from the San Timoteo Canyon location in San Bernardino County; and at least 17 different soil series in the Vail Lake/Oak Mountain area in Riverside County, including Monserate sandy loams; Hanford coarse sandy loams; fine sandy loams of the Arlington and Greenfield, Pachappa, and Cajalco series; Cajalco rocky fine sandy loams; rocky loams of the Lodi and Las Posas series; and loams of the Las Posas, San Timoteo, and San Emigdio series (Service GIS data 2006). Additional soil series found within mapped *B. nevinii* occurrences include gullied land and riverwash primarily south of Vail Lake, and badland to the north and southeast of Vail Lake. Occurrences north of Vail Lake on the south slopes of Big Oak Mountain and its summit are mapped primarily as Auld clay, 8 to 15 percent slopes, Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded, and Las Posas loam and rocky loam, 8 to 15 percent slopes, eroded. The *B. nevinii* site on the Cleveland National Forest south of Vail Lake is mapped as gullied land and coarse sandy loam of the Hanford series, 8 to 15 percent slopes, eroded (Service GIS data 2006).

Native occurrences of *Berberis nevinii* are generally found growing in well-drained soils, and are known from xeric slopes and rock outcrops. According to Lenz and Dourley (1981, as cited in Mistretta and Brown 1989, p. 5), *B. nevinii* is considered a drought-tolerant species, but it will also accept large amounts of water in cultivation without apparent damage. Observations of native occurrences suggest that, within its general habitat, *B. nevinii* may be associated with more mesic microhabitats. Niehaus (1977, p. 2) noted that *B. nevinii* occurs mostly at the margins of dry washes in or below the foothill zone, but is not present in the driest portion of a wash. At some sites, *B. nevinii* is associated with species such as *Lepidospartum squamatum* and *Prunus ilicifolia* that require groundwater (Niehaus 1977, p. 2). Many of the plants in the Vail Lake area are growing on mesic north or northwest facing slopes. Several stands are in canyons draining the south flank of Big Oak Mountain and are associated with springs or seepages (Boyd *et al.* 1989, p. 14). The two plants on the summit of Big Oak Mountain are on clay soils with a high water-holding capacity. In the late spring and early summer, this site may receive greater moisture in the form of condensation from intrusion of marine air (Soza 2003).

Berberis nevinii occurs in association with the following plant communities: alluvial scrub, cismontane (*e.g.*, chamise) chaparral, coastal sage scrub, oak woodland, and/or riparian scrub or woodland (Boyd 1987, pp. 2, 7; Boyd 1989, pp. 6–8; 63 FR 54958; CNPS 2001, p. 96; CNDDB 2006). Native *B. nevinii* in Lopez Canyon, Scott Canyon, and San Timoteo Canyon, as well as many of those found in the Vail Lake/Oak Mountain area, occur within the California Wildlife Habitat Relationships (CWHR) landcover described as coastal scrub or mixed chaparral (Service GIS data 2006). *Berberis nevinii* is occasionally found in coastal oak woodland in the Vail Lake/Oak Mountain area, characterized by open to dense stands of the large evergreen coast live oak (*Quercus agrifolia*) in close association with surrounding scrub vegetation (Boyd *et al.* 1989, p. 7). In the Vail Lake area, this woodland type is found primarily in sandy washes, benches, and canyons on north-facing slopes, near ephemeral stream channels, and/or associated with springs (Boyd *et al.* 1989, pp. 7–8). The San Francisquito site, where *B. nevinii* has apparently naturalized, also has some coastal oak woodland, and *Q. agrifiolia* is locally common south of *B. nevinii* in the canyon bottom at the Lopez Canyon site (Soza and Boyd 2000, pp. 23, 26). Several stands in the Vail Lake area occur within the CWHR landcover described as valley foothill riparian, and several occurrences are also partly characterized as annual grassland (Service GIS data 2006). The Scott Canyon site is described as having an abundance of annual grasses (Boyd 1987, pp. 44–48, CNDDB 2006).

Extant, native occurrences of *Berberis nevinii* are often found in association with one or more of the following chaparral and coastal sage scrub species: *Eriogonum fasciculatum, Artemisia californica, Adenostoma fasciculatum, Rhus ovata, R. trilobata,* or *R. integrifolia, Salvia mellifera, Sambucus mexicana, Prunus ilicifolia, Rhamnus crocea,* and *Quercus berberidifolia* (Boyd 1987, p. 2; CNDDB 2006). Several native occurrences are associated with coastal oak woodland or riparian/alluvial scrub vegetation, such as *Quercus agrifolia, Populus fremontii, Salix laevigata, Platanus racemosa, Baccharis glutinosa*, and/or *Lepidospartum squamatum* (CNDDB 2006). Boyd (1987, p. 2) has noted that certain desert floral elements such as *Encelia farinosa, Chrysothamnus nauseosus, Artemisia tridentata, Chilopsis linearis, Yucca schidigera, Opuntia parryii*, and *Atriplex canescens* are often characteristic of the general area and many of the specific sites where *B. nevinii* occurs in the vicinity of Vail Lake. The presence of typically desert floral elements likely reflects the transitional nature of these sites between the cismontane area to the west and the Colorado Desert to the east (Boyd *et al.* 1989, p. 4).

Several observers have noted that seedlings and immature *Berberis nevinii* tend to occur in areas with some measure of protection, either in the shade or cover of another plant (Boyd 1987, pp. 77–78, based on field surveys by Nishida; Mistretta and Brown 1989, p. 10). This suggests the need for some fire-free period to allow for canopy growth. However, Nishida (Boyd *et al.* 1987, p. 77) noted that mature individuals were located in areas where they were exposed to full sunlight, and Reiser (2001, unpaginated) noted that this species frequently towers above associated subshrubs. Based on observations in the field, Nishida suggested that seedlings may be shade tolerant, but that as *B. nevinii* matures, it may require more sunlight (Mistretta and Brown 1989, Attachment: ''Report on the Population and Ecological Data of *Mahonia nevinii*'' by Joy Nishida, p. 1). A similar shade/sunlight requirement has been noted for several other resprouting chaparral shrub species, where seedlings and saplings are found mostly in the shade of other plants and seldom in the open, but recruitment into the shrub population appears to require the later development of a canopy gap, such as may be created by a fire event (Keeley 1992, p. 1206).

We have little information about pollinators, seed dispersal mechanisms, or the reproductive biology of this species. *Berberis nevinii* has perfect (hermaphroditic) yellow flowers clustered in loose racemes that bloom from March through April, and fleshy, yellowish-red to red berries with plump, brown seeds that are present from May to July (Wolf 1940, unpaginated; Munz 1974, p. 245; Neihaus 1977, p. 1; Morris 2006). Species-specific information on pollinators is lacking, but *B. nevinii* may

be pollinated by bee species. According to Mussen (2002), California's native *Berberis* species are ''visited (and probably pollinated) by honey bees'' (*Apis mellifera*), and according to the U.S. Department of Agriculture (2006), native *Berberis* species ''provide significant forage for native bees.'' We also do not know if *B. nevinii* is able to self-fertilize, as the genus *Berberis* contains species that are both self-compatible and self-incompatible (Anderson *et al.* 2001, p. 227). Seed dispersal by both birds and mammals is widespread within the genus *Berberis* (Young and Young 1992, p. 52; Vines 1960, pp. 271–273), and thus is likely within *B. nevinii.* Wolf (1940, unpaginated) noted that the abundant fruits of *B. nevinii* are eaten by various bird species. Seasonal rains flowing through washes and channel drainages may also disperse seed of *B. nevinii* located in these areas (Roof 1968, p. 22; Mistretta and Brown 1989, p. 6; Soza and Boyd 2000, p. 3). However, due to the lack of specific information on habitat requirements for *B. nevinii* related to pollination and seed dispersal, we were unable to fully incorporate these potential areas into our identification of essential habitat for the species.

Berberis nevinii does not appear to reproduce by vegetative means (rootsprout) to any great extent (Mistretta and Brown 1989, p. 5; Boyd 2006); in other words, it does not regularly produce clones (genetically identical direct descendants) that are well separated from the parent individual through the process of rooting at nodes in the rhizome, as is the case with some other members of the genus *Berberis.* One potential exception is an (extirpated) occurrence south of Redlands in San Bernardino County, which appeared to be reproducing only by vegetative spread (Sanders 2006). Because vegetative reproduction appears to be uncommon, Mistretta and Brown (1989, p. 5) concluded that perpetuation of the species is likely dependent on its occasional production of viable seed.

Landscape Ecology and Population Demographics of Berberis nevinii

Many extant occurrences of *Berberis nevinii* are associated with chaparral or coastal sage scrub. Fire is a natural occurrence in southern California shrublands, and plants occurring in these vegetation communities are resilient and/or adapted to these types of disturbances (Keeley 1991, p. 84; Tyler 1996, p. 2182). Postfire regeneration mechanisms among California shrubland species can generally be described as obligate seeding, obligate sprouting, or facultative sprouting (Kelly and Parker 1990, p. 114). Obligate seeders are typically killed by fire and rely entirely on seeds for regeneration. Most have locally dispersed seeds that persist in the soil seed bank until dormancy is broken by an environmental stimulus, such as intense heat (Keeley 1991, p. 82). Obligate sprouters, on the other hand, are rarely killed by fire, but rather resprout from roots, lignotubers, or epicormic buds (Kelly and Parker 1990, p. 114). These species have seeds that do not require fire for germination, but require fire-free periods for recruiting new seedlings (Keeley 1991, p. 82). In some species, postfire regeneration occurs by both sprouts and seeds, and fire-caused mortality is variable (facultative sprouters) (Kelly and Parker 1990, p. 114).

Berberis nevinii is known to regenerate by stump sprouting following fire (Soza and Fraga 2003, p. 2; Sanders 2006; Mistretta and Brown 1989, p. 5). Mature individuals often possess a basal burl (Mistretta and Brown 1989, p. 5), a swelling at the junction of roots and stems that allows a plant to sprout from the base and regenerate after a fire that kills above-ground vegetation. The germination response of *B. nevinii* to fire is not known. According to Soza and Boyd (2003, p. 2), Soza (2006), and the USFS (2005, p. 237), post-fire surveys on the Angeles and Cleveland National Forests found recruitment from both resprouting and seeding. This suggests that this species may also regenerate by seed following fire. *Berberis nevinii*'s response to altered fire regimes (*e.g.*, changes to fire frequency, timing, and/or intensity) is also unknown (63 FR 54961), such as resprouting response and soil seedbank persistence under conditions of high fire frequency. Because southern California shrublands are adapted to a natural fire regime, plants within these communities likely require such conditions for long-term survival (63 FR 54961).

Comparison of the contemporary fire regime in southern California to that of the natural regime (*i.e.*, pre-fire suppression) shows that in the lower coastal valley and foothill zone, fire frequency has increased, and that high fire frequencies tend to occur in those areas where high human densities interface with relatively undeveloped landscape (Keeley *et al.* 1999, p. 1831; Keeley and Fotheringham 2001, p. 1545; Wells *et al.* 2004, p. 147; Keeley 2006, p. 382). However, fire suppression has kept fires in check so that most stands burn within the range of natural variation (Keeley 2006, p. 382). Additionally, while coastal sage scrub and chaparral have the largest amount of area that has burned multiple times over the past century and have the highest potential fire frequencies of all vegetation community types, only the former clearly shows an increasing trend in area burned over this time period (Wells *et al.* 2004, pp. 148, 151).

