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50 CFR Part 17

**Endangered and Threatened Wildlife and
Plants; Revised Designation of Critical
Habitat for the Quino Checkerspot
Butterfly (*Euphydryas editha quino*);
Proposed Rule**

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service**

[FWS-R8-ES-2008-0006, 92210-1117-0000, ABC Code: B4]

50 CFR Part 17

RIN 1018-AV23

Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Quino Checkerspot Butterfly (*Euphydryas editha quino*)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to revise currently designated critical habitat for the Quino checkerspot butterfly (*Euphydryas editha quino*) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 98,487 acres (ac) (39,857 hectares (ha)) fall within the boundaries of the proposed revised critical habitat designation: 23,494 ac (9,508 ha) are federally owned; 7,756 ac (3,139 ha) are owned by the State of California; 4,359 ac (1,764 ha) are Tribal lands; 7,739 ac (3,132 ha) are owned by city or county governments; and 55,139 ac (22, 314 ha) are privately owned. Of these 98,487 ac (39,857 ha), we are considering excluding 1,684 ac (681 ha) of land within the San Diego County Multiple Species Conservation Plan's City of Chula Vista Subarea Plan, and 37,245 ac (15,073) of non-Federal land within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) area. Areas included in the proposed revision are in Riverside and San Diego Counties, California.

DATES: We will accept comments from all interested parties until March 17, 2008. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by March 3, 2008.

ADDRESSES: If you wish to comment on this proposed rule, you may submit your comments and materials by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: 1018-AV23; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all comments on [http://](http://www.regulations.gov)

www.regulations.gov. This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Jim Bartel, Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92011; telephone 760-431-9440; facsimile 760-431-5901. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:**Public Comments**

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

(1) The reasons why we should or should not designate habitat as "critical habitat" under section 4 of the Act (16 U.S.C. 1531 et seq.), including whether there are threats to the subspecies from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designation of critical habitat is not prudent;

(2) Specific information on:

- The amount and distribution of Quino checkerspot butterfly habitat;
- What areas within the geographical area occupied at the time of listing that contain features essential to the conservation of the subspecies we should include in the designation and why; and
- What areas not within the geographical area occupied at the time of listing are essential for the conservation of the subspecies and why;

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

(4) Any probable economic, national security, or other impacts of designating any areas that may be included in the final designation, and, in particular, any impacts on small entities, and the benefits of including or excluding areas that exhibit these impacts;

(5) Whether the City of Chula Vista Subarea Plan (under the San Diego County Multiple Species Conservation Program):

- Is being implemented as set forth in the Plan;
- 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;

- Provides for the implementation of conservation management strategies and actions for the foreseeable future, based on past practices, written guidance, or regulations; and

- Provides conservation strategies and measures consistent with currently accepted principles of conservation biology;

(6) Whether the Western Riverside County MSHCP:

- Is being implemented as set forth in the MSHCP and Implementing Agreement (IA) with regard to the Quino checkerspot butterfly;

- Provides the same or better level of protection from adverse modification or destruction of habitat essential to the conservation of the subspecies than that provided through consultation under section 7 of the Act;

- Provides for the implementation of conservation management strategies and actions for the foreseeable future, based on past practices, written guidance, or regulations; and

- Provides conservation strategies and measures consistent with currently accepted principles of conservation biology;

(7) Whether we should include or exclude the Tribal lands of the Cahuilla Band of Indians and Campo Band of Kumeyaay Indians from final revised critical habitat and why;

(8) Whether there are areas we previously designated, but are not proposing for revised designation here, that should be designated as critical habitat; and

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

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not accept comments you send by e-mail or fax. Please note that we may not consider comments we receive after the date specified in the **DATES** section in our final determination.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that we will post your entire comment—including your personal identifying information—on <http://www.regulations.gov>. While you can ask us in your comment to withhold your personal identifying information from

public review, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on <http://www.regulations.gov>, or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92011; telephone 760-431-9440.

Background

We intend to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on the Quino checkerspot butterfly, refer to the final listing rule published in the **Federal Register** on January 16, 1997 (62 FR 2313), the final rule designating critical habitat published in the **Federal Register** on April 15, 2002 (67 FR 18356), and the Recovery Plan for the Quino Checkerspot Butterfly (*Euphydryas editha quino*) (recovery plan; Service 2003a). The recovery plan was co-authored by a Technical Recovery Team of seven expert biologists and ecologists (Service 2003a, p. ii), and provides a comprehensive scientific review and analysis of published and non-published information through 2002 relevant to conservation of the Quino checkerspot butterfly. While an extensive amount of peer-reviewed, published scientific information is available on the species *Euphydryas editha* (Edith's checkerspot butterfly), such information specific to the Quino checkerspot butterfly subspecies is relatively sparse.

Therefore, much of the information used in the final listing rule (62 FR 2313, January 16, 1997), the previous final rule designating critical habitat (67 FR 18356, April 15, 2002), and the recovery plan (Service 2003a) has been based on research on other subspecies of Edith's checkerspot. A number of biological and ecological similarities exist among subspecies of Edith's checkerspot (Service 2003a, p. 7), including similar life histories, shared or related host plant species, and similar movement behavior. We believe that extrapolation of data collected on other Edith's checkerspot butterfly subspecies, particularly the federally endangered bay checkerspot butterfly (*Euphydryas editha bayensis*), to the Quino checkerspot butterfly is justified in most cases (67 FR 18356, April 15, 2002).

Taxonomy and Biology

The Quino checkerspot butterfly is a member of the family Nymphalidae

(brushfooted butterflies) and the subfamily Melitaeinae (checkerspots and fritillaries). The life cycle of the Quino checkerspot butterfly includes four distinct life stages: Egg, larva (caterpillar), pupa (chrysalis), and adult, with the larval stage divided into 5 to 7 instars (periods between molts, or shedding skin) (Service 2003a, p. 157). Typically there is one generation of adults per year, although larvae may remain in diapause (summer dormancy) for multiple years prior to maturation (Service 2003a, p. 8).

Distribution

The Quino checkerspot butterfly was historically distributed throughout the coastal portion of southern California (Los Angeles, Orange, western Riverside, San Diego, and southwestern San Bernardino Counties; Service 2003a, p. 32), and northern Baja California, Mexico (Mattoni, *et al.* 1997, p. 105). The historical distribution of the Quino checkerspot butterfly included the westernmost slopes of the Santa Monica Mountains, Los Angeles Plain and Transverse Ranges to the edge of the upper Anza-Borrego Desert, and south to El Rosario in Baja California, Mexico (Mattoni, *et al.* 1997, pp. 104-105). Extant U.S. populations are apparently restricted to southwest Riverside and southern San Diego Counties (Service 2003a, p. 3; see further discussion below under Status and Local Distribution of Populations).

Behavior and Population Structure

Scientific information indicates that Quino checkerspot butterfly populations display metapopulation dynamics characterized by highly variable habitat occupancy patterns, similar to most subspecies of Edith's checkerspot butterfly (Mattoni, *et al.* 1997, p. 111; Service 2003a, pp. 21-27). Edith's checkerspot butterfly metapopulation structure is described by Ehrlich and Murphy (1987, p. 123) as subdivision of a population into subpopulations that occupy clusters of habitat patches and interact extensively. Harrison, *et al.* (1988, p. 360) described Edith's checkerspot butterfly metapopulation structure as: "a set of [subpopulations] that are interdependent over ecological time." Although subpopulations within a metapopulation may change in size independently, their probabilities of existing at a given time are not independent, because they are linked by an extirpation and mutual recolonization process that occurs every 10 to 100 generations (Harrison, *et al.* 1988, p. 360). Ehrlich and Murphy (1987, p. 127) noted that the minimum viable population approach favored by

many conservation biologists may not be appropriate for the Edith's checkerspot butterfly; instead, focus should be shifted toward "minimum viable metapopulations." Minimum viable metapopulation size is the minimum number of interacting local populations (and available habitat patches) required to balance subpopulation extirpations and recolonizations, and therefore required for long-term persistence (Hanski, *et al.* 1996, p. 527). No minimum viable metapopulation sizes have been assessed for the Quino checkerspot butterfly. Metapopulation viability analyses have been conducted for other species of nymphalid butterflies (Schtickzelle and Baguette 2004, p. 277; Schtickzelle, *et al.* 2005, p. 89) and one species within the genus *Euphydryas* (Wahlberg, *et al.* 2002, p. 224); however, these analyses are not applicable to Quino checkerspot butterfly as these studies all examined species that occur in other types of habitats (e.g., forest clear cuts, bogs, and marshes).