Too frequent fire on the landscape could potentially kill mature, resprouting *Berberis nevinii* as well as young plants before they have reached their reproductive potential and before the soil seed bank is replenished (Boyd 1991, pp. 7, 9). Repeated burnings over short intervals could eventually lead to type conversion of chaparral/shrublands to nonnative annual grassland (Boyd 1991, p. 9; Keeley *et al.* 1999, p. 1831), as has been observed in areas surrounding urban centers (Keeley 2006, p. 382). Therefore, conservation of rare plants in southern California, such as *B. nevinii,* that are associated with chaparral, coastal sage scrub, or other shrubland vegetation communities may require preservation of enough land around known occurrences to allow for maintenance of natural fire regimes (Boyd 1991, pp. 10–11). However, we do not have sufficient information to quantify the extent of the area necessary to do so for particular *B. nevinii* occurrences. Therefore, we are unable to fully incorporate these potential areas into our identification of essential habitat for *B. nevinii.*

Life history characteristics and population demographics of *Berberis nevinii* are largely unknown and unstudied. *Berberis nevinii* is a long-lived species (>50 years) (Mistretta and Brown 1989, p. 5) with low reproductive rates in the wild due to sporadic production of fertile seed (Mistretta and Brown 1989, p. 5). It has been suggested that *B. nevinii* may be a paleoendemic relic (Reiser 2001, unpaginated), which could explain its limited (small and widely scattered) distribution and low reproductive rates in the wild (Soza 2003).

The ability of *Berberis nevinii* to stump sprout following disturbance (*e.g.,* fire), as well as its great longevity, may play an important role in persistence of the species. As discussed in Garcia and Zamora (2003, p. 921), there may be a population maintenance trade-off for long-lived plants between replacement of individuals by seeding and persistence of established plants. A persistence strategy may allow plants to survive through unfavorable conditions, potentially to reproduce again when conditions are more favorable (Garcia and Zamora 2003, p. 924). As

mentioned previously, there appears to be little to no regeneration by seed occurring at most *B. nevinii* occurrences. However, since the species is long-lived, it may produce seed intermittently and life-time seed production may be a more important consideration in terms of perpetuation of the species than annual seed production.

Primary Constituents Elements for Berberis nevinii

Under our regulations, we are required to identify the known physical and biological features (PCEs) essential to the conservation of *Berberis nevinii*. All areas proposed as critical habitat for *B. nevinii* are currently occupied, are within the species' historic geographic range, and contain sufficient PCEs to support at least one life history function.

Based on our current knowledge of the life history, biology, and ecology of the species, and the requirements of the habitat necessary to sustain the essential life history functions of the species, we have determined that *Berberis nevinii*'s PCEs are:

(1) Low-gradient (*i.e.*, nearly flat) canyon floors, washes and adjacent terraces, and mountain ridge/summits, or eroded, generally northeast- to northwest-facing mountain slopes and banks of dry washes typically of less than 70 percent slope that provide space for plant establishment and growth;

(2) Well-drained alluvial soils primarily of non-marine sedimentary origin, such as Temecula or sandy arkose soils; soils of the Cajalco-Temescal-Las Posas soil association formed on gabbro (igneous) or latite (volcanic) bedrock; metasedimentary substrates associated with springs or seeps; and heavy adobe/gabbro-type soils derived from metavolcanic geology (Mesozoic basic intrusive rock) that provide the appropriate nutrients and space for growth and reproduction; and

(3) Scrub (chaparral, coastal sage, alluvial, riparian) and woodland (oak, riparian) vegetation communities between 900 and 3,000 ft (275 and 915 m) in elevation that provide the appropriate cover for growth and reproduction.

This proposed designation is designed for the conservation of those areas containing PCEs necessary to support the life history functions that were the basis for the proposal. Because not all life history functions require all the PCEs, not all proposed critical habitat will contain all the PCEs. Units are designated based on sufficient PCEs being present to support one or more of the species' life history functions. Some units contain all PCEs and support multiple life processes, while some units contain only a portion of the PCEs necessary to support the species' particular use of that habitat. Where a subset of the PCEs is present at the time of designation, this rule protects those PCEs and thus the conservation function of the habitat.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we used the best scientific data available in determining areas that contain the features that are essential to the conservation of *Berberis nevinii*. This species naturally occurs in small, isolated stands across its geographic range, with several known occurrences consisting of only a single large and presumably very old individual. At most sites, there is little to no evidence of reproduction. The Vail Lake/Oak Mountain area in western Riverside County has the highest concentration of native *B. nevinii*, representing several size (age) classes. It occurs in numerous stands scattered throughout the area, with the largest number of plants located south of Vail Lake and on the peninsula. The long-term conservation of *B. nevinii* will depend upon the protection of such extant, native occurrences and the maintenance of ecological functions within these sites.

We delineated proposed critical habitat for *Berberis nevinii* using the following criteria: (1) Areas known to be occupied by naturally-occurring individuals of the species at the time of listing and areas that are currently occupied by naturally-occurring individuals; (2) areas within the historic range of the species; (3) areas containing one or more PCEs essential to the conservation of the species; and (4) areas currently occupied by more than two *B. nevinii* plants that show evidence of reproduction (*i.e.,* fruits with seed, seedlings, or plants of various size/age classes) on site. For sites where there was no information available on reproduction or size/age class distribution, we assumed that reproduction had occurred at some point in the past if multiple *B. nevinii* plants were present. As discussed below, we also gave consideration to the ecological uniqueness of sites.

Whether naturalized occurrences may play a role in conservation of the species is currently unknown. However, the naturalized occurrences represent some of the largest (in terms of number of individuals) and most vigorously reproducing occurrences of the species, and could potentially play a role in preserving genetic diversity. At least one naturalized occurrence (San Francisquito Canyon) may contain an individual and/or descendents of an individual that originated from a location where *B. nevinii* no longer occurs (*i.e.,* the San Fernando Valley). Thus, we will continue to explore the potential conservation value of naturalized occurrences, and consider these occurrences in future recovery actions as appropriate.

We are aware of 39 records for *Berberis nevinii* rangewide documented by the CNDDB (2006), of which we consider 19 to be extant, native occurrences. All of the extant, native occurrences were known at the time of listing, although each occurrence was not specifically described in the final listing rule (63 FR 54956, October 13, 1998). The majority of these occurrences are in the vicinity of Vail Lake and Oak Mountain, which is described within the final listing rule as one of the main geographical areas occupied by the species.

As discussed in the *Background* section of this proposed rule, our Western Riverside County MSHCP database contains 32 records of extant *Berberis nevinii* occurrences from the vicinity of Vail Lake/Oak Mountain alone, as well as one record from the Soboba Badlands. However, many of the MSHCP records overlap and some appear to duplicate CNDDB records. Accompanying data, such as number of plants, origin (native versus cultivated), and habitat associations are largely lacking, making it impossible to accurately quantify the actual number of distinct occurrences or plants in this area (Service 2004, pp. 330–331). We also do not know the specific location of many of these occurrences. Therefore, we did not rely on the MSHCP occurrences for determining critical habitat, but rather we are seeking additional information to clarify these records (see *Public Comments Solicited* section).

Of the 19 extant, native occurrences in the CNDDB (2006), we consider only six in Riverside County in the vicinity of Vail Lake/Oak Mountain to meet our criteria for designating critical habitat (CNDDB element occurrences 24, 31, 32, 35, 36, and 38). Five of the six occurrences consist of more than two individuals, and evidence of reproduction (multiple size classes, seedlings, and/or fruit with seed) is known for three of the occurrences (CNDDB element occurrences 24, 31, and 38). We do not know if reproduction has occurred at the other three sites (CNDDB element occurrences 32, 35, and 36), but we believe that it is possible given that these occurrences

represent some of the largest groupings of the species. While we propose the areas that support these occurrences as critical habitat, we are seeking additional information on the reproductive status and exact numbers of individuals per stand (see *Public Comments Solicited* section). For a detailed description of each of these six occurrences, see the *Proposed Critical Habitat Designation* section of this proposed rule.

We do not have adequate information to determine the status of six *Berberis nevinii* occurrences recorded in the CNDDB (2006). Three occurrences in Los Angeles County may be extant, but their existence has not been confirmed since the early to mid 1900s (two records in Arroyo Seco near Pasadena (CNDDB element occurrences 8 and 9) and one record in Big Tejunga Wash near San Fernando (CNDDB element occurrence 10), which may be mismapped). Three other occurrences have vague location descriptions and/or may be mismapped, including one in Los Angeles County (CNDDB element occurrence 18), one in Riverside County (CNDDB element occurrence 14), and one in San Diego County (CNDDB element occurrence 45). We are seeking additional information to verify and/or clarify these records (see *Public Comments Solicited* section).

We evaluated whether geographically (*e.g.*, Los Angeles and San Bernardino Counties) peripheral native occurrences would fit into our criteria for identifying critical habitat. Despite the biological conservation arguments raised by Lesica and Allendorf (1995; p. 753, 754) to conserve peripheral populations, we found that these *Berberis nevinii* occurrences did not meet our criteria for designation of critical habitat because they consisted of very few individuals (often only one) and did not appear to be reproducing. For example, the Lopez Canyon (CNDDB element occurrence 43) and Scott Canyon (CNDDB element occurrence 5) occurrences each consist of only a single large (old) individual with no signs of past or current reproduction by seed (CNDDB element occurrences 43 and 5). The San Timoteo Canyon occurrence (CNDDB element occurrence 4) has an unknown number of individuals (potentially only one), and reproduction has likely not occurred at this site in many decades (Sanders 2006).

We also considered the ecological uniqueness of sites because occurrences within unique habitats may harbor genetic diversity that allows for persistence in these areas (Lesica and Allendorf 1995, p. 757). We determined that ecologically unique habitats were essential to conservation of *Berberis nevinii*, and we included these areas in proposed critical habitat if they were occupied by more than a single large (*i.e.*, mature) individual. Areas occupied by only one large individual represent sites where regeneration is not occurring; thus, we did not consider these areas to be essential to conservation of the species.

We also evaluated whether maintaining adjacent unoccupied habitat or corridors between occurrences may be important to facilitate and allow for pollination and seed dispersal within and between stands of *Berberis nevinii.* However, we do not have any information that suggests a certain quantity of habitat is necessary to maintain the pollinator species associated with *B. nevinii* occurrences. The few available reports actually noted that the genus *Berberis* is pollinated by generalist species, such as honey bees (Lebuhn and Anderson 1994, p. 259; Mussen 2002, unpaginated). It may also be necessary to maintain the natural fire regime associated with this species' habitat. However, sufficient information is not available to quantify the extent of the area necessary to maintain the natural fire regime for particular *B. nevinii* occurrences. Therefore, we are unable to fully incorporate these areas into our identification of essential habitat.

The Vail Lake/Oak Mountain area has the largest number of extant, native *Berberis nevinii*, which are located in numerous scattered stands. Because an extreme catastrophic event could wipe out one or more stands of *B. nevinii*, protecting multiple stands throughout this area may be important to the long-term conservation of the species. The areas that we are proposing as critical habitat are scattered to the north, south, and east of Vail Lake, which may provide some protection against complete loss of the species from this locality due to a catastrophic event, such as flooding or high intensity fire.

We delineated critical habitat unit boundaries in the following manner:

(1) We identified all areas known to be occupied at the time of listing and/or currently occupied by *Berberis nevinii* using location data in the CNDDB (2006);

(2) We classified each of these occurrences as to their origin (native or cultivated), status (extant or extirpated), number of plants, and evidence of reproduction, where possible;

(3) We determined which occurrences contain features essential to the conservation of the species using the criteria described above;

(4) Using GIS, we overlaid the occurrences identified in number 3 above on aerial imagery and compared the polygon locations for these occurrences with location information provided in field survey forms to narrow down and refine the location of *B. nevinii* occurrence polygons; and

(5) We then overlaid these occurrences with a series of 100 x 100 meter grid cells. Areas where the occurrence polygon intersected with a grid cell were retained. We used GIS soil and vegetation data to ensure that habitat within the grid cells containing the occurrence polygons contained one or more of the PCEs. Using aerial photography, we removed areas that did not contain any of the PCEs for the species (*e.g.*, aquatic habitat in Vail Lake). Critical habitat designations were then described and mapped using Universal Transverse Mercator (UTM) North American Datum 27 (NAD 27) coordinates.