Harrison (1989, p. 1241) found that, although dispersal direction from habitat patches seemed to be random in the bay checkerspot butterfly, dispersing butterflies were likely to move into habitat patches when they passed within approximately 163 feet (ft) (50 meters (m)) of those habitat patches. Dispersing butterflies were most likely to remain in habitat patches where existing bay checkerspot butterfly density was low (Harrison 1989, p. 1241). Bay checkerspot butterfly occupancy patterns also suggested that unoccupied habitat separated from occupied habitat by hilly terrain was less likely to be colonized than habitat separated by flat ground (Harrison 1989, p. 1241). Harrison (1989, pp. 1241, 1242) concluded that the long-term habitat recolonization pattern of her study population was likely due to relatively large numbers of bay checkerspot butterflies having dispersed from consistently occupied "source" habitat. High habitat colonization rates probably only occur during rare outbreak years, when high local densities combine with favorable establishment conditions in unoccupied habitat (Harrison 1989, p. 1242). These rare outbreak events are also thought to play a crucial role in Quino checkerspot butterfly metapopulation resilience and subspecies' survival (Murphy and White 1984, p. 353; Ehrlich and Murphy 1987, p. 127).

Delineating Population Footprints (Distribution)

Our ability to delineate individual population footprints (distribution) for

the Quino checkerspot butterfly is limited to correlating presence-absence survey observations with mapped habitat components. Quino checkerspot butterfly habitat patches are defined in any given year by adult movement within annually shifting host plant and nectar source distributions. Geographic population footprints have not been quantified for the Quino checkerspot butterfly. Therefore, the recovery plan discusses Quino checkerspot butterfly population locations in terms of "occurrence complexes" (Service 2007, p. 35), which are our best estimators based on recorded movement distances (see below discussion). Occurrence complexes are mapped in the recovery plan using a 0.6 mile (mi) (1 kilometer (km)) movement radius from each butterfly observation, and may be based on the observation of a single individual. Occurrences within approximately 1.2 mi (2 km) of each other are considered to be part of the same occurrence complex, as these occurrences are proximal enough that the observed butterflies were likely to have come from the same population (Service 2003a, p. 35). All post-listing butterfly observations are classified as occurrence complexes, and the only one considered extirpated is Harford Springs. Occurrence complexes may expand due to new observation locations, or contract due to habitat loss (e.g. occurrence complexes defined in part by development, see Service 2003a, p. 78). Information regarding habitat within and contiguous with an occurrence complex must be used to estimate population distributions associated with occurrence complexes (Service 2003a, p. 35).

Long-distance movement in bay checkerspot butterflies has been documented as far as 4 mi (6.4 km; 1 male) (Murphy and Ehrlich 1980, p. 319), 3.5 mi (5.6 km; 1 male), and 2 mi (3 km; 1 female) (Harrison 1989, p. 1239). White and Levin (1981) conducted the only mark-recapture movement study including Quino checkerspot butterflies. White and Levin (1981) studied within-habitat patch movement of the Quino and bay checkerspot butterfly subspecies. They concluded that patterns of dispersal changed "dramatically" from year to year (White and Levin 1981, p. 348), and Quino checkerspot butterflies were less sedentary than the more heavily studied bay checkerspot butterflies (White and Levin 1981, p. 105). The high rate of dispersal observed by White and Levin (1981, p. 348), when it occurs during outbreak events, would result in expansion of existing population

distributions, and recolonization of habitat patches where subpopulations have been extirpated within a metapopulation distribution, as hypothesized by Murphy and White (1984, p. 353).

Although the average mark-recapture distance traveled by a Quino checkerspot butterfly in White and Levin's (1981, p. 349) study was only 305 ft (93 m), recorded movement distances were limited by the local study area. White and Levin (1981, p. 349) stated, "It seems likely from the lower rate of return in 1972 and from the observed pattern of out-dispersal that many marked animals dispersed beyond the area covered by our efforts that year. This out-dispersal might make the value for average distance [traveled] in 1972 an underestimate of significant magnitude" (1981, p. 353). According to recorded Edith's checkerspot butterfly movement distances (Gilbert and Singer 1973, pp. 65, 66; Harrison, *et al.* 1988, pp. 367–380; Harrison 1989, pp. 1239, 1240), occurrence complexes appropriately describe the area within which a significant proportion of the habitat patch associated with individual observed butterflies is likely to occur (Service 2003a, p. 35). The size of occurrence complexes is defined as the total area encompassed by all 1.2 mi (2 km) movement radii from individual butterfly observation locations. New occurrence information since 2002 supports expanding some occurrence complexes and/or merging some separate occurrence complexes that were previously described in the Quino checkerspot butterfly recovery plan.

Some occurrence complexes were identified in the recovery plan (Service 2003a, p. 35) as "core." Core occurrence complexes are those that, based on geographic size, number of reported individuals, and repeated observations, appear to be centers of population density. Such population density centers are likely to contain "source" habitat (supporting "source" subpopulations) for a Quino checkerspot butterfly metapopulation (Murphy and White 1984, p. 353; Ehrlich and Murphy 1987, p. 125; Mattoni, *et al.* 1997, p. 111), or "source" populations for megapopulations (a group of populations also dependent on one another, but on a time scale greater than that of subpopulations; Service 2003a, pp. 21, 24). A source population is one in which the emigration rate typically exceeds the immigration rate (therefore a source of colonists for unoccupied habitat patches within a population footprint), although they are not necessarily more stable than non-

source populations (Service 2003a, p. 166).

Status and Local Distribution of Populations in Riverside County

The recovery plan identified 7 core and 18 non-core occurrence complexes in western Riverside County: Harford Springs (non-core); Canyon Lake (non-core); Warm Springs Creek (core); Warm Springs Creek North (non-core); Skinner/Johnson (core); Domenigoni Valley (non-core); Sage (core); Black Hills (non-core); San Ignaciao (non-core); Rocky Ridge (non-core); Wilson Valley (core); Vail Lake (core); Butterflied/Radec (non-core); Aguanga (non-core); Dameron Valley (non-core); Billy Goat Mountain (non-core); Brown Canyon (non-core); Southwest Cahuilla (non-core); Tule Peak (core); Silverado (core); Spring Canyon (non-core); Cahuilla Creek (non-core); Bautista Road (non-core); Pine Meadow (non-core); and Lookout Mountain (non-core) (Service 2003a, pp. 39, 41, 44). Occurrence data collected in Riverside County since the recovery plan was published in 2003 has resulted in expansion of all core occurrence complexes, and merging of some core occurrence complexes with non-core occurrence complexes (see discussion below). Quino checkerspot butterflies have not been observed in the Harford Springs (non-core) Occurrence Complex or other proximal historic locations since 1986, and therefore are no longer considered extant in that area.

Development has reduced the quality, connectivity, and amount of associated habitat in the Warm Springs Creek Core Occurrence Complex since the recovery plan was published in 2003 (Allen and Preston 2006, p. 7). Although habitat associated with this core occurrence complex may support a declining population, the Quino checkerspot butterfly captive rearing facility is also located within this area, and it is likely to be a site of focused population management and augmentation in the future. Despite concern for the viability of this population, several experts have expressed the opinion that this core occurrence complex represents an important Quino checkerspot butterfly population that has potential to persist indefinitely if the remaining habitat is conserved and managed (Ballmer, *et al.* 2003, p. 2; Ballmer and Osborne 2005, pp. 1–2; Allen and Preston 2006, pp. 10–12). Because the Warm Springs Creek Core Occurrence Complex has been isolated from other core occurrence complexes (Service 2003a, p. 41) and recent development has reduced and fragmented habitat in this area (Allen and Preston 2006, p. 7),

remaining contiguous habitat, including habitat more than one km distant from observation locations (outside of the mapped occurrence complexes), is likely the minimum area needed to support a viable managed population. Therefore, we have determined that the Warm Springs Creek North (non-core) Occurrence Complex (Service 2003a, p. 39) and habitat contiguous with the Warm Springs Creek Core Occurrence Complex habitat should be considered a single population footprint and merged with the Warm Springs Creek Core Occurrence Complex identified in the recovery plan (Service 2003a) into a single, expanded Warm Springs Creek Core Occurrence Complex. The expanded Warm Springs Creek Core Occurrence Complex is a constrained population distribution defined by remaining undeveloped, connected habitat associated with Quino checkerspot butterfly observations in this area.