Areas meeting these criteria were then analyzed to determine if any existing conservation or management plans exist that benefit the species and their PCEs. *Berberis nevinii* is included as a covered species in the Western Riverside County MSHCP. As a result, occupied areas on private land within the area covered by the MSHCP (Plan Area) are being proposed for exclusion from the final designation of critical habitat for this species under section 4(b)(2) of the Act (see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act* for a detailed discussion).

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as buildings, paved areas, and other structures that lack PCEs for *Berberis nevinii.* The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

We propose to designate critical habitat in areas that contain naturally occurring *Berberis nevinii* plants (*i.e.*, not of cultivated origin or consisting of outplanted individuals). We have determined these areas were occupied at

the time of listing and contain sufficient primary constituent elements (PCEs) to support life history functions essential for the conservation of the species. No areas outside the geographical area occupied at the time of listing have been proposed for designation. Additionally, information provided in comments on the proposed critical habitat designation and draft economic analysis will be evaluated and considered in the development of the final designation for *B. nevinii.*

Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed species incidental to otherwise lawful activities. An incidental take permit application must be supported by a habitat conservation plan (HCP) that identifies conservation measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the requested incidental take. We often exclude non-Federal public lands and private lands that are covered by an existing operative HCP and executed implementation agreement (IA) under section 10(a)(1)(B) of the Act from designated critical habitat because the benefits of exclusion outweigh the benefits of inclusion as discussed in section 4(b)(2) of the Act. All of the private land included in this proposed critical habitat designation is in the vicinity of Vail Lake and Oak Mountain and is covered by the Western Riverside County MSHCP. We are proposing to exclude private lands covered under the MSHCP from the final designation of critical habitat for *Berberis nevinii* because we believe that the benefits of exclusion outweigh the benefits of inclusion (*See Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act* section for more details on the Western Riverside County MSHCP and a complete discussion and analysis of the benefits of exclusion and inclusion of these lands in the critical habitat designation).

Special Management Considerations or Protection

When designating critical habitat, we assess whether the areas determined to be occupied at the time of listing contain primary constituent elements that may require special management considerations or protection. As stated in the final listing rule (63 FR 54956, October 13, 1998), threats to the species include urban development, off-road vehicle use, human recreation (*e.g.*, horseback riding), highway projects, fire management strategies (suppression measures, brush clearing) that alter natural fire processes to which native plant communities are adapted and which they require for long-term survival, and the introduction of invasive, nonnative plants that may compete with *Berberis nevinii* and/or contribute to combustible fuel loads (63 FR 54961). These threats can directly or indirectly result in the loss, modification, degradation, and/or fragmentation of *B. nevinii* habitat, thereby eliminating or reducing potential habitat for seed germination, seedling establishment, plant growth and maturation, and/or population growth. Individually or combined, these threats may require special management considerations or protection of the PCEs as addressed here and in more detail within the individual critical habitat unit descriptions that follow.

Urbanization, flood control measures, road widening, and habitat degradation from extensive recreational use have contributed to the loss of *Berberis nevinii* habitat and have apparently resulted in the extirpation of several occurrences, particularly within the San Fernando Valley of Los Angeles County (63 FR 54961). Urbanization may destroy, degrade, fragment, or otherwise alter the topography, soil, and vegetation community structure in ways that make areas less suitable for *B. nevinii.* Land grading for residential development and road projects may affect the topography of the site (PCE 1); alter soil composition and structure (PCE 2); change vegetation community composition and structure through clearing or thinning of vegetation and the introduction of nonnative plants (PCE 3); increase erosion potential (PCE 1 and 2); and change hydrological (drainage and water infiltration) patterns, thereby decreasing the quality and extent of available habitat for *B. nevinii.* Additionally, urban development near this species may increase the frequency of fire. No urban development is expected to directly impact the known occurrences of *B. nevinii* on Federal or private land in the vicinity of Vail Lake and Oak Mountain, although indirect impacts associated with increased urbanization may occur.

Recreational activities may also impact the physical and biological features determined to be essential for conservation of the species by destroying, degrading, fragmenting, or otherwise altering the topography, soil, and vegetation community in ways that make areas less suitable for *Berberis nevinii.* For example, off-highway vehicle use, hiking, camping, horseback riding, and recreational facility development in or near *B. nevinii* occurrences could alter or destroy surface and subsurface structure through trampling and clearing or thinning of vegetation, and the introduction of nonnative plants (PCE 3), soil disturbance and/or compaction (PCE 2), and increased erosion and changes to hydrological (drainage and water infiltration) patterns, which may in turn affect the topography, soil, and vegetation of the site (PCE 1, 2, and 3).

Activities associated with fire management, such as fuel treatments, prescribed burns, and wildfire suppression, may also impact the physical and biological features essential for conservation of the species. The creation of firebreaks, brush clearing or thinning, and the use of heavy equipment and off-road vehicles for fire management could physically remove or disturb soils and alter soil composition (PCE 2), remove or destroy vegetation (PCE 3), increase erosion, and alter the topography (PCE 1) and hydrologic patterns in or near *Berberis nevinii* occurrences. Fire management activities could facilitate the incursion or spread of invasive, nonnative plants by potentially creating (disturbance) conditions that increase the competitive edge of nonnative species over native species, thereby altering the composition of the vegetation community (PCE 3). Prescribed fires that are too frequent or that occur at times of the year atypical of the natural fire regime could also result in changes to vegetation community and structure (PCE 3). Alternatively, if fire management activities are successful in keeping fire from the landscape, and high canopy cover ensues, plant species that require full or partial sun (*i.e.*, canopy gaps) to effectively establish may become underrepresented in the plant community, as will those plants that require fire for seed germination.

Proposed Critical Habitat Designation

We are proposing one unit as critical habitat for *Berberis nevinii*: the Agua Tibia/Vail Lake unit. This critical habitat unit is further divided into six subunits. The critical habitat unit and subunits described below constitute our best assessment at this time of areas that: (1) Have extant, native occurrences consisting of more than two *B. nevinii* plants with evidence of reproduction; and (2) contain some or all of the primary constituent elements that may require special management considerations or protection. All of these units were occupied at the time of listing and are currently occupied to the best of our knowledge. Table 2 identifies the approximate area (ac/ha) of proposed critical habitat for *B. nevinii*, and the areas being considered for

exclusion from the final critical habitat designation under section 4(b)(2) of the Act. Areas proposed for exclusion are those areas covered under the Western Riverside County MSHCP (*see Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act* section for a detailed discussion). Table 3 identifies the occupancy status for each unit.

TABLE 2.—AREAS PROPOSED FOR CRITICAL HABITAT DESIGNATION FOR BERBERIS NEVINII, AND AREAS BEING CONSIDERED FOR EXCLUSION FROM THE FINAL CRITICAL HABITAT DESIGNATION UNDER SECTION 4(B)(2) OF THE ACT.

Critical habitat unit	Land ownership	Area proposed as critical habitat	Area being considered for exclusion from final critical habitat
1. Agua Tibia/Vail Lake:			
1A. Big Oak Mountain Summit	BLM	15 ac (6 ha)	0 ac (0 ha)
1B. Agua Tibia Mountain Foothills	USFS	17 ac (7 ha)	0 ac (0 ha)
	Private	5 ac (2 ha)	5 ac (2 ha)
1C. South Flank Big Oak Mountain	Private	87 ac (35 ha)	87 ac (35 ha)
1D. North of Vail Lake	Private	22 ac (9 ha)	22 ac (9 ha)
1E. South of Vail Lake/Peninsula	Private	251 ac (102 ha)	251 ac (102 ha)
1F. Temecula Creek East	Private	20 ac (8 ha)	20 ac (8 ha)
Total		417 ac (169 ha)	385 ac (156 ha)

TABLE 3.—OCCUPANCY OF CRITICAL HABITAT UNITS DESIGNATED FOR BERBERIS NEVINII.

Critical habitat subunit	Occupied at time of listing?	Occupied currently?	Acres (hectares)
Subunit 1A: Big Oak Mountain Summit	Yes	Yes	15 (6)
Subunit 1B: Agua Tibia Mountain Foothills	Yes	Yes	22 (9)
Subunit 1C: South Flank Big Oak Mountain	Yes	Yes	87 (35)
Subunit 1D: North of Vail Lake	Yes	Yes	22 (9)
Subunit 1E: South of Vail Lake/Peninsula	Yes	Yes	251 (102)
Subunit 1F: Temecula Creek East	Yes	Yes	20 (8)
Total			417 (169)

Below, we present brief descriptions of the proposed subunits and reasons why they meet the definition of critical habitat for *Berberis nevinii.*

Unit 1: Agua Tibia/Vail Lake

Unit 1 comprises approximately 417 ac (169 ha) and is divided into six subunits: Big Oak Mountain Summit (1A), Agua Tibia Mountain Foothills (1B), South Flank Big Oak Mountain (1C), North of Vail Lake (1D), South of Vail Lake/Peninsula (1E), and Temecula Creek East (1F). These lands in Unit 1 contain the PCEs for *Berberis nevinii* and also may be important for maintaining genetic diversity for the species as they include occurrences in ecologically unique areas.

Subunit 1A: Big Oak Mountain Summit

Subunit 1A consists of approximately 15 ac (6 ha) located on Big Oak Mountain to the north of Vail Lake in southern Riverside County. This subunit consists entirely of federally owned land managed by BLM. Two *Berberis nevinii* individuals of different sizes (ages) are known to occur in this unit on the summit of Big Oak Mountain at approximately 2,700 ft (823 m) elevation (*i.e.*, the lower edge of the marine layer) (PCE 1 and 3). One individual is an old plant that is covered in lichens, and the other individual is considerably smaller and at some distance to the northeast of the older plant. This location is considered unusual (*i.e.*, ecologically unique) for the species in that it is at higher elevation and on relatively flat clay lenses consisting of heavy adobe/gabbro type soils with high water-holding capacity, derived from Mesozoic basic intrusive rock (PCE 2) (Soza 2003). Soils in this area are classified primarily as Auld clay, 8 to 15 percent slopes, and Las Posas loam, 8 to 15 percent slopes, eroded (PCE 2) (Service GIS data 2006). This occurrence is located in an open grassland area with chaparral nearby. Associated plant species include *Chenopodium californicum*, *Avena fatua*, *Harpagonella palmeri*, *Plantago erecta*, *Galium porrigens*, and *Delphinium* species.

We are proposing this subunit as critical habitat even though it is occupied by only two *Berberis nevinii* plants because it represents an ecologically unique site for the species and contains the features essential to the conservation of *B. nevinii.* Additionally, this site contains naturally-occurring *B. nevinii* of different sizes (ages), indicative of successful reproduction in the past. Because this occurrence is on an ecologically unique site, this subunit may be important in terms of preserving genetic diversity throughout the range of the species. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

Bureau of Land Management land on Big Oak Mountain consists of three small parcels totaling 888 ac (360 ha), which is surrounded by private land. The primary threats to *Berberis nevinii* habitat in this area that may require special management considerations or protection of the PCEs are the indirect effects of urban/residential development, such as increased human recreation; incursion or spread of invasive, nonnative plants; and changes to the natural fire regime (*i.e.*, increased ignitions and fire frequency, and shortened fire return intervals that can lead to type conversion of shrublands to annual grasslands). The BLM Resource Management Plan indicates that these parcels are closed to motorized vehicles and livestock grazing (BLM 1994, p. 28). Special management considerations or protection of the PCEs may be required

to minimize disturbance to the vegetation and soils within this subunit; control invasive, nonnative plants; and maintain the natural hydrologic and fire regime of the area. While this site falls within the Conservation Area for the Western Riverside County MSHCP, this area is federal land managed by BLM. Therefore, we are not proposing BLM-managed lands within this subunit for exclusion under section 4(b)(2) of the Act.