Occurrence data collected in Riverside County since listing (62 FR 2313, January 16, 1997) has continued almost annually to expand the known northeastern limits of the subspecies' range (Pratt, *et al.* 2001, pp. 169–171; Service 2003a, p. 44; Poopatanapong 2008, pp. 2, 4). The recovery plan identified four non-core occurrence complexes east of Temecula in the foothills and valleys south of Mount San Jacinto: Brown Canyon (Service 2003a, p. 41), Bautista Road, Pine Meadow, and Lookout Mountain (Service 2003a, p. 44). The Bautista Road (described as non-core in the recovery plan) Occurrence Complex is in a valley east of Temecula and north of the town of Anza. Multiple new observations have occurred within and around the Bautista Road Occurrence Complex (AMEC 2004, p. 6; Mooney Jones & Stokes 2005, p. 10). Consistent with criteria outlined in the recovery plan (Service 2003a, p. 35), we now consider the Bautista Road Occurrence Complex to be a core occurrence complex. As described below, from 2004 to 2006, multiple new observation locations were also reported in the town of Anza, and north and northwest of the Bautista Road (core), Pine Grove (non-core), and Lookout Mountain (non-core) occurrence complexes, resulting in new non-core occurrence complexes and expansion of the subspecies' known range (Service Geographic Information Systems (GIS) database). The new non-core occurrence complexes are: the Cave Rocks Occurrence Complex within the town of Anza, just north of the intersection of Bautista Road and State Route (SR) 371 (AMEC 2004, p. 9); the Quinn Flat

Occurrence Complex located between Forbes Ranch Road and Morris Ranch Road northeast of Quinn Flat and SR 74 (Pratt 2005, p. 1; Toth 2005, p. 1; San Bernardino National Forest (SBNF) GIS database); the Horse Creek Occurrence Complex adjacent to Bautista Road, southeast of Bautista Spring (AMEC 2004, p. 6; Malisch 2006, p. 1); and the North Rouse Ridge Occurrence Complex located on Rouse Ridge in the hills east of Bautista Canyon, near where Bautista Road exits the foothills (Toth 2005, p. 1; Poopatanapong 2007, pp. 2, 4; SBNF GIS database).

Recent monitoring information indicates that the Tule Peak and Silverado core occurrence complexes described in the recovery plan (Service 2003a, p. 44) are part of a single high-density population footprint supporting periodic outbreak events, similar to historic events (Service 2003a, p. 29) such as the 1977 outbreak reported by Murphy and White (1984, p. 351; Ehrlich and Murphy 1987, p. 127) in San Diego County (Carlsbad Fish and Wildlife Office (CFWO) 2004; Pratt 2004, p. 17). Occupancy in the Silverado Core Occurrence Complex was first documented in 1998 (Pratt 2001, p. 17), followed by the discovery of hundreds of Quino checkerspot adults in 2001 within the Tule Peak Core Occurrence Complex (TeraCor 2002, p. 14). The hundreds of adults observed during surveys in the Tule Peak Core Occurrence Complex in 2001 were unprecedented, because typically five or fewer individuals are reported during project-based surveys (Service GIS database). In 2004, following a year of above-average host plant density in the Anza area (CFWO 2004), another Quino checkerspot butterfly outbreak event occurred with even higher abundance than was reported in 2001. An estimated 500 to 1000 adult Quino checkerspot butterflies were reported from the Silverado Core Occurrence Complex in a single day in 2004 (Anderson 2007a, p. 1; CFWO 2004; Pratt 2004, pp. 16, 17). Moreover, over 30 new occurrence locations with high adult densities were reported in 2004 in the vicinity of Tule Peak Road (92 to over 100 observations in a single day) south of the Cahuilla Band of Indians Tribal lands and the town of Anza (Osborne 2004, pp. 1–6, 8–10; Anderson 2007a, p. 5; CFWO 2004; Osborne 2007, pp. 13–16). These new observations prompted us to merge the Tule Peak (core), Silverado (core), and Southwest Cahuilla (non-core) occurrence complexes to form a single, expanded Tule Peak/Silverado Core Occurrence Complex.

Available scientific information (including recent outbreaks in the closest core occurrence complexes) suggests the new Bautista Core Occurrence Complex and other non-core occurrence complexes north of the town of Anza are the result of recent colonization events and an ongoing range shift for this subspecies northward and upward in elevation. Parmesan (1996, pp. 765–766) concluded that the average position of known Edith's checkerspot butterfly populations (including the Quino checkerspot butterfly) has shifted northward and upward in elevation, apparently due to a warming, drying climate, and the recovery plan confirms this (Service 2003a, p. 64). Parmesan (1996, pp. 765–766) compared the distribution of Edith's checkerspot butterfly in the early part of the 20th century to its distribution from 1994 to 1996 using historical records and field surveys. This study identified range-wide patterns of local extirpations of Edith's checkerspot butterflies, and noted that populations in the southern part of the range (primarily the Quino checkerspot butterfly) experienced 80 percent of all recorded local extirpations (Parmesan 1996, pp. 765–766). Parmesan (1996, pp. 765–766) concluded that this pattern of extirpations indicated contraction of the southern boundary of the subspecies' overall distribution by almost 100 mi (160 km), and a shift in the average location of a Edith's checkerspot butterfly occurrence northward by 57 mi (92 km). This shift in range closely matched shifts in mean yearly temperature (Parmesan 1996, pp. 765–766). Studies have demonstrated a correlation of population distribution and phenology changes with climate changes for many other butterfly and insect species in California and around the world (Parmesan, *et al.* 1999, p. 580; Forister and Shapiro 2003, p. 1130; Parmesan and Yohe 2003, pp. 38, 39; Karban and Strauss 2004; Thomas, *et al.* 2006, pp. 146–147, 251; Osborne and Ballmer 2006, p. 1; Parmesan 2006, pp. 646–647; Thomas, *et al.* 2006, pp. 415–416). Metapopulation viability analyses of other endangered nymphalid butterfly species also indicate that current climate trends pose a major threat to butterfly metapopulations by reducing butterfly growth rates and increasing subpopulation extirpation rates (Schtickzelle and Baguette 2004, p. 277; Schtickzelle, *et al.* 2005, p. 89). Such similar climate response patterns in related and co-occurring insect species further support the validity of Parmesan's (1996, pp. 765–766) Quino

checkerspot butterfly observations and conclusions.

Documentation of climate-related changes that have already occurred in California (Ehrlich and Murphy 1987, p. 124; Croke, *et al.* 1998, pp. 2128, 2130; Davis, *et al.* 2002, p. 820; Brashears, *et al.* 2005, p. 15144), and future drought predictions for California (e.g., Field, *et al.* 1999, pp. 8–10; Brunell and Anderson 2003, p. 21; Lenihien, *et al.* 2003, p. 1667; Hayhoe, *et al.* 2004, p. 12422; Brashears, *et al.* 2005, p. 15144; Seager, *et al.* 2007, p. 1181) and North America (IPCC 2007, p. 9) indicate prolonged drought and other climate-related changes will continue into the foreseeable future, and we anticipate these changes will affect Quino checkerspot butterfly habitat and populations. Thomas, *et al.* (2004, p. 147) estimated 29 percent of species in scrublands (habitat for Quino checkerspot butterfly) face eventual extinction, and 7 (with dispersal) to 9 (without dispersal) percent of butterfly species in Mexico will become extinct (mid-range climate predictions; Thomas, *et al.* 2004, p. 146). The most-recent subspecies-specific evidence corresponds with the hypothesis that drought conditions at the northern edge of the subspecies' range is resulting in ongoing range shift at the northern edge of the range to more northern and higher elevation areas that experience higher precipitation: Surveyors noted that during drought conditions in 2007, for the first time since the subspecies was listed, no Quino checkerspot butterflies were observed during Riverside County surveys or core occurrence complex monitoring (CFWO 2007).