Subunit 1B: Agua Tibia Mountain Foothills

Subunit 1B consists of approximately 22 ac (9 ha) located near the Agua Tibia Wilderness Area in southern Riverside County. This subunit consists of 17 ac (7 ha) of federally owned land managed by the USFS (Cleveland National Forest) and 5 ac (2 ha) of private land. Five *Berberis nevinii* individuals are known from this area and are located at the edge of a stream channel (PCE 1) growing in association with coast live oak and riparian woodland species (PCE 3). Nearby chaparral includes such species as *Quercus berberidifolia*, *Adenostoma fasciculatum*, and *Haplopappus squarrosus*, and nearby desert species include *Yucca schidigera* (CNDDB 2006). These *B. nevinii* plants are growing under a canopy of *Quercus agrifolia* and *Platanus racemosa* with the following species: *Heteromeles arbutifolia*, *Q. berberidifolia*, *Elymus condensatus*, *Mimulus aurantiacus*, *Lonicera subspicata*, *Pterostegia drymarioides*, and *Epilobium canum.* Soils in this area are classified as gullied land and coarse sandy loam of the Hanford series, 8 to 15 percent slopes, eroded (PCE 2) (Service GIS data 2006).

We are proposing this subunit as critical habitat because it contains features essential to conservation of *Berberis nevinii* and it contains a relatively large natural occurrence of the species. Additionally, Service personnel visited this site in June 2006 while *B. nevinii* was in fruit, and found that several of the fruits had three to four seeds, which may be significant for a species that appears to rarely set seed. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

The *Berberis nevinii* occurrence on Cleveland National Forest lands is not as well protected as the occurrence on the Angeles National Forest (USFS 2005, p. 238). Threats to *B. nevinii* habitat in this area are associated with the proximity of State Highway 79 and include recreational impacts (off-road vehicle use, shooting) and increased risk of fire ignition (USFS 2005, p. 232). Off-road vehicle use has occurred adjacent to Highway 79, close to but not within occupied habitat. Additionally, this occurrence has shown signs of disturbance from road activities (USFS 2005, p. 235), and Highway 79 is proposed for realignment (USFWS 2004, p. 332), which could adversely affect this occurrence. The USFS does not anticipate that the magnitude of impacts related to camping and hiking will be substantial, and these impacts will be avoided or mitigated by use of Forest Plan standards (USFS 2005, p. 234). Also, invasive, nonnative plants may pose a threat to *B. nevinii* habitat quality at this site.

One of the greatest threats to occupied habitat on the Cleveland National Forest is from wildland fire and the management of fire and fuels (*i.e.*, fire suppression and prevention activities). The Wildland-Urban Interface (WUI) Defense Zone overlaps about 43 percent of occupied habitat on Cleveland National Forest (USFS 2005, p. 237; USFWS 2005, p. 127). Some plants and/or habitat within the WUI Defense Zone could be removed or degraded under the Revised Land and Resource Management Plan due to fuel removal for fire protection or overly frequent fuel treatments (USFWS 2005, p. 127). Special management considerations or protection of the PCEs may be required to minimize disturbance to the vegetation and soils within this subunit; control invasive, nonnative plants; and maintain the natural fire regime of the area.

This subunit falls within the Conservation Area for the Western Riverside County MSHCP; however, the majority of this subunit is Federal land managed by the USFS. Therefore, we are not proposing USFS lands within this subunit for exclusion under section 4(b)(2) of the Act. On the other hand, we are proposing to exclude the private lands within this subunit from the final designation of critical habitat for *Berberis nevinii*. Please see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act—Western Riverside County Multiple Species Habitat Conservation Plan* for a detailed discussion.

Subunit 1C: South Flank Big Oak Mountain

Subunit 1C consists of approximately 87 ac (35 ha) of private land located north of Vail Lake on the south flank of Big Oak Mountain in southern Riverside County. This occurrence is mapped as four small subpopulations by CNDDB (2006); while the total number of plants is unknown, 17 *Berberis nevinii* plants were attributed to one of the subpopulations based on a 1989 survey (CNDDB 2006). *Berberis nevinii* individuals in this area are found on south-facing drainage bottoms in chaparral and sage scrub vegetation communities (PCE 1 and 3) (CNDDB 2006). Associated species include *Adenostoma fasciculatum*, *Arctostaphylos glauca*, *Artemisia californica*, and *Brickellia californica*. Soils in this area are classified primarily as Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded; with Las Posas rocky loam, 15 to 50 percent slopes, severely eroded; and Auld clay, 8 to 15 percent slopes to a lesser extent (PCE 2) (Service GIS data 2006).

We are proposing this subunit as critical habitat because it contains features essential to conservation of *Berberis nevinii*, and it contains a relatively large natural occurrence of the species (CNDDB 2006). This subunit has one of several relatively large occurrences (potentially the second largest) of *B. nevinii* in the Vail Lake area and thus has a greater potential for regeneration by seed. This site may also be ecologically unique for the species; Boyd and others (1989, p. 14) indicated that *B. nevinii* located in canyons draining the south flank of Big Oak Mountain are associated with springs or seepages, which appears to be unusual for the species. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

The primary threats to *Berberis nevinii* habitat in this area that may require special management considerations or protection of the PCEs are the indirect effects of urban/residential development, such as increased human recreation; erosion; incursion or spread of invasive, nonnative plants; and changes to the natural fire regime (*i.e.*, increased ignitions and fire frequency and shortened fire return intervals) that can lead to type conversion of shrublands to annual grasslands.

This subunit falls within the Conservation Area for the Western Riverside County MSHCP, and we are proposing to exclude the private lands within this subunit from the final designation of critical habitat for *B. nevinii*. Please see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act—Western Riverside County Multiple Species Habitat Conservation Plan* for a detailed discussion.

Subunit 1D: North of Vail Lake

Subunit 1D consists of approximately 22 ac (9 ha) of private land located immediately north of Vail Lake in southern Riverside County. This occurrence is mapped along a canyon just above the highwater line of Vail Lake, and consists of seven plants based on a 1989 survey (CNNDB 2006). *Berberis nevinii* individuals in this area are found in sandy and gravelly soils in a drainage bottom (PCE 1 and 2). The vegetation community is classified as coastal scrub and valley foothill riparian (PCE 3) (Service GIS data 2006). At this site, *B. nevinii* is associated with *Adenostoma fasciculatum*, *Arctostaphylos glauca*, *Rhus integrifolia*, *Juniperus californica*, and *Rhamnus crocea*; and to the north is a large grove of *Prosopis glandulosa* (CNDDB 2006). Soils in this area are classified as badland (PCE 2) (Service GIS data 2006).

We are proposing this subunit as critical habitat because it contains features essential to conservation of *Berberis nevinii*, and it contains a relatively large natural occurrence of the species (CNDDB 2006). This subunit is important for conserving *B. nevinii* as it is one of several relatively large occurrences in the Vail Lake area and thus has a greater potential for regeneration by seed. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

The primary threats to *Berberis nevinii* habitat in this area that may require special management considerations or protection of the PCEs are the indirect effects of urban/residential development, such as increased human recreation; erosion; incursion or spread of invasive, nonnative plants; and changes to the natural fire regime (*i.e.*, increased ignitions and fire frequency, and shortened fire return intervals that can lead to type conversion of shrublands to annual grasslands). This subunit falls within the Conservation Area for the Western Riverside County MSHCP, and we are proposing to exclude the private lands within this subunit from the final designation of critical habitat for *B. nevinii.* Please see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act—Western Riverside County Multiple Species Habitat Conservation Plan* for a detailed discussion.

Subunit 1E: South of Vail Lake/Peninsula

Subunit 1E consists of approximately 251 ac (102 ha) of private land located on the south and southwest side of Vail Lake in southern Riverside County. This site has the largest known natural occurrence of *Berberis nevinii*, collectively consisting of 134 plants based on a 1987 survey (Boyd 1987, pp. 7, 61–72; CNDDB 2006). These plants are located in several stands along both sides of the southwest arm of Vail Lake, the south shore and peninsula, and part of the west shore of the southeast arm of Vail Lake. *Berberis nevinii* individuals in this area are found in canyons, in a wash of 15 percent slope, and on north-facing ridges and slopes between 35 and 70 percent slope (PCE 1) (Boyd 1987, p. 61–72; CNDDB 2006), primarily in association with coastal scrub, mixed chaparral, and valley foothill riparian communities (PCE 3) (Service GIS data 2006). Associated species include, but are not limited to: *Artemisia californica, Adenostoma fasciculatum, Eriogonum fasciculatum, Salvia mellifera, Rhamnus crocea, Rhus ovata, Encelia farinosa, Baccharis glutinosa*, and *Yucca* sp. (Boyd 1987, p. 61–72). Soils in this area are classified as sandy loams (Arlington and Greenfield fine sandy loams, 8 to 15 percent slopes, eroded; Cajalco rocky fine sandy loam, 15 to 50 percent slopes, eroded; Hanford coarse sandy loam, 8 to 15 percent slopes, eroded; Lodi rocky loam, 25 to 50 percent slopes, eroded; Monserate sandy loam, 8 to 15 percent slopes, eroded; Monserate sandy loam, 15 to 25 percent slopes, severely eroded; Pachappa fine sandy loam, 2 to 8 percent slopes, eroded), gullied land, riverwash, and rough broken land (PCE 2) (Service GIS data 2006).

We are proposing this subunit as critical habitat because it contains features essential to conservation of *Berberis nevinii*, and it contains the largest known natural occurrence of the species (CNDDB 2006). This location also contains the bulk of known individuals in the Vail Lake/Oak Mountain area. Additionally, we interpret that reproduction has occurred at this site in the past based on the presence of several size (age) classes. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

The primary threats to *Berberis nevinii* habitat in this area that may require special management considerations or protection of the PCEs are the indirect effects of urban/residential development, such as increased human recreation; erosion; incursion or spread of invasive, nonnative plants (including *Tamarix* sp. and *Nicotiana glauca*) that can compete with native plant species; and changes to the natural fire regime (*i.e.*, increased ignitions and fire frequency and shortened fire return intervals) that can lead to type conversion of shrublands to annual grasslands). Part of this occurrence has burned in the past, and regeneration by stump sprouting has been observed (CNDDB 2006). Part of this area is fairly inaccessible, except by boat; however, other parts are in close proximity to roads, equestrian trails, and the boat launch area (Boyd 1987, pp. 61–72; CNDDB 2006), and thus may be more heavily impacted by recreational use. Rising lake levels could also adversely affect those individuals occurring adjacent to the lake (Boyd 1987, pp. 61–72; CNNDB 2006).

This site falls within the Conservation Area for the Western Riverside County MSHCP, and we are proposing to exclude the private lands within this subunit from the final designation of critical habitat for *B. nevinii.* Please see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act—Western Riverside County Multiple Species Habitat Conservation Plan* for a detailed discussion.

Subunit 1F: Temecula Creek East

Subunit 1F consists of approximately 20 ac (8 ha) of private land located southeast of Vail Lake on the north side of Temecula Creek in Riverside County. This occurrence is mapped as two small subpopulations; while the total number of plants is unknown, three plants were attributed to one of the subpopulations based on a 1989 survey (CNDDB 2006). *Berberis nevinii* individuals in this area are found on a bank adjacent to a dry wash (PCE 1) in a mixed chaparral community (CNDDB 2006) with coastal scrub and annual grassland components (PCE 3) (Service GIS data 2006). Associated species include *Adenostoma fasciculatum, Rhamnus crocea, Eriogonum fasciculatum, Rhus ovata,* and *Lonicera subspicata.* Fine, sandy soils are characteristic of the area (CNDDB 2006), and soils are classified as Badland and San Timoteo loam, 8 to 15 percent slopes, eroded (PCE 2) (Service GIS data 2006).

We are proposing this subunit as critical habitat because it contains features essential to conservation of *Berberis nevinii*, and it contains a relatively large natural occurrence of the

species (CNDDB 2006). This subunit may be important for conserving *B. nevinii* as it is one of several relatively large occurrences in the Vail Lake area, and thus has a greater potential for regeneration by seed. *Berberis nevinii* occupied this subunit at the time of listing, as identified in the final listing rule (63 FR 54956, October 13, 1998).

The primary threats to *Berberis nevinii* habitat in this area that may require special management considerations or protection of the PCEs are the indirect effects of urban/residential development, such as increased human recreation; erosion; incursion or spread of invasive, nonnative plants; and changes to the natural fire regime (*i.e.*, increased ignitions and fire frequency and shortened fire return intervals) that can lead to type conversion of shrublands to annual grasslands.

This site falls within the Conservation Area for the Western Riverside County MSHCP, and we are proposing to exclude the private lands within this subunit from the final designation of critical habitat for *B. nevinii.* Please see *Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act—Western Riverside County Multiple Species Habitat Conservation Plan* for a detailed discussion.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ''a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical.'' However, recent decisions by the 5th and 9th Circuit Court of Appeals have invalidated this definition (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F.3d 1059 (9th Cir 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)). Pursuant to current national policy and the statutory provisions of the Act, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species.

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

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

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

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

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, compliance with the requirements of section 7(a)(2) will be documented through the Service's issuance of: (1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or (2) a biological opinion for Federal actions that are likely to adversely affect listed species or critical habitat.

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

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

adversely modify or destroy proposed critical habitat.

Federal activities that may affect *Berberis nevinii* or its designated critical habitat will require section 7 consultation under the Act. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the Army Corps of Engineers under section 404 of the Clean Water Act or a permit under section 10(a)(1)(B) of the Act from the Service) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7 consultations.

Application of the Jeopardy and Adverse Modification Standards for Actions Involving Effects to Berberis nevinii and Its Critical Habitat

Jeopardy Standard

The Service applies an analytical framework for *Berberis nevinii* jeopardy analyses that relies heavily on the importance of core area populations to the survival and recovery of *B. nevinii*. The section 7(a)(2) analysis is focused not only on these populations but also on the habitat conditions necessary to support them.

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

Adverse Modification Standard

For the reasons described in the Director's December 9, 2004 memorandum, the key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species. Generally, the conservation role of *Berberis nevinii* critical habitat units is to support viable core area populations.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation. Activities that may destroy or adversely modify critical habitat may also jeopardize the continued existence of the species.

Activities that may destroy or adversely modify critical habitat are those that alter the PCEs to an extent that the conservation value of critical habitat for *Berberis nevinii* is appreciably reduced. Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore should result in consultation for *B. nevinii* include, but are not limited to:

(1) Activities that would directly or indirectly impact *Berberis nevinii* habitat and its PCEs. Such activities could include, but are not limited to: Residential or commercial development; fire prevention and suppression activities, such as the creation of firebreaks and brush clearing or thinning; off-road vehicle use; heavy recreational use; placement of recreational trailheads and facilities; road development, maintenance, or improvement projects, such as road grading, widening, or realignment; and flood control projects, such as vegetation stripping. These activities could change the physical and biological features of the habitat by affecting the topography of the site; by physically removing or damaging soils and associated vegetation; by altering the natural hydrology of the area; and by introducing and facilitating the spread of invasive, nonnative plant species.

(2) Activities that would alter fire frequency in areas occupied by *Berberis nevinii*. Such activities could include, but are not limited to, prescribed burns that are too frequent or poorly timed. These activities could reduce the ability of *B. nevinii* to grow and reproduce by altering soil and vegetation community structure and composition (*e.g.*, type conversion of shrublands into grasslands).

(3) Activities that would foster the introduction or spread of nonnative vegetation. These activities could include, but are not limited to: Seeding areas with nonnative species following a fire; planting nonnative species or using non-weed free hay straw for slope, bank, and soil erosion control; and ground-disturbing activities, such as road maintenance, improvement, or construction projects. These activities could reduce the ability of *Berberis nevinii* to grow and reproduce because nonnative plant species may crowd out or otherwise compete with *B. nevinii*. Additionally, an increase in nonnative plants could change the fire regime by creating conditions prone to frequent fire (*e.g.*, increased fuel loads and continuous fuel beds) and by altering soil composition.

All lands proposed as critical habitat for *Berberis nevinii*, including those that have been proposed for exclusion from the final designation, contain features essential to conservation of the species. All of the subunits proposed for designation are within the geographical range of the species, were known to be occupied at the time of listing, and are currently occupied by *B. nevinii*. Federal agencies already consult with us on activities in areas occupied by *B. nevinii*, and if the species may be affected by the action, to ensure that their actions do not jeopardize the continued existence of *B. nevinii*.

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

There are multiple ways to provide protection and management for species' habitat. Statutory and regulatory frameworks that exist at a local level can provide such protection and management, as can lack of pressure for change, such as areas too remote for anthropogenic disturbance. Finally, State, local, or private management plans as well as management under Federal agencies' jurisdictions can provide protection and management that may lessen or even eliminate any appreciable benefit to a designation of critical habitat. When we consider a plan to determine its adequacy in protecting habitat, we consider whether the plan, as a whole will provide the same level of protection that designation of critical habitat would provide. The plan need not lead to exactly the same result as a designation in every individual application, as long as the protection it provides is equivalent, overall. In making this determination, we examine whether the plan provides management, protection, or enhancement of the PCEs that is at least equivalent to that provided by a critical habitat designation, and whether there is a reasonable expectation that the management, protection, or enhancement actions will continue into the foreseeable future. Each review is particular to the species and the plan, and some plans may be adequate for some species and inadequate for others.

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

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If an exclusion is contemplated, then we must determine whether excluding the area would result in the extinction of the species. In the following sections, we address a number of general issues that are relevant to the exclusions we considered. In addition, the Service is conducting an economic analysis of the impacts of the proposed critical habitat designation and related factors, which will be available for public review and comment. Based on public comment on that document, the proposed designation itself, and the information in the final economic analysis, additional areas beyond those identified in this assessment may be excluded from critical habitat by the Secretary under the provisions of section 4(b)(2) of the Act. This is provided for in the Act, and in our implementing regulations at 50 CFR 242.19.

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without the cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995) and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002). Stein *et al.* (1995) found that only about 12 percent of listed species were found almost exclusively on Federal lands (90 to 100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally listed species are not known to occur on Federal lands at all.

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

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

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

The Department of the Interior's cooperative conservation policy is the foundation for developing the tools of conservation. These tools include conservation grants, funding for Partners for Fish and Wildlife Program, the Coastal Program, and cooperative-conservation challenge cost-share grants. Our Private Stewardship Grant program and Landowner Incentive Program provide assistance to private land owners in their voluntary efforts to protect threatened, imperiled, and endangered species, including the development and implementation of Habitat Conservation Plans.

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

Exclusions Under Section 4(b)(2) of the Act for Berberis nevinii

After consideration under section 4(b)(2) of the Act, we are proposing to exclude the following areas from critical habitat for *Berberis nevinii*: private lands covered by the Western Riverside County MSHCP, which includes five ac (2 ha) of the Agua Tibia Mountain Foothills subunit (1B), and all of the South Flank Big Oak Mountain subunit (1C) (87 ac (35 ha)), North of Vail Lake subunit (1D) (22 ac (9ha)), South of Vail Lake/Peninsula subunit (1E) (251 ac (102 ha)), and Temecula Creek East subunit (1F) (20 ac (8ha)). We believe that: (1) The private lands' value for

conservation is preserved by existing protective action, or (2) it is appropriate for exclusion pursuant to the ''other relevant factor'' provisions of section 4(b)(2) of the Act. We specifically solicit comment, however, on the inclusion or exclusion of such areas. A detailed analysis of our exclusion of these lands under section 4(b)(2) of the Act is provided below; starting with *General Principles of Section 7 Consultations Used in the 4(b)(2) Balancing Process.*

We evaluated existing management plans relevant to Federal lands occurring within the boundaries of proposed critical habitat for *Berberis nevinii* (*i.e.*, Subunit 1A and part of Subunit 1B). While Federal lands within subunits 1A and 1B fall within the Conservation Area for the Western Riverside County MSHCP, neither of the Federal land management agencies (USFS and BLM) is obligated to manage these lands in compliance with the MSHCP. Therefore, we have not identified any benefits of exclusion for USFS or BLM managed lands within Unit 1 (Subunit 1A and part of Subunit 1B) and are not proposing to exclude these lands under section 4(b)(2) of the Act.

We also evaluated the USFS land management plan for the Cleveland National Forest and other relevant documents (*i.e.*, USFS species management guide for *Berberis nevinii* and relevant MOUs) for potential exclusion under section 4(b)(2) of the Act. The USFS and Rancho Santa Ana Botanic Garden (Claremont, California) developed a species management guide for *B. nevinii* for the Angeles National Forest (Guide) (Mistretta and Brown 1989). The Guide provides management direction to the USFS for protecting the species while minimizing conflicts with other resource values and recommends specific actions, such as developing and implementing site-specific monitoring plans and surveying potential habitat for additional occurrences of *B. nevinii* (Mistretta and Brown 1989). However, this management guide was written for the Angeles National Forest, and thus does not provide specific guidance or recommendations for the *B. nevinii* occurrence on the Cleveland National Forest, which is included in this proposed critical habitat designation (Subunit 1B). On the other hand, a monitoring program was initiated in 1991 on the Angeles National Forest (Soza and Boyd 2000, p. 1), and the Angeles National Forest continues to utilize recommendations in the Guide when planning projects and managing ongoing activities (USFS 2005, p. 232).

In 1997, a Memorandum of Understanding (MOU) was signed between the Service, USFS Cleveland National Forest, and CDFG for a Conservation Strategy for Coastal Sage Scrub and Interdigitated Habitats (Strategy) (USDA, USDI, CDFG 1997). These agencies agreed to work cooperatively to protect and preserve coastal sage scrub and interdigitated sensitive habitats and their associated species on the Cleveland National Forest and contiguous lands. Specific actions under the Strategy included, but were not limited to: developing standards and guidelines which provide management that compliments surrounding habitat preserves; establishing landscape-scale fire management objectives to guide fire and vegetation management activities; and conferring with the Service and CDFG regarding land exchange and acquisition proposals (USDA, USDI, CDFG 1997, pp. 4–5). *Berberis nevinii* is recognized as a species associated with coastal sage scrub and chaparral communities in the geographic area covered by this MOU. However, the MOU does not make any decisions regarding site-specific project proposals that may be implemented by any of the signatories to the MOU, nor does it compel managers to implement any specific activity.