The Anza/Mount San Jacinto foothills area (Bautista core occurrence complex) is the northern extent of the range of the Quino checkerspot butterfly and supports the greatest elevational gradient within the extant range of the butterfly. Indications that maintenance of the Tule Peak/Silverado and Bautista Road core occurrence complexes, and maintenance of habitat connectivity to higher elevation non-core occurrence complexes, is needed to prevent a significant increase in the subspecies' extinction probability (Service 2003a, pp. 46, 47; Osborne 2007, pp. 9–10) include the following: Parmesan's subspecies-specific study (Parmesan 1996); recent documented Quino checkerspot butterfly outbreak events (discussed above); the complete lack of Quino checkerspot butterfly observations in Riverside County during 2007 monitoring; documented drought conditions and the likelihood that recurrent drought conditions will persist into the foreseeable future; and

the likelihood that the new non-core occurrence complexes in the most northern, highest elevation habitat areas (Pine Grove, Lookout Mountain, Quinn Flat, Horse Creek, Cave Rocks, and the North Rouse Ridge) are a result of colonization from lower elevation populations over the past 10–15 years (such as the Bautista Road and Tule Peak/Silverado core occurrence complexes). Parmesan's (1996, pp. 765–766) range-shift statistics predict the following Quino checkerspot butterfly population changes: (1) Declines in, and losses of, the southernmost and/or lowest elevation populations, especially in drier areas where rainfall is most variable (such as southwest Riverside County; Anderson 2000, pp. 3, 6); (2) increases in the density and resilience of the most northern and/or highest elevation populations, especially in wetter areas (such as the Anza area; Service 2003a, p. 44); and (3) establishment of new populations, or expansion of existing populations, northward and upward in elevation where range shift is the least impeded by habitat loss due to land-use changes (such as the Mount San Jacinto foothills; Service GIS database and satellite imagery). Anza area core occurrence complexes (Tule Peak/Silverado and Bautista Road) also support the highest (co-occurring) diversity of host plant species (*Plantago patagonica*, *Antirrhinum coulterianum*, *Cordylanthus rigidus*, and *Castilleja exserta*) within the range of the Quino checkerspot butterfly, a factor known to mitigate the effects of climate extremes on Edith's checkerspot butterfly populations (Hellman 2002, p. 925). In light of the recent warming and drying trends (see above discussion), prudent design of reserves and other managed habitats in the Anza area, where the subspecies range is expanding northward and upward in elevation should include landscape connectivity to other habitat patches and ecological connectivity (habitat patches linked by dispersal areas; Service 2003a, p. 162) in order to accommodate range shifts northward and upward in elevation (Service 2003a, p. 64). Although habitat quality may be changing throughout the subspecies range, suitable habitat north and upward in elevation of the southernmost populations is already occupied, and colonization events associated with climate change are likely only occurring in the Anza area.

Status and Local Distribution of Populations in San Diego County

The recovery plan identifies 4 core and 10 non-core occurrence complexes in southwest San Diego County

surrounding Otay Mountain and Otay Lakes: West Otay Mesa (non-core), Otay Valley (core); West Otay Mountain (core); Otay Lakes/Rancho Jamul (core); Proctor Valley (non-core); Jamul (non-core); Hidden Valley (non-core); Rancho San Diego (non-core); Los Montañas (non-core); Honey Springs (non-core); Dulzura (non-core); Marron Valley (core); Barrett Junction (non-core), and Tecate (non-core) occurrence complexes (Service 2003a, pp. 39, 41, 44). New Quino checkerspot butterfly observations (Service GIS database) between occurrence complexes identified in the recovery plan have resulted in merging of the Otay Valley (core), West Otay Mountain (core), Otay Lakes (core), Proctor Valley (non-core), Dulzura (non-core), and Honey Springs (non-core) occurrence complexes into a single, expanded Otay Mountain Core Occurrence Complex. This merging of occurrence complexes in the Otay area is further supported by the recovery plan, which noted that occupied habitat in the vicinity of Otay Lakes and Rancho Jamul is an area of key landscape connectivity for all subpopulations in southwest San Diego County (Service 2003a, pp. 53, 54).

Following publication of the recovery plan in 2003, the Otay Fire severely burned habitats where the majority of Quino checkerspot butterflies had been observed within southwest San Diego County (IBAERT 2003, pp. 89–90), including most of the Otay Mountain Core Occurrence Complex. In 2005, the smaller Border 50 Fire burned most habitat within the Marron Valley Core Occurrence Complex west of Otay Mountain that was not burned in the 2003 Otay Fire (Service GIS database). Although post-fire monitoring surveys indicated no populations were completely extirpated by the 2003 and 2005 fires (CFWO 2004, 2005, 2006; Anderson 2007b, p. 2), Quino checkerspot butterfly densities and the extent of occupied habitat appeared to be reduced, and surveyors reported an apparent increased rate of exotic plant species invasion (Anderson 2007b, pp. 2–3). An indirect threat exacerbated by fire damage is increased invasion of habitat by nonnative plant species, resulting in reduction of Quino checkerspot butterfly host plants through competition (Service 2003a, pp. 57–58, 60–61). Catastrophic fire has been implicated in the final extirpation of the Quino checkerspot butterfly from Orange County (Service 2003a, pp. 30, 60–61), therefore widespread catastrophic fire impacts to Quino checkerspot butterfly habitat within this core occurrence complex, are likely to

affect the survival probability of the subspecies in southwest San Diego County (Service 2003a, pp. 60–61).

The effects of fire on Quino checkerspot butterfly populations in southwest San Diego County were evident in 2007. The northernmost occupied areas within the Otay Mountain Core Occurrence Complex (Honey Springs and Dulzura non-core occurrence complexes as identified in the recovery plan) had the highest densities of adult butterflies and supported the most reproduction (observed larvae) of any known occupied areas in 2007 (CFWO 2007). These areas were not affected by the 2003 Otay and 2005 Border 50 fires. Therefore, observed relatively high Quino checkerspot butterfly abundance in 2007 in the Honey Springs and Dulzura areas (CFWO 2002, 2003, 2004, 2005, 2006, 2007) was primarily due to the lack of recent fire impacts (Anderson 2007b, p. 3). In 2007, the Harris Fire perimeter encompassed approximately 72% of the new Otay Mountain Core Occurrence Complex, including the northern areas that were not affected by fire in 2003 or 2005 (Service GIS database). Habitat damage within the 2007 fire perimeter is still being assessed.

Several widely distributed new observation locations have been reported in central San Diego County since 2002 (Dudek 2005, p. 1; Faulkner 2005, p. 1; Tierra Environmental Services 2005, p. 4), resulting in three new San Diego County non-core occurrence complexes (Fanita Ranch, Sycamore Canyon, and Mission Trails Park). Although these Quino checkerspot butterfly populations may contribute to the subspecies' recovery (Service 2003a, pp. 86–88), we cannot determine whether these new non-core occurrence complexes represent: (1) Residual, low-density populations decreasing in abundance; (2) resilient, low-density populations increasing in abundance; or (3) recent colonization events. Given the proximity of these occurrence complexes to historical collection locations (Service 2003a, p. 3), observed and predicted climate trends and associated population dynamic/range changes (see above discussion), and the relative isolation of these occurrence complexes from areas known to be occupied at the time of listing, it is likely they represent residual, low-density populations decreasing in abundance.

Multiple new Quino checkerspot butterfly observation locations have been reported in south-central San Diego County since 2002 east of the community of Campo (Dicus 2005, pp.

1–2; PSBS 2005a, p. 18; 2005b, p. 26; O'Connor 2006, pp. 2–4). This cluster of occurrence complexes near Campo is over 7 mi (11 km) from the closest core occurrence complex, Jacumba (Service 2003a, p. 52; Service GIS satellite imagery and database), and over 12 mi (19 km) from the Tecate (non-core) Occurrence Complex (Service 2003a, p. 47; Service GIS satellite imagery and database). Although not quite proximal enough to be considered a single occurrence complex based on overlapping movement distances (Service 2003a, p. 35), we consider this cluster of new observations near Campo to belong to a new, independent La Posta/Campo Core Occurrence Complex that we believe represents a population density center likely to contain source habitat (i.e., core occurrence complex) based on: (1) Recent documentation of these occupied habitats; (2) the small number of surveys conducted in this area in the past (Service survey report files) resulting in a low likelihood of detection; (3) contiguous habitat linked by short dispersal areas (e.g., a stream butterflies can fly over) between observation locations (Service GIS vegetation database and satellite imagery); and (4) the presence of *Antirrhinum coulterianum* (white snapdragon) host plants in occupied habitat (O'Connor 2006, pp. 2–4). White snapdragon had not been previously recorded in occupied Quino checkerspot butterfly habitat in San Diego County (Service survey report files). White snapdragon densities recorded in the vicinity of Campo (O'Connor 2006, pp. 2–4) were relatively high, and similar to those observed in the Tule Peak/Silverado Core Occurrence Complex in Riverside County, the only core occurrence complex where recent Quino checkerspot butterfly "outbreak events" have been recorded (see above discussion).

Quino checkerspot butterflies have recently been observed in two new locations in southeast San Diego County near Jacumba (identified as the Jacumba East and Jacumba West occurrence complexes) (Essex and Osborne 2005, p. 82; Klein 2007, p. 1). Additionally, data collected from the Jacumba Occurrence Complex since publication of the recovery plan has led us to reclassify the Jacumba complex as a Core Occurrence Complex. The Jacumba Occurrence Complex was not classified as a core occurrence complex in the recovery plan (Service 2003a, p. 52), due to its relatively small geographic size and small number of observed individuals. However, adult Quino checkerspot

butterflies are consistently observed in the area, even during drought years and under difficult survey conditions (high winds) (CFWO 2002–2007; Klein 2007, p. 1). As many as 50 individuals are estimated to have been observed in one day near Jacumba Peak (Pratt 2007c, p. 1). Furthermore, reproduction was documented in the Jacumba Occurrence Complex in 1998 and again in 2004 (Pratt 2007a, p. 1). Therefore, we now consider Jacumba to be a core occurrence complex representing what appears to be a small, but resilient, population.

The prediction that drought conditions are likely to continue into the foreseeable future (Service 2003a, pp. 63, 64; see above discussion) highlights the importance of conserving populations locally adapted to drier climates and diverse habitat types (Service 2003a, p. 76). The La Posta/Campo and Jacumba core occurrence complexes are warmer and drier than the Otay Mountain Core Occurrence Complex, and differ substantially in other habitat characteristics (Service 2003a, pp. 36–54; O'Connor 2006, p. 4). Therefore, maintenance of these core occurrence complexes likely is important for recovery and survival of the Quino checkerspot butterfly in San Diego County. These new core occurrence complexes were also the only core occurrence complexes in San Diego County (the subspecies' southern range) not affected by the fires in 2003 and 2005 (see above discussion). Therefore, new information indicates the La Posta/Campo and Jacumba core occurrence complexes contribute significantly to reducing the subspecies' extinction probability.

Previous Federal Actions

For more information on previous Federal actions concerning the Quino checkerspot butterfly, refer to the final critical habitat rule published in the **Federal Register** on April 15, 2002 (67 FR 18356) and the final listing rule published in the **Federal Register** on January 16, 1997 (62 FR 2313). In March 2005, the Homebuilders Association of Northern California, *et al.*, filed suit against the Service challenging the merits of the final critical habitat designations for several species, including the Quino checkerspot butterfly. In March 2006, a settlement was reached that required the Service to re-evaluate five final critical habitat designations, including critical habitat designated for the Quino checkerspot butterfly. The settlement stipulated that any proposed revisions to the Quino checkerspot butterfly designation would be submitted for publication to the

Federal Register on or before December 7, 2007. A court-approved amendment to the settlement agreement extended this deadline for submission to the **Federal Register** to January 8, 2008.

Critical Habitat

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

(1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

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

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by private landowners. Where a landowner requests federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) may apply, but even in the event of a destruction or adverse modification finding, the Federal action agency's and the applicant's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

To be included in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must contain physical and biological features that are essential to the conservation of the species. Consistent with this

requirement, the Service identifies, to the extent known using the best scientific data available, habitat areas on which are found primary constituent elements (PCEs), as defined at 50 CFR 424.12(b), and identifies the quantity and spatial arrangement of such areas to ensure that the areas designated as critical habitat are essential for the conservation of the species. To be included in the designation, the features at issue must also be ones that may require special management considerations or protection.

Under the Act, we can designate areas outside the geographical area occupied by the species at the time it is listed as critical habitat only when we determine that those areas are essential for the conservation of the species.

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

When we are determining which areas should be proposed as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and Counties, scientific status surveys and studies, biological assessments, other unpublished materials, and expert opinion or personal knowledge.

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine, based on scientific data not now available to the Service, are essential for the conservation of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is

unimportant or may not be required for recovery of the species.

Areas that are important to the conservation of the species, but are outside the critical habitat designation, will continue to be subject to conservation actions implemented by the Service and other Federal agencies under section 7(a)(1) of the Act. Areas that support populations are also subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available scientific information at the time of the agency action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Methods

As required by section 4(b) of the Act, we used the best scientific data available to determine areas within the geographical area occupied at the time of listing that contain physical or biological features essential to the conservation of the Quino checkerspot butterfly, and areas outside of the geographical area occupied at the time of listing that are essential for the conservation of the butterfly. We have also reviewed available information that pertains to the habitat requirements of this subspecies. These sources included, but were not limited to, the final rule to list this subspecies (62 FR 2313; January 16, 1997); data and information published in peer-reviewed articles; data and information contained in the recovery plan (Service 2003); survey and research reports submitted to the Service, including reports required by 10(a)(1)(A) recovery permits; information provided by subspecies experts, including the subspecies' recovery team; data submitted during section 7 consultations; and regional GIS data.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied at the time of listing to propose as critical habitat, we identify the physical or biological features essential to the conservation of the Quino checkerspot

butterfly based on its biological needs. We consider the physical or biological features essential to the conservation of the species to be the primary constituent elements (PCEs) laid out in the appropriate quantity and spatial arrangement for conservation of the species. As described at 50 CFR 424.12, the physical and biological features that are essential to the conservation of a species, and that may require special management considerations or protection, include, but are not limited to:

- (1) Space for individual and population growth and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing, or development of offspring; and
- (5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

Space for Individual and Population Growth and for Normal Behavior

Habitat for the Quino checkerspot butterfly is characterized by patchy shrub or small tree landscapes with openings of several meters between large plants, or a landscape of open swales alternating with dense patches of shrubs (Mattoni, *et al.* 1007, p. 112), habitats often collectively termed "scrublands." Quino checkerspot butterflies will frequently perch on vegetation or other substrates to mate or bask, and require open areas to facilitate movement (Service 2003, pp. 10–11). White and Levin (1981, pp. 350, 351) found that adult Quino checkerspot butterfly's within-habitat patch movement distances from larval host plant patches to adult nectar sources often exceeded 656 ft (200 m).

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

Because of their exothermic (cold-blooded) metabolism (Service 2003a, p. 18) and need to complete their life cycle in as short a time as possible (Service 2003a, p. 20), larval and adult Quino checkerspot butterflies require an open, woody canopy that allows sun to penetrate and speed their metabolic rate.

Within open, woody-canopy communities, larvae seek microclimates with high solar exposure (Weiss, *et al.* 1987, p. 161; Weiss, *et al.* 1988, p. 1487; Osborne and Redak 2000, p. 113). Like most butterflies, adult Quino

checkerspot butterflies frequently bask and remain in open-canopy areas, using air temperature and sunshine to increase their body temperature to the level required for normal active behavior (Service 2003a, p. 18).

Quino checkerspot butterfly oviposition (egg deposition) has most often been documented on dwarf plantain (*Plantago erecta*), woolly plantain (*Plantago patagonica*), and white snapdragon (*Anterrrhinum coulterianum*) (Service 2003a, p. 14–18). Egg clusters and/or pre-diapause larval clusters (proof of adult oviposition) have also been documented in the field on thread-leaved bird's beak (*Cordylanthus rigidus*) and purple owl's-clover (*Castilleja exserta*) (Service 2003a, pp. 14–18). *Cordylanthus rigidus* and *Castilleja exserta* alone are not believed to be sufficient to support Quino checkerspot butterfly breeding; therefore, other species of host plant must co-exist within approximately 328 ft (100 m) of these species of host plant for habitat to support breeding (Service 2003, pp. 16–17).

During the first two instars, pre-diapause larvae cannot move more than a few centimeters and feed on the host plant on which the adult female butterfly deposited eggs (primary host plant species). Third instar larvae usually wander independently in search of food and may switch to feeding on a secondary host plant species (Service 2003, p. 7). All known species of host plant (see species listed above) may serve as primary or secondary host plants, depending on location and environmental conditions (Service 2003, p. 17). Although *Plantago erecta* densities required for larval development have been estimated (Service 2003, pp. 22–23), it is not always possible any given year to determine typical host plant densities because germinating host plants may be entirely consumed by larvae, or when precipitation levels have been below-average, seeds may not germinate and larvae may remain in diapause (Service 2003, p. 23).

Adult checkerspot butterflies of the genus *Euphydryas* have a short tongue, approximately 0.43 inches (in) (11 millimeters (mm)) in length (Pratt 2007b, p. 1), and typically cannot feed on flowers that have deep corolla tubes or flowers evolved to be opened by bees (Service 2003a, p. 19). Edith's checkerspot butterflies prefer flowers with a platform-like surface on which they can remain upright while feeding (Service 2003a, p. 19). Examples of flowers Quino checkerspot butterflies frequently take nectar from include lomatum (*Lomatium* spp.), goldenstar

(*Muilla* spp.), fiddleneck (*Amsinckia* spp.), goldfields (*Lasthenia* spp.), and popcorn flowers (*Plagiobothrys* and *Cryptantha* spp.) (Service 2003a, p. 19). Adults may nectar on flowers with a corolla length nearly a centimeter longer than their proboscis (0.59–1.10 in (15–28 mm)), like *Linanthus androsaceus* (Murphy 1984, p. 114; Hickman 1993, p. 842), but they are not likely to prefer such species (Murphy 1984, p. 114).