The USFS recently completed Revised Land and Resource Management Plans for the Cleveland, Angeles, and two other National Forests in southern California (Forest Plans) (USDA 2005). The goal of the Forest Plans is to describe a strategic direction for the management of the National Forests over the next 10 to 15 years. The Forest Plans also divide the National Forests into several ''Land Use Zones.'' The Land Use Zones were designed to describe the type of public use or administrative activities allowable in certain areas. The Land Use Zone where *Berberis nevinii* occurs on the Cleveland National Forest is classified as Developed Area Interface, which typically has a higher level of human use and infrastructure than that found in other Land Use Zones. As such, the USFS considers this *B. nevinii* occurrence to be less protected than the San Francisquito Canyon occurrence on the Angeles National Forest (USFS 2005, p. 238). No new permanent loss of *B. nevinii* occupied habitat is expected under the Forest Plans with the potential exception of areas within the WUI Defense Zone, which overlaps about 40 percent of occupied *B. nevinii* habitat in the Cleveland National Forest (USFS 2005, p. 237; Service 2005, p. 128). Thus, fire and fuels management within or near the WUI defense zones could directly and indirectly affect *B. nevinii* and its PCEs.

Overall, the Forest Plans provides general guidance on management of lands within the Cleveland National Forest. However, like the MOU mentioned previously, it does not make any decisions regarding USFS site-specific project proposals for implementation of the land resource management plan, nor does it compel managers to implement any specific activity. Thus, we have not identified any benefits of exclusion for USFS lands within Subunit 1B and are not proposing to exclude these lands under section 4(b)(2) of the Act.

We also evaluated the existing BLM land management plan that covers BLM parcels on Big Oak Mountain (Subunit 1A). Direction for management of these parcels is provided in the South Coast Resource Management Plan (RMP) for the California Desert District, Palm Springs South Coast Resource Area (BLM 1994). The goal of the RMP is to guide future management of approximately 296,000 acres of BLM-administered public lands within the South Coast Resource Area of southern California over the next 15 years (BLM 1994, pp. 1, 8). The RMP addresses five planning issues, one of which is related to threatened, endangered, and other sensitive species. The geographic area covered by this RMP is divided into four Management Areas, with Oak Mountain falling within the Riverside San Bernardino County Management Area. The RMP directs management of the Oak Mountain parcels for sensitive plant and wildlife species by acquiring and consolidating sensitive plant habitat. These parcels (totaling 888 acres) are closed to motorized vehicles and livestock grazing (BLM 1994, p. 28).

While the RMP provides overall direction to the BLM for managing sensitive species and their habitat on BLM-administered land in the Oak Mountain area, it does not make any decisions regarding BLM site-specific project proposals for implementation of the land management plan, nor does it compel managers to implement any specific activity. Overall, the RMP provides general guidance that can either benefit or remain neutral to sensitive species. Additionally, the biological opinions that the Service issued on August 31, 1992, and November 22, 1993, for the preferred alternative of the South Coast RMP did not take into account effects to *Berberis nevinii*, which had not been federally listed yet. Thus, we have not identified any benefits of exclusion for BLM lands within Subunit 1A and are not

proposing to exclude these lands under section 4(b)(2) of the Act.

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

The most direct, and potentially largest, regulatory benefit of critical habitat is that federally authorized, funded, or carried out activities require consultation pursuant to section 7(a)(2) of the Act to ensure that they are not likely to destroy or adversely modify critical habitat. There are two limitations to this regulatory effect. First, it only applies where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are not eroded. Critical habitat designation alone, however, does not require specific steps toward recovery.

Once consultation under section 7(a)(2) of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts are likely to occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory measures and terms and conditions to implement such measures are only specified when the proposed action would result in the incidental take of a listed animal species. Reasonable and prudent alternatives to the proposed Federal action would only be suggested when the biological opinion results in a jeopardy or adverse modification conclusion.

We also note that for 30 years prior to the Ninth Circuit Court's decision in *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service,* 378 F.3d 1059 (9th Cir 2004) (hereinafter *Gifford Pinchot*), the Service conflated the jeopardy standard with the standard for destruction or adverse modification of critical habitat when evaluating federal actions that affect currently-occupied critical habitat. The Court ruled that the two standards are distinct and that adverse modification evaluations require consideration of impacts on the recovery of species. Thus, under the *Gifford Pinchot* decision, critical habitat designations may provide greater benefits to the recovery of a species. However, we believe the conservation achieved through implementing habitat conservation plans (HCPs) or other habitat management plans is typically greater than would be achieved through multiple site-by-site, project-by-project, section 7(a)(2) consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7(a)(2) consultations only commit Federal agencies to prevent adverse modification to critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed project. Thus, any HCP or management plan which considers enhancement or recovery as the management standard will often provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

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

Educational Benefits of Critical Habitat

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

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

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat.

Benefits of Excluding Lands With HCPs or Other Approved Management Plans From Critical Habitat

The benefits of excluding lands with HCPs or other approved management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by a critical habitat designation. Most HCPs and other conservation plans take many years to develop, and upon completion are consistent with the recovery objectives for listed species that are covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine these conservation efforts and partnerships designed to proactively protect species to ensure that listing under the Act will not be necessary. Designation of critical habitat within the boundaries of management plans that provide conservation measures for a species could be viewed as a disincentive to those entities

currently developing these plans or contemplating them in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species are affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning. In fact, designating critical habitat in areas covered by a pending HCP or conservation plan could result in the loss of some conservation benefits to the species if participants abandon the planning process, in part because of the strength of the perceived additional regulatory compliance that such designation would entail. The time and cost of regulatory compliance for a critical habitat designation do not have to be quantified for them to be perceived as additional Federal regulatory burden sufficient to discourage continued participation in plans targeting listed species' conservation.

A related benefit of excluding lands within management plans from critical habitat designation is the unhindered, continued ability to seek new partnerships with future plan 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 approved management plan areas are designated as critical habitat, it would likely have a negative effect on our ability to establish new partnerships to develop these plans, particularly plans that address landscape-level conservation of species and habitats. By preemptively 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, even without the critical habitat designation. Such a consultation would review the effects of all activities covered by the HCP that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of ''harm'' at 50 CFR 17.3). In addition, Federal actions not covered by the HCP in areas occupied by listed species would still require consultation under section 7(a)(2) of the Act and would be reviewed for possibly significant habitat modification in accordance with the definition of harm referenced above.

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat.

Relationship of Critical Habitat to Approved Habitat Conservation Plans (HCPs)—Exclusion Under Section 4(b)(2) of the Act

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

We consider a current plan to provide adequate management or protection if it meets three criteria: (1) The plan is complete and provides the same or better level of protection from adverse modification or destruction than that provided through a consultation under section 7 of the Act; (2) there is a reasonable expectation that the conservation management strategies and actions will be implemented based on past practices, written guidance, or regulations; and (3) the plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology. We believe that the Western Riverside County MSHCP fulfills these criteria, and we are considering the exclusion of non-federal lands covered by this plan that provide for the conservation of *Berberis nevinii*.

The Western Riverside County MSHCP is a large-scale, multi-jurisdictional habitat conservation plan (HCP) that addresses 146 listed and unlisted ''Covered Species,'' including *Berberis nevinii*, within the 1.26-million ac (510,000 ha) Plan Area in western Riverside County. Participants in the MSHCP include 14 cities in western Riverside County; 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; California Department of Parks and Recreation; and the California Department of Transportation (Caltrans). The MSHCP was designed to establish a multi-species conservation program that minimizes and mitigates the expected loss of habitat and the incidental take of Covered Species. On June 22, 2004, the Service issued a single incidental take permit under section 10(a)(1)(B) of the Act to 22 Permittees under the MSHCP for a period of 75 years. The Service granted the participating jurisdictions ''take authorization'' of listed species in exchange for their contribution to the assembly and management of the MSHCP Conservation Area.

The MSHCP will establish approximately 153,000 ac (61,916 ha) of new conservation lands (Additional Reserve Lands) to complement the approximate 347,000 ac (140,426 ha) of existing natural and open space areas (*e.g.*, State Parks, USFS, and County Park lands known as Public/Quasi-Public (PQP) Lands) in forming the MSHCP Conservation Area. The location and configuration of the 153,000 ac (61,916 ha) Additional Reserve Lands is not mapped or precisely identified in the MSHCP, but rather is based on textual descriptions and will be chosen from within a 310,000-ac (125,453 ha) Criteria Area that will be interpreted as implementation of the MSHCP proceeds. The defined Criteria Area is divided into cells of approximately 160 ac each, and each cell or group of cells has specific conservation criteria associated with it (MSHCP Section 3.2.3). For *Berberis nevinii*, critical habitat subunits 1A through 1F within the Agua Tibia/Vail Lake unit are located entirely within the MSHCP Plan Area and are comprised of USFS, BLM, and private lands.

The private lands within proposed critical habitat for *Berberis nevinii* are within the Criteria Area and are targeted for inclusion within the MSHCP Conservation Area as potential Additional Reserve Lands. Specific conservation objectives in the MSHCP for *Berberis nevinii* provide for conservation and management of at least 8,000 ac (3,238 ha) of suitable habitat (defined as chaparral and Riversidean alluvial fan sage scrub between 984 and 2,162 ft (300 and 659 m) in elevation) in the Vail Lake area and all known locations for *B. nevinii* in the Vail Lake area. The Soboba Badlands occurrence is also located within proposed Additional Reserve Lands. Additionally, the MSHCP requires surveys for *B. nevinii* as part of the project review process for public and private projects where suitable habitat is present within a defined boundary of the Criteria Area (see Criteria Area Species Survey Area Map, Figure 6–2 of the MSHCP, Volume I). For locations with positive survey results, 90 percent of those portions of the property that provide long-term conservation value for the species will be avoided until it is demonstrated that the conservation objectives for the species are met.

As discussed in the *Background* section of this rule, we were unable to accurately quantify the exact number of *Berberis nevinii* occurrences or plants within the MSHCP Plan Area. Nevertheless, all of these occurrences except those identified below are located within either existing PQP lands or proposed Additional Reserve Lands.

Two records near Temecula are outside of existing PQP Lands and the proposed Additional Reserve Lands and may be impacted; however, these occurrences are likely extirpated. Another occurrence in the Temecula area needs to be verified, but may also be impacted. The goal of the MSHCP is to conserve all known locations of *B. nevinii* in the Agua Tibia/Vail Lake area and the Soboba Badlands. Additionally, new occurrences that are found as a result of survey efforts and are subsequently determined to be important to the overall conservation of the species may be included in the Additional Reserve Lands. Although the specific location of individual target areas for this species has yet to be identified, we agree that conservation of known occurrences of this plant in the Agua Tibia/Vail Lake area (which includes Oak Mountain) through the survey requirements, avoidance and minimization measures, and management for *B. nevinii* (and its PCEs) provided for in the Western Riverside County MSHCP exceeds any conservation value provided as a result of regulatory protections that may be afforded through a critical habitat designation.

We propose to exclude approximately 385 ac (156 ha) of non-Federal lands from the final critical habitat designation for *Berberis nevinii* under section 4(b)(2) of the Act. These non-Federal lands fall within the MSHCP Plan Area and include: approximately 5 ac (2 ha) of private lands near the foothills of the Agua Tibia Mountains north of Cleveland National Forest (part of Subunit 1B); approximately 87 ac (35 ha) of private lands on the south flank of Big Oak Mountain (Subunit 1C); approximately 22 ac (9 ha) of private land directly north of Vail Lake (Subunit 1D); approximately 251 ac (102 ha) of private land to the south of Vail Lake and on the Vail Lake peninsula, which is the area with the largest known occurrence of *B. nevinii* (Subunit 1E); and approximately 20 ac (8 ha) of private land north of Temecula Creek and southeast of Vail Lake (Subunit 1F). All of these lands are also within the MSHCP's Conservation Area and the MSHCP's Survey Area and will receive conservation benefits under the Additional Survey Needs and Procedures policy.