Cover or Shelter

Quino checkerspot butterfly larvae require sheltered sites for diapause (Service 2003a, p. 8), and adults typically roost in or below shrubs overnight and during adverse weather conditions (Service 2003a, p. 10). A pilot laboratory study (Pratt 2006, p. 9) and larval distribution observations (Osborne and Redak 2000, p. 113) indicate Quino checkerspot butterfly larvae prefer to diapause in or near the base of native shrubs, such as California buckwheat (*Eriogonum fasciculatum*).

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Male Quino checkerspot butterflies, and to a lesser extent females, are frequently observed on hilltops and ridgelines (CFWO GIS Quino checkerspot butterfly database, Osborne 2001, pp. 1–2; Pratt 2001, p. 59). In Edith's checkerspot butterflies, this tendency of females to move upwards in elevation and of males to defend hilltops ("hilltopping behavior") increases the likelihood of male and female butterflies finding each other to mate during years of low adult density (Baughman and Murphy 1988, p. 119; Ehrlich and Wheye 1988, pp. 460–461). On hilltops where males are likely to encounter virgin females, the males will defend their territory from other males; therefore, higher ground can serve as a "visual beacon" to enhance mating success (Baughman and Murphy 1988, p. 119; Ehrlich and Wheye 1988, pp. 460–461; Mattoni, *et al.* 1997, p. 109). Hilltopping has been observed in Quino checkerspot butterflies (Mattoni *et al.* 1997, p. 110; Osborne 2001, pp. 1–2). Like other subspecies of Edith's checkerspot, adult Quino checkerspot butterflies are reliably observed on hilltops in occupied habitat (Service GIS database), even in the absence of larval host plants (Osborne 2001, pp. 1–2; Pratt 2001, p. 59); therefore, hilltops and ridgelines provide features essential for breeding in local populations.

Primary Constituent Elements for the Quino Checkerspot Butterfly

For areas within the geographical area occupied by the Quino checkerspot

butterfly at the time of listing, we must identify the primary constituent elements (PCEs) that may require special management considerations or protection. Based on the above needs and our current knowledge of the life history, biology, and ecology of the subspecies, we have determined the Quino checkerspot butterfly's PCEs are:

(1) Open areas within scrublands at least 21.5 square feet (ft) (2 square meters (m)) in size that:

(A) Contain no woody canopy cover; and

(B) Contain one or more of the host plants *Plantago erecta*, *Plantago patagonica*, or *Antirrhinum coulterianum*; or

(C) Contain one or more of the host plants *Cordylanthus rigidus* or *Castilleja exserta* that are within 328 ft (100 m) of the host plants *Plantago erecta*, *Plantago patagonica*, or *Antirrhinum coulterianum*; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 inches (11 millimeters) used for Quino checkerspot butterfly growth, reproduction, and feeding;

(2) Open scrubland areas and vegetation within 656 ft (200 m) of the open canopy areas (PCE 1) used for movement and basking; and

(3) Hilltops or ridges within scrublands, linked by open areas and natural vegetation (PCE 2) to open canopy areas (PCE 1) containing an open, woody-canopy area at least 21.5 square ft (2 square m) in size used for Quino checkerspot butterfly mating (hilltopping behavior).

Special Management Considerations or Protection

When designating critical habitat, we assess whether the areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and may require special management considerations or protection.

When the Quino checkerspot butterfly was listed on January 16, 1997 (62 FR 2313), the primary threats to the subspecies thought to be responsible for its decline were reduction and fragmentation of habitat by urban and agricultural development and recreational activities, over-collection, vandalism, fire, and drought. Threats described in the listing rule, as well as trash dumping, nitrogen deposition, elevated atmospheric carbon dioxide concentrations, and climate change, were listed as active or probable threats in the final designation of critical habitat (67 FR 18356) published April 15, 2002. Current threats to the

subspecies and management needs were described in detail in the recovery plan (Service 2003a, pp. 55–65). They are: (1) Loss and fragmentation of habitat and landscape connectivity; (2) invasion by nonnative plants; (3) off-road vehicle activity; (4) grazing; (5) fire; (6) enhanced soil nitrogen; (7) increasing atmospheric carbon dioxide concentration; and (8) climate change. Scientific research indicates all threats individually, and interactively, cause loss or reduced availability of Quino checkerspot butterfly host plants, nectar sources, and suitable areas for necessary behaviors (e.g., mating, basking, hilltopping, etc.) (Service 2003a, pp. 55–65). This results in a loss of PCEs. For example, increased atmospheric carbon dioxide concentration resulted in an approximate 30 percent loss in seed production of *Plantago lanceolata* (Jablonski, *et al.* 2002, p. 14), and increased temperatures caused an approximate 5 percent reduction in reproductive duration (Sherry, *et al.* 2007, p. 200), indicating reduced host plant density and phenological availability under current and predicted climate conditions (Service 2003a, pp. 62–65; see Background section above). In addition, development activities can result in the loss of open, woody-canopy native scrublands and hilltops (space for normal behavior and larval diapausing sites) and fragmentation of habitat and landscape connectivity.

Management needs and actions recommended by the recovery plan that may be required to protect and maintain the PCEs for the Quino checkerspot butterfly include: (1) Reestablishment and maintenance of habitat and landscape connectivity within and between populations (Service 2003a, pp. 57, 96–101); (2) habitat restoration and control of invasive nonnative species (Service 2003a, pp. 58, 96–101, 146–159); (3) monitoring of ongoing habitat loss and nonnative plant invasion (Service 2003a, p. 106); (4) phased replacement of grazing with nonnative invasive plant control (Service 2003a, pp. 60, 101–102); (5) carefully controlled burn experiments to assess effectiveness for control of nonnative plant invasion and protection of PCEs from wildfire destruction (Service 2003a, p. 61); (6) reduction of local nitrogen emissions from sources such as high-traffic roads (Service 2003a, p. 62); (7) management of off-road vehicle activity (Service 2003a, pp. 59, 146–159), including outreach and partnerships with local off-road vehicle clubs and organizations (Service 2003a, p. 105); (8) reduction of firearm use and trash dumping in habitat (Service 2003a,

p. 109); and (9) prudent design of managed habitats to include landscape connectivity (habitat) and ecological connectivity (wildlands that may not currently include habitat) (Service 2003a, pp. 65, 96).

Criteria Used to Identify Critical Habitat

There is a lack of specific knowledge regarding distribution of occupancy within the greater historical range of the Quino checkerspot butterfly, and Edith's checkerspot butterfly subspecies' occupancy within population distributions is generally shifting and ephemeral (see Background Section above). Therefore, the appropriate scale for determining Quino checkerspot butterfly occupancy at the time of listing is the population distribution level, and criteria for determining habitat required to support a population should incorporate long-term occupancy data as well as movement distances in order to include all habitat necessary to support continued occupancy by the population. The process we used is described below.

To delineate proposed revised critical habitat, we first determined occupancy within the extant range of the Quino checkerspot butterfly. Occupancy status was determined using occurrence data from the Carlsbad Fish and Wildlife Office GIS database and associated survey reports. Areas containing occurrence records from 1999 or later were considered currently occupied. We then determined which areas were occupied at the time of listing by comparing survey and collection information to descriptions of occupied areas in the final listing rule published in the **Federal Register** on January 16, 1997 (62 FR 2313). Core occurrence complexes recorded within 4 years of listing that contained repeated observations of a large number of individuals (relative to all known occupied locations), and were more than 4 mi (6.4 km; the maximum recorded Edith's checkerspot dispersal distance) from other occurrence complexes known to be occupied at the time of listing were also considered to be occupied at the time of listing on the basis that these parameters indicate such areas were not colonized post-listing.

Once we determined the extant range of the subspecies and identified all occupied habitat, we used the following rule set to identify areas for inclusion in this proposed revision to designated critical habitat. As described further in the Background section above, core occurrence complexes appear to be population density centers likely to contain source habitat based on

geographic size, number of reported individuals, repeated observations, and/or documented reproduction. Therefore, we believe that core occurrence complexes are the most likely to persist into the future and provide emigrants to other populations, and, as such, are essential to the recovery of this subspecies. We first identified seven core occurrence complexes that were known to be occupied at the time of listing (Warm Springs Creek, Skinner/Johnson, Vail Lake, Sage, Wilson Valley, Tule Peak/Silverado, Otay Mountain). Furthermore, we identified two new core occurrence complexes (Bautista Road and La Posta/Campo) that were not known to have been occupied at the time of listing (see Background section above).