The Federal lands within Subunit 1A (BLM-managed) and Subunit 1B (USFS managed) are considered PQP lands under the MSHCP and as such are included within the overall 500,000-ac (202,343 ha) MSHCP Conservation Area. However, as explained in detail above, we are not proposing to exclude BLM or USFS lands within subunits 1A and 1B.

Benefits of Inclusion

We believe there is minimal benefit from designating critical habitat for *Berberis nevinii* on private lands in Unit 1 (subunits 1B, 1C, 1D, 1E, and 1F) because the habitat essential for this species in the vicinity of Vail Lake and Oak Mountain in western Riverside County is targeted for conservation under the Western Riverside County MSHCP as explained above.

The primary benefit of including an area within a critical habitat designation is the protection provided by section 7(a)(2) of the Act which directs Federal agencies to ensure that their actions do not result in the destruction or adverse modification of critical habitat. The protections provided by section 7(a)(2) apply to actions on private lands whenever there is a Federal nexus, such as the use of Federal funds or the need for a Federal permit to conduct a project. The designation of critical habitat may provide a different level of protection under section 7(a)(2) for *Berberis nevinii* separate from the obligation of a Federal agency to ensure that their actions are not likely to jeopardize the continued existence of the endangered species. 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 is still a limitation on the adverse effects that occur as opposed to a requirement to provide a conservation benefit.

The inclusion of these 385 ac (156 ha) of private land in the proposed critical habitat designation for *Berberis nevinii* is unlikely to provide any additional Federal regulatory benefits for the species consistent with the conservation standard based on the Ninth Circuit Court's decision in *Gifford Pinchot*. Inclusion of this area in critical habitat would require Federal agencies to ensure that their actions on these lands are not likely to result in the destruction or adverse modification of critical habitat. The potential benefits resulting from this additional analysis to determine destruction or adverse modification of critical habitat are likely to be minimal to nonexistent because known locations of this plant in the vicinity of Vail Lake and Oak Mountain will be conserved through the survey requirements, avoidance and minimization measures, and management of *B. nevinii* (and its PCEs) provided for in the Western Riverside County MSHCP. Additionally, new occurrences documented through survey efforts that are subsequently determined to be important to the overall conservation of the species may be included in the Additional Reserve Lands. We anticipate that these conservation measures will exceed any conservation value provided as a result of regulatory protections that may be afforded through a critical habitat designation.

Another potential benefit of critical habitat would be to signal the importance of these lands to Federal agencies, scientific organizations, State and local governments, and the public to encourage conservation efforts to benefit *Berberis nevinii* and its habitat. However, as discussed above, the importance of protecting the biological resource values of these lands, including *B. nevinii*, has already been clearly and effectively communicated to Federal, State, and local agencies and other interested organizations and members of the public through this proposed rule and the Western Riverside County MSHCP approval and implementation process.

In short, we expect the Western Riverside County MSHCP to provide enhanced protection and management of *Berberis nevinii* and its PCEs within areas considered essential for conservation of the species on private lands in the vicinity of Vail Lake and Oak Mountain. We expect the MSHCP to provide a greater level of conservation for *B. nevinii* on private lands in this area than would designation of critical habitat.

Benefits of Exclusion

In contrast to section 7(a)(2) of the Act, the Western Riverside County MSHCP commits the permittees to manage private lands in western Riverside County, California, for the benefit of *Berberis nevinii* and other covered species. These commitments go well beyond a simple requirement for Federal agencies to avoid adverse modification of critical habitat by including conservation and management of at least 8,000 ac (3,238 ha) of suitable *B. nevinii* habitat in the vicinity of Vail Lake and Oak Mountain, and all known locations of the species in this area. Excluding the 385 ac (156 ha) of private land in subunits 1B through 1F from critical habitat designation would recognize the permittees' commitment under the MSHCP to manage non-Federal lands in western Riverside County consistent with the conservation goals and objectives of the MSHCP. It would also provide additional incentive to the permittees to maintain and strengthen the partnerships created by their official

participation in the MSHCP planning process, especially considering the high level of cooperation by the participants in the MSHCP to conserve this taxon.

Benefits of Exclusion Outweigh the Benefits of Inclusion

We have reviewed and evaluated the proposed exclusion of approximately 385 ac (156 ha) of non-Federal lands within the MSHCP Plan Area from the final designation of critical habitat, and we have determined that the benefits of excluding the non-Federal lands in Unit 1 outweigh the benefits of including these lands. The PCEs required by *Berberis nevinii* will benefit from the conservation measures outlined in the MSHCP. In summary, these conservation measures include protecting and managing important habitat containing PCEs within the MSHCP Conservation Area, primarily through the protection of habitat from surface-disturbing activities; implementing specific management and monitoring practices to help ensure conservation of *B. nevinii* in the Plan Area; maintaining physiological and ecological characteristics of occupied habitat and suitable areas not known to be occupied (*e.g.*, managing flood control activities, nonnative species, and other activities so as to limit alterations to the natural hydrologic and fire regime); and conducting surveys and implementing other required procedures to ensure avoidance of impacts to at least 90 percent of suitable habitat areas determined important to the long-term conservation of *B. nevinii* within the Criteria Area. The specific areas identified as subunits 1C, 1D, 1E, and 1F, as well as the non-Federal lands identified within Subunit 1B, will be addressed under the MSHCP. These specific conservation actions, survey requirements, avoidance and minimization measures, and management of *B. nevinii* and its habitat/PCEs as outlined in the MSHCP exceed any conservation value provided as a result of regulatory protections that may be afforded through a critical habitat designation.

The exclusion of these lands from critical habitat would also help preserve the partnerships that we have developed with the local jurisdictions and project proponents in the development of the MSHCP. The benefits of excluding these lands from critical habitat would outweigh the minimal benefits of including these lands as critical habitat, including the educational benefits gained by informing the public of areas important for the long-term conservation of this species. Such educational benefits can still be accomplished from materials provided on our Web site. Furthermore, many of the educational benefits of critical habitat designation would be achieved through the overall designation, notice, and public comment process, and would occur whether or not these particular subunits are designated.

Exclusion Would Not Result in Extinction of the Species

We do not believe that the exclusion of 385 ac (156 ha) from the final designation of critical habitat for *Berberis nevinii* would result in the extinction of the species because the Western Riverside County MSHCP provides for the conservation of this species and its PCEs on occupied areas in the Agua Tibia/Vail Lake area (including Oak Mountain), as well as areas discovered to be occupied by *B. nevinii* during surveys of suitable habitat within a defined boundary of the Criteria Area. Importantly, as we stated in our biological opinion for the MSHCP (Service 2004), while some loss of modeled habitat for *B. nevinii* is anticipated due to implementation of the MSHCP, implementation of the plan will not jeopardize the continued existence of this species.

The jeopardy standard of section 7 and routine implementation of conservation measures through the section 7 process will also provide assurances that the species will not go extinct. The proposed exclusion of critical habitat leaves these protections unchanged from those that would exist if the proposed excluded areas were designated as critical habitat.

Economic Analysis

An analysis of the economic impacts of proposing critical habitat for *Berberis nevinii* is being prepared. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.fws.gov/carlsbad*, or by contacting the Carlsbad Fish and Wildlife Office directly (see **ADDRESSES** section). Based on public comments, the proposed designation itself, and the information in the full economic analysis, additional areas beyond those identified in this assessment may be excluded from final critical habitat by the Secretary under the provisions of section 4(b)(2) of the Act. This is provided for in the Act and in our implementing regulations at 50 CFR 242.19.

Peer Review

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

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

Public Hearings

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

Clarity of the Rule

Executive Order 12866 (Regulatory Planning and Review) requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of the sections, use of headings, paragraphing, and so forth) aid or reduce its clarity? (4) Is the description of the notice in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? (5) What else could we do to make this proposed rule easier to understand?

Send a copy of any comments on how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW.,

Washington, DC 20240. You may e-mail your comments to this address: *Exsec@ios.doi.gov*.

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule in that it may raise novel legal and policy issues, but it is not anticipated to have an annual effect on the economy of $100 million or more or affect the economy in a material way. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule. We are preparing a draft economic analysis of this proposed action, which will be available for public comment, to determine the economic consequences of designating the specific area as critical habitat. This economic analysis also will be used to determine compliance with Executive Order 12866, Regulatory Flexibility Act, Small Business Regulatory Enforcement Fairness Act, Executive Order 12630, Executive Order 13211, and Executive Order 12875.

Further, Executive Order 12866 directs Federal Agencies promulgating regulations to evaluate regulatory alternatives (Office of Management and Budget, Circular A–4, September 17, 2003). Pursuant to Circular A–4, once it has been determined that the Federal regulatory action is appropriate, then the agency will need to consider alternative regulatory approaches. Since the determination of critical habitat is a statutory requirement pursuant to the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*), we must then evaluate alternative regulatory approaches, where feasible, when promulgating a designation of critical habitat.

In developing our designations of critical habitat, we consider economic impacts, impacts to national security, and other relevant impacts under section 4(b)(2) of the Act. Based on the discretion allowable under this provision, we may exclude any particular area from the designation of critical habitat providing that the benefits of such exclusion outweigh the benefits of specifying the area as critical habitat and that such exclusion would not result in the extinction of the subspecies. As such, we believe that the evaluation of the inclusion or exclusion of particular areas, or combination thereof, in a designation constitutes our regulatory alternative analysis.

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

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

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the Regulatory Flexibility Act (RFA) to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, the Service lacks the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, the RFA finding is deferred until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and E.O. 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, the Service will publish a notice of availability of the draft economic analysis of the proposed designation and reopen the public comment period for the proposed designation for an additional 60 days. The Service will include with the notice of availability, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination. The Service has concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that the Service makes a sufficiently informed determination based on adequate economic information and provides the necessary opportunity for public comment.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. Although this proposed rule to designate critical habitat for *Berberis nevinii* is a significant regulatory action under Executive Order 12866, it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

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

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

(a) This rule would not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or Tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or Tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services

Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) A condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

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

(b) We do not believe that this rule would significantly affect small governments. The lands being proposed for final critical habitat designation are owned by the Federal Bureau of Land Management and the U.S. Forest Service. Neither of these government entities fit the definition of ''small governmental jurisdiction.'' As such, a Small Government Agency Plan is not required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

Takings

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of designating critical habitat for the *Berberis nevinii* in a takings implications assessment. The takings implications assessment concludes that this proposed designation of critical habitat for the *B. nevinii* would not pose significant takings implications. However, we will further evaluate this issue as we conduct our economic analysis and review and revise this assessment as warranted.

Federalism

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

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of *Berberis nevinii.*

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

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

National Environmental Policy Act

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld in the courts of the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996)).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no tribal lands occupied at the time of listing that contain the features essential for the conservation of *Berberis nevinii,* and no Tribal lands that are unoccupied areas that are essential for the conservation of *B. nevinii.* Therefore, the designation of critical habitat for *B. nevinii* has not been proposed on Tribal lands.

References Cited

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

Authors

The primary authors of this package are the Nevada Fish and Wildlife Office, Reno, Nevada, and the Carlsbad Fish and Wildlife Office, Carlsbad, California.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. In § 17.12(h), revise the entry for ''*Berberis nevinii*'' under ''FLOWERING PLANTS'' to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
FLOWERING PLANTS							
* *	*	*	*	*	*	*	*
Berberis nevinii	Nevin's barberry	U.S.A. (CA) ..	Berberidaceae	E	648	17.96(a)	NA.
* *	*	*	*	*	*	*	*

3. Amend § 17.96(a) as follows:

a. Add ''Family Berberidaceae'' in alphabetical order of the family names; and

b. Add a critical habitat entry for ''Berberis nevinii'' under Family Berberidaceae to read as set forth below.

§ 17.96 Critical habitat—plants.

(a) Flowering Plants.

* * * * *

Family Berberidaceae: *Berberis nevinii* (Nevin's barberry)

(1) Critical habitat is depicted for Riverside County, California, in the text and on the maps below.

(2) The primary constituent elements (PCEs) of critical habitat for *Berberis nevinii* are:

(i) Low-gradient (*i.e.*, nearly flat) canyon floors, washes and adjacent terraces, and mountain ridges/summits, or eroded, generally northeast- to northwest-facing mountain slopes and banks of dry washes typically of less than 70 percent slope that provide space for plant establishment and growth;

(ii) Well-drained alluvial soils primarily of non-marine sedimentary origin, such as Temecula or sandy arkose soils; soils of the Cajalco-Temescal-Las Posas soil association formed on gabbro (igneous) or latite (volcanic) bedrock; metasedimentary substrates associated with springs or seeps; and heavy adobe/gabbro-type soils derived from metavolcanic geology (Mesozoic basic intrusive rock) that provide the appropriate nutrients and space for growth and reproduction; and

(iii) Scrub (chaparral, coastal sage, alluvial, riparian) and woodland (oak, riparian) vegetation communities between 900 and 3,000 ft (275 and 915 m) in elevation that provide the appropriate cover for growth and reproduction.

(3) Critical habitat does not include man made structures (such as buildings, aqueducts, airports, roads, and other paved areas) existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) North American Datum (NAD) 1927 coordinates. We used aerial photographs as well as soils and vegetation data to help refine unit boundaries based on presence of PCEs.

(5) Unit 1. Agua Tibia/Vail Lake, Riverside County, California.

(i) Subunit 1A for *Berberis nevinii*, Big Oak Mountain Summit Subunit, Riverside County, California. From USGS 1:24,000 quadrangle Sage, lands bounded by the following UTM NAD27 coordinates (E, N): 502200, 3708400; 502400, 3708400; 502400, 3708100; 502200, 3708100; thence returning to 502200, 3708400.

(ii) Subunit 1B for *Berberis nevinii*, Agua Tibia Mountain Foothills Subunit, Riverside County, California. From USGS 1:24,000 quadrangle Vail Lake, lands bounded by the following UTM NAD27 coordinates (E, N): 504222, 3703100; 504400, 3703100; 504400, 3703000; 504500, 3703000; 504500, 3702700; 504300, 3702700; 504300, 3702900; 504200, 3702900; 504200, 3703086; thence returning to 504222, 3703100.

(iii) Subunit 1C for *Berberis nevinii*, South Flank Big Oak Mountain Subunit, Riverside County, California. From USGS 1:24,000 quadrangles Sage and Vail Lake, lands bounded by the following UTM NAD27 coordinates (E, N): 501900, 3707400; 502100, 3707400; 502100, 3707200; 502400, 3707200; 502400, 3707100; 502700, 3707100; 502700, 3706900; 502100, 3706900; 502100, 3706400; 501900, 3706400; thence returning to 501900, 3707400.

(iv) Subunit 1D for *Berberis nevinii*, North Vail Lake Subunit, Riverside County, California. From USGS 1:24,000 quadrangles Sage and Vail Lake, lands bounded by the following UTM NAD27 coordinates (E, N): 502600, 3706600; 502900, 3706600; 502900, 3706300; 502600, 3706300; thence returning to 502600, 3706600.

(v) Subunit 1E for *Berberis nevinii*, South of Vail Lake/Peninsula Subunit, Riverside County, California. From USGS 1:24,000 quadrangle Vail Lake, lands bounded by the following UTM NAD27 coordinates (E, N): 502473, 3705611; 502487, 3705628; 502494, 3705628; 502641, 3705560; 502648, 3705557; 502653, 3705552; 502659, 3705538; 502665, 3705518; 502667, 3705506; 502676, 3705495; 502684, 3705486; 502693, 3705468; 502695, 3705461; 502693, 3705456; 502700, 3705444; 502707, 3705436; 502712, 3705428; 502712, 3705419; 502708, 3705408; 502705, 3705396; 502698, 3705384; 502689, 3705376; 502676, 3705356; 502669, 3705334; 502671, 3705311; 502677, 3705301; 502672, 3705285; 502669, 3705266; 502659, 3705234; 502649, 3705196; 502652, 3705152; 502658, 3705122; 502661, 3705080; 502665, 3705034; 502674, 3705014; 502685, 3704979; 502705, 3704936; 502708, 3704929; 502724, 3704909; 502725, 3704908; 502736, 3704876; 502793, 3704820; 502828, 3704794; 502859, 3704788; 502865, 3704791; 502879, 3704784; 502907, 3704779; 502941, 3704777; 503019, 3704751; 503051, 3704744; 503079, 3704742; 503108, 3704745; 503134, 3704748; 503151, 3704748; 503164, 3704748; 503174, 3704748; 503187, 3704746; 503198, 3704737; 503207, 3704732; 503215, 3704728; 503281, 3704698; 503289, 3704697; 503300, 3704696; 503300, 3704300; 503600, 3704300; 503600, 3704100; 503500, 3704100; 503500, 3703900; 503200, 3703900; 503200, 3704100; 503100, 3704100; 503100, 3704600; 502700, 3704600; 502700, 3704700; 502300, 3704700; 502300, 3704500; 502200, 3704500; 502200, 3704200; 502000, 3704200; 502000, 3704000; 501600, 3704000; 501600, 3704300; 501700, 3704300; 501700, 3705100; 501900, 3705100; 501900, 3704900; 502000, 3704900; 502000, 3704600; 502009, 3704588; 502038, 3704568; 502064, 3704558; 502111, 3704555; 502159, 3704562; 502191, 3704583; 502222, 3704611; 502247, 3704656; 502274, 3704719; 502287, 3704762; 502287, 3704806; 502271, 3704875; 502242, 3704940; 502237, 3704948; 502237, 3704961; 502272, 3704992; 502296, 3705015; 502330, 3705040; 502358, 3705052; 502382, 3705079; 502404, 3705116; 502423, 3705150; 502434, 3705160; 502436, 3705171; 502487, 3705293; 502496, 3705308; 502500, 3705322; 502497, 3705332; 502501, 3705348; 502497, 3705372; 502487, 3705414; 502481, 3705428; 502475, 3705447; 502456, 3705535; thence returning to 502473, 3705611.

(vi) Subunit 1F for *Berberis nevinii*, Temecula Creek East Subunit, Riverside County, California. From USGS 1:24,000 quadrangle Vail Lake, lands bounded by the following UTM NAD27 coordinates (E, N): 504400, 3704200; 504600, 3704200; 504600, 3703800; 504400, 3703800; thence returning to 504400, 3704200.

(vii) Map of Subunits 1A through 1F (Map 1) follows.

Map 1: Unit 1—Vail Lake (Subunit 1A Big Oak Mountain, Subunit 1B Agua Tibia Mountain Foothills, Subunit 1C South Flank Big Oak Mountain, Subunit 1D North of Vail Lake, Subunit 1E South of Vail Lake/Peninsula, Subunit 1F Temecula Creek East), Riverside County, California.

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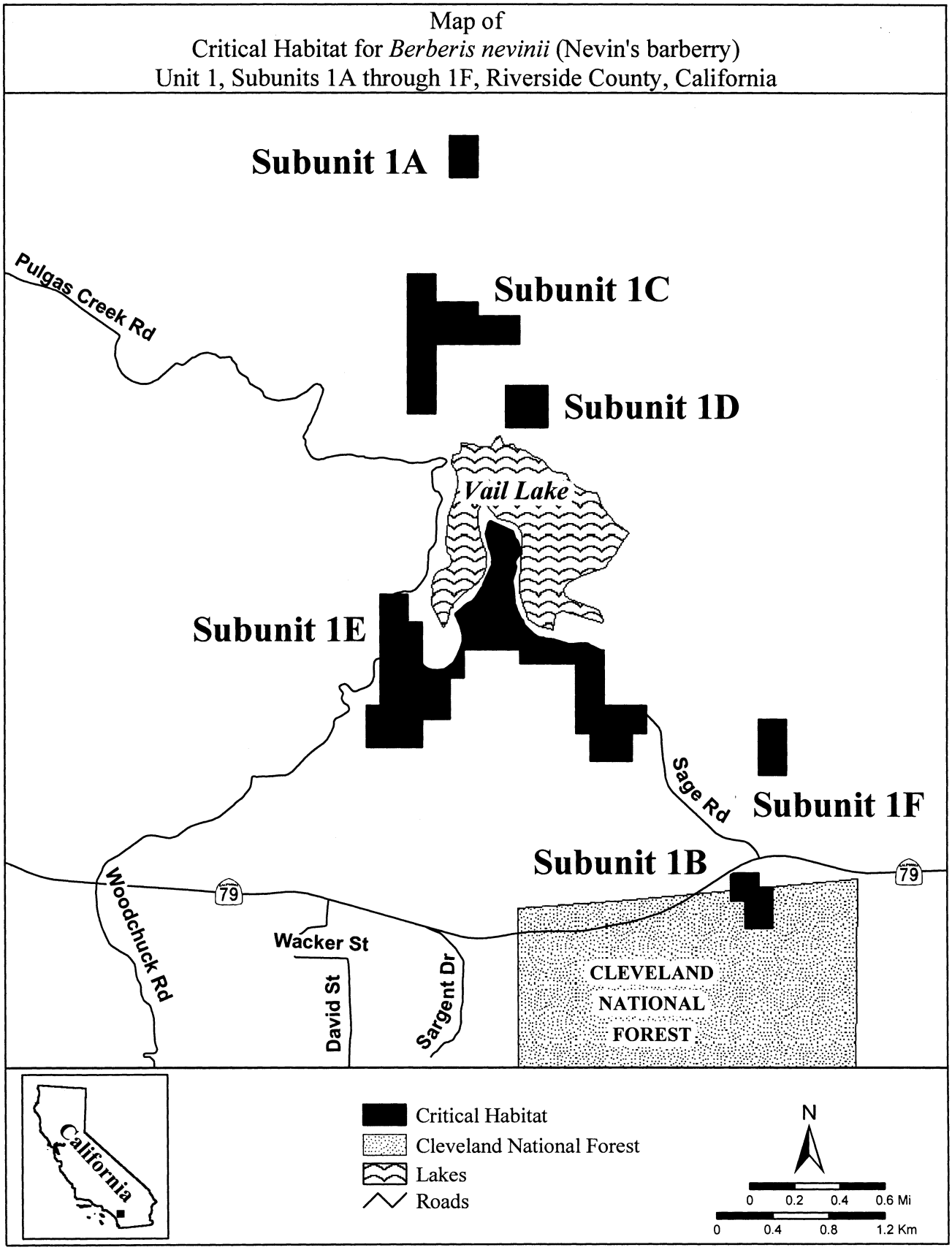
Map of
Critical Habitat for *Berberis nevinii* (Nevin's barberry)
Unit 1, Subunits 1A through 1F, Riverside County, California
Subunit 1A
Subunit 1C
Subunit 1D
Subunit 1E
Subunit 1F
Subunit 1B
Pulgas Creek Rd
Vail Lake
Sage Rd
Woodchuck Rd
Wacker St
David St
Sargent Dr
79
CLEVELAND NATIONAL FOREST
California
Critical Habitat
Cleveland National Forest
Lakes
Roads
N
0 0.2 0.4 0.6 Mi
0 0.4 0.8 1.2 Km

* * * * *

Dated: January 30, 2007.

David M. Verhey,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 07–472 Filed 2–5–07; 8:45 am]

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