Within the geographical area occupied by the subspecies at the time of listing, to delineate all the core occurrence complexes we grouped occurrence records together that were within 0.6 mi (1 km) of each other as one core occurrence (as described further in the Background Section above). We then identified the extent of habitat needed to support each represented population by including additional contiguous habitat that contained the PCEs within 0.6 mi (1 km movement distance, see Background section above) of the mapped core occurrence complex areas. This criterion used biological and geographic information (primarily GIS host plant occurrence data, vegetation layers, and satellite imagery) to capture a habitat-based population footprint associated with each core occurrence complex necessary to support continued occupancy of each complex.

When delineating the habitat-based population footprint for each core occurrence complex, we examined all identified habitat to ensure that all areas contained one or more PCEs in the quantity and spatial arrangement to provide the features essential to this subspecies. Any areas that did not appear to contain the PCEs were removed. We did this by using biological and geographic information (primarily GIS vegetation layers and satellite imagery). Habitat delineation after addition of contiguous habitat outside of occurrence complex movement radii, and removal of non-habitat within movement radii, is our best scientific estimate of population footprints (occupied areas) associated with core occurrence complexes.

As previously stated, we identified two new core occurrence complexes that were not known to be occupied at the time of listing (Bautista Road and La Posta/Campo). At La Posta/Campo, we

consider all recently identified clusters of occurrence records to be a single core occurrence complex (as described further in the Background section above). Similar to the core occurrence complexes known to be occupied at the time of listing, we grouped occurrence records together that were within 0.6 mi (1 km) of each other. We then identified the extent of habitat needed to support each represented population by including additional contiguous habitat that contained the PCEs within 0.6 mi (1 km) of the mapped core occurrence complex areas. This process grouped all recent records into one complex and identified the habitat-based population footprint associated with this core occurrence complex necessary to support continued occupancy. Finally, we examined all identified habitat to ensure that all areas contained one or more PCEs in the quantity and spatial arrangement to provide the features essential to this subspecies. Any areas that did not appear to contain the PCEs were removed.

We closely examined the new Bautista Road Core Occurrence Complex and determined that the status of this core occurrence complex reflects a shift in the Quino checkerspot butterfly's range, correlated with increased temperatures and drought conditions in the region (see Background section above). Recognizing the predictions by Parmesan (1996, p. 765; 2006, pp. 647–648) and Seager, *et al.* (2007, pp. 1181, 1183, 1184), we expect range shift northward and upward in elevation in this region to continue as climate models predict above-average temperatures and drought conditions into the foreseeable future (see Background section above; National Oceanic and Atmospheric Administration 2007). Therefore, consistent with recommendations in the recovery plan (Service 2003a, p. 65), we delineated additional habitat containing the PCEs that was contiguous with the Bautista Road Core Occurrence Complex, to also capture landscape connectivity to three non-core occurrence complexes (Pine Grove, Lookout Mountain, and Horse Creek) that are higher in elevation and/or further north.

Inclusion of lands supporting core occurrence complexes is necessary to ensure the conservation of the Quino checkerspot butterfly, and therefore consistent with 50 CFR § 424.12(e), we have delineated areas outside the geographical area presently occupied by the subspecies contiguous with the Bautista Road Core Occurrence Complex for inclusion in the proposed revision to critical habitat. The unoccupied habitat

connects this core occurrence complex with other occupied (non-core) areas at Pine Grove, Lookout Mountain, and Horse Creek.

When determining the proposed revisions to critical habitat boundaries, we made every effort to avoid including (within the boundaries of the map contained within this proposed revision to critical habitat) developed areas such as lands covered by buildings, pavement, and other structures because such lands lack PCEs for the Quino checkerspot butterfly. 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 lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this proposed revision to critical habitat have been excluded by text in the proposed rule and are not proposed for designation as critical habitat. Therefore, Federal actions involving these areas would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the PCEs of critical habitat.

Our delineation of proposed revisions to critical habitat includes lands owned by the Cahuilla Band of Indians and the Campo Band of Kumeyaay Indians. The Tule Peak/Silverado Core Occurrence Complex, which was occupied at the time of listing, overlaps with Cahuilla Band of Indians Tribal lands in Riverside County. These lands contain scrublands with openings of at least 21.5 square feet (ft) (2 square m) in size containing host and nectar plants for feeding, hilltops areas for mating within 656 ft (200 m) of an open area containing host and nectar plants for feeding, and natural vegetation or open areas for movement and basking. These lands support the quantity and spatial arrangement of the PCEs necessary to conserve the Tule Peak/Silverado Core Occurrence Complex, and therefore, we are including Cahuilla Band of Indians Tribal lands in this proposed revision to designated critical habitat. Similarly, we determined that the La Posta/Campo Core Occurrence Complex, which is not known to have been occupied at the time of listing, overlaps with Campo Band of Kumeyaay Indians Tribal lands in San Diego County. These lands contain scrublands with openings of at least 21.5 square feet (ft) (2 square m) in size containing host and nectar plants for feeding, hilltops areas for mating within 656 ft (200 m) of an open area containing host and nectar plants for feeding, and natural vegetation or open areas for movement and basking. These

lands support the quantity and spatial arrangement of the PCEs necessary to conserve the La Posta/Campo Core Occurrence Complex, and therefore, we are including Campo Band of Kumeyaay Indians Tribal lands in this proposed revision to designated critical habitat.

No management for conservation of the Quino checkerspot butterfly is currently occurring on Tribal lands, nor do any draft management plans exist. However, we have met with both affected Tribes, and we have agreed to work with them to develop management plans for the subspecies prior to designation of critical habitat. Should management plans be completed prior to finalization of this critical habitat rule, we will evaluate any submitted plans in consideration of Secretarial Order 3206, "American Indian Tribal Rights, Federal Tribal Trust Responsibilities, and the Endangered Species Act" (June 5, 1997); 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 relevant provision of the Departmental Manual of the Department of the Interior (512 DM 2) in relation to the conservation benefits to the subspecies, the features essential to the conservation of the subspecies, and the appropriateness of excluding Tribal lands under section 4(b)(2) of the Act.

We are proposing to revise the existing critical habitat designation and propose to designate critical habitat in areas that we have determined are within the geographical area occupied at the time of listing and contain the physical or biological features essential to the conservation of the subspecies, and in areas outside the geographical area occupied at the time of listing that also are essential for the conservation of the subspecies. Information provided in comments on this proposed revision to critical habitat designation and draft economic analysis will be evaluated and considered in the development of the final revised designation of critical habitat for Quino checkerspot butterfly.

Summary of Changes From Previously Designated Critical Habitat

The areas identified in this proposed rule constitute a proposed revision of the areas we designated as critical habitat for the Quino checkerspot butterfly on April 15, 2002 (67 FR 18356). The main differences include the following:

(1) Currently, four units totaling 171,605 ac (69,440 ha) are designated as critical habitat for the Quino checkerspot butterfly (67 FR 18356,

April 15, 2002). This proposed revision to designated critical habitat, which is based on new occupancy and habitat information (updated GIS information on vegetation, butterfly, and host plant distribution), includes 10 units totaling 98,487 ac (39,857 ha). This proposed revision to critical habitat for the Quino checkerspot butterfly, if adopted, would result in a decrease of 73,118 ac (29,583 ha) from currently designated critical habitat for this subspecies. However, we are considering excluding 1,684 ac (681 ha) of land within the San Diego County Multiple Species Conservation Plan's City of Chula Vista Subarea Plan and 37,245 ac (15,073) of non-Federal land within the Western Riverside County MSHCP area from the final designation.

(2) We revised the PCE descriptions to make them more quantifiable and easy to apply in the field; however, the habitat components have not changed. Hilltops, nectar sources, host plant species, and open-canopy scrublands are the same habitat components described as PCEs in the 2002 final critical habitat rule (67 FR 18356, April 15, 2002).

(3) In the 2002 critical habitat designation (67 FR 18356, April 15, 2002) we based our criteria on the reasoning that habitat areas supporting core occurrence complexes, habitat areas that had the potential support for a core population complex, and habitat areas that facilitate landscape connectivity or otherwise played a significant role in maintaining metapopulation viability were essential to the long-term conservation of the subspecies. Populations on the periphery of the subspecies' range or in atypical environments were considered important for maintaining the genetic diversity of the subspecies, and possibly essential for adaptation to changing climatic and environmental conditions. In this proposed revision to the critical habitat designation our underlying reasoning has not changed, however, our revised Criteria Used to Identify Critical Habitat are based on new scientific information not available when critical habitat was designated on April 15, 2002 (67 FR 18356). Application of new data and updated occurrence information described in the Background section above resulted in the identification of different essential habitat areas than were identified in the 2002 final critical habitat rule, and a reduced total amount of acreage that is essential to the long-term conservation of this subspecies. The large amount of new habitat and distribution information resulted in our expanding the boundaries of known core occurrence complexes to include areas

that were considered to support adjacent non-core occurrence complexes in the 2002 final designation, and our identification of the new Bautista Road and La Posta/Campo core occurrence complexes (see Background Section above). These revisions capture all habitat areas necessary to sustain and recover the subspecies and are adequate to ensure the long-term conservation of this subspecies based on our current knowledge of this subspecies' life history and ecological needs as described in the Background, Primary Constituent Elements, and Special Management Considerations or Protection sections above. The new criteria capture different areas on the periphery of the subspecies' range and in atypical environments considered important to this subspecies for adaptation to changing climatic and environmental conditions than were identified in the 2002 critical habitat designation. For example, the new proposed revised Bautista Unit (including 3 non-core occurrence complexes and habitat not known to be occupied) adequately incorporates habitat in the San Jacinto foothills at the northern edge of the subspecies' range. Furthermore, data collected since 2002 indicates that this area is providing the function that the more isolated, non-core, Brown Canyon subunit of currently designated Unit 2 (67 FR 18356, April 15, 2002; 50 CFR 17.95(i)) was speculated to provide this subspecies in the 2002 critical habitat designation. Therefore, the Brown Canyon subunit is no longer considered essential (see further discussion below). We believe the proposed revised critical habitat units, which are based primarily on core occurrence complex and habitat distributions, are the areas essential for conservation of the Quino checkerspot butterfly.

(4) The 2002 critical habitat designation (FR 18356, April 15, 2002) in Riverside County consisted of two units that included almost all known non-core occurrence complexes, areas connecting those occurrence complexes, and habitat within the Lake Mathews/Estelle Mountain Reserve associated with the "Lake Mathews Population Site" described in the recovery plan (Sevice 2003a, p. 77). We considered, but did not include any of the 5,765 ha (14,250 ac) of habitat in northwest Riverside County corresponding with current Unit 1 (67 FR 18356, April 15, 2002; 50 CFR 17.95(i)) associated with the Harford Springs (non-core) Occurrence Complex and the Lake Mathews/Estelle Mountain Reserve. Data collected since we designated

critical habitat on April 15, 2002 (67 FR 18356) indicates this area is no longer likely to support the features essential to the conservation of the subspecies, and that it is not essential for conservation of the subspecies. Most of the habitat associated with the Harford Springs (non-core) Occurrence Complex (currently designated Unit 1) is functionally isolated from occupied areas or has subsequently been developed, and this non-core occurrence complex has apparently been extirpated (see Background section above). We considered but did not include portions of habitat within currently designated Unit 2 (67 FR 18356, April 15, 2002; 50 CFR 17.95(i)) associated with the Domenigoni Valley (Service 2003a, p. 39), Brown Canyon, Rocky Ridge, Billygoat Mountain, Dameron Valley, Oak Grove (Service 2003a, p. 41), and Spring Canyon non-core occurrence complexes in Riverside County identified in the recovery plan (Service 2003a, p. 44; current Unit 2). We believe habitat captured by the expanded core occurrence complexes and the criteria that included additional habitat within 0.6 mi (1 km) of the mapped core occurrence complex areas (see Criteria Used to Identify Critical Habitat Section above) provides adequate landscape connectivity for conservation of the subspecies, and adequately captures areas that otherwise play a significant role in maintaining metapopulation viability.

(5) We considered but did not include in this proposed revision to critical habitat currently designated areas dominated by Tecate cypress (*Callitropsis (Cupressus) forbesii*) woodland on Otay Mountain, or currently designated areas associated with the National Wildlife Refuge (NWR) Rancho San Diego, NWR Los Montanas, Jamul, West Otay Mesa, Barrett Junction, and Tecate non-core occurrence complexes identified in the recovery plan (Service 2003a, p. 47; current Unit 3, 67 FR 18356, April 15, 2002; 50 CFR 17.95(i)). We believe habitat captured by the expanded core occurrence complexes on Otay Mountain and the criteria that included additional habitat within 0.6 mi (1 km) of the mapped core occurrence complex areas (see Criteria Used to Identify Critical Habitat Section above) provides adequate landscape connectivity for conservation of the subspecies at Otay Mountain, and adequately captures areas that otherwise play a significant

role in maintaining metapopulation viability.

(6) This proposed revision to designated critical habitat includes 8,393 ac (3,397 ha) in one unit in San Diego County (La Posta/Campo) that is not currently designated as critical habitat. We acquired occupancy data from the La Posta/Campo Unit after publication of the April 15, 2002, critical habitat rule (67 FR 18356). The proposed La Posta/Campo unit supports the newly identified La Posta/Campo Core Occurrence Complex (see Background section above). This newly described core occurrence complex represents a population locally adapted to a unique habitat type and a warmer, drier climate (relative to the Otay Mountain Core Occurrence Complex). Conservation of this unique habitat provides geographic, genetic, and habitat diversity that is likely to reduce the subspecies' extinction probability due to fire and climate change (Service 2003a, pp. 60–61, 76; see Background section above).

(7) This proposed revision to designated critical habitat includes 14,014 ac (5,671 ha) in one unit in Riverside County (Bautista Road) that is not currently designated as critical habitat. We did not include the Bautista Road Core Occurrence Complex in the April 15, 2002, designation (67 FR 18356), because it was first documented following publication of the proposed rule (66 FR 9476, February 7, 2001), and we did not have sufficient information concerning habitat within the complex and landscape connectivity to other complexes to determine whether it was essential to the conservation of the subspecies (67 FR 18356, April 15, 2002). We have acquired substantial new occupancy and other scientific information relevant to this area since 2002 (see Background section above), and we have determined that conservation of the Bautista Unit is essential to the conservation of the subspecies. Conservation of this unique habitat provides geographic, genetic, and habitat diversity that is likely to reduce the subspecies' extinction probability due to fire and climate change (Service 2003a, pp. 63–65, 60–61; see Background section above). Recent data indicate the Bautista Road Core Occurrence Complex (identified as non-core in the recovery plan; Service 2003a, p. 44), is most accurately described as a core occurrence complex (see Background and Criteria Used to

Identify Critical Habitat sections above), and is therefore included in this proposed revision to designated critical habitat. The Bautista Unit also includes habitat associated with the Lookout Mountain and Pine Meadows non-core occurrence complexes identified in the recovery plan (Service 2003a, p. 44) and the recently discovered Horse Creek (non-core) Occurrence Complex, where a range shift for the subspecies is expected to continue into the foreseeable future (see Background and Criteria Used to Identify Critical Habitat sections above).

(8) In preparing this proposed revision to designated critical habitat, we re-examined the boundaries of core occurrence complexes described in the April 15, 2002, critical habitat designation (67 FR 18356). As a result, this proposal includes some areas adjacent to, but not within, currently designated units. This re-examination resulted in merging or expanding identified core occurrence complexes (see Background and Criteria Used to Identify Critical Habitat sections above). In particular, new occurrence data indicates the Butterfield/Radec (non-core) Occurrence Complex south of SR 79 (Service 2003a, p. 41) is part of the Vail Lake Core Occurrence Complex, and we therefore reflect that in this proposed revision to designated critical habitat (see Background and Criteria Used to Identify Critical Habitat sections above). New occurrence data also indicates the Proctor Valley, Dulzura, and Honey Springs non-core occurrence complexes (Service 2003a, p. 47) are part of the new Otay Mountain Core Occurrence Complex, and we therefore reflect that in this proposed revision to designated critical habitat (see Background and Criteria Used to Identify Critical Habitat sections above).

Proposed Revisions to the Critical Habitat Designation

We are proposing 10 units as critical habitat for the Quino checkerspot butterfly; all of the units are currently occupied (Table 1). The designation of these units, if finalized, would replace the existing critical habitat designation for the Quino checkerspot butterfly in 50 CFR 17.95(i). The critical habitat areas described below constitute our current best assessment of areas that meet the definition of critical habitat for the Quino checkerspot butterfly.

TABLE 1.—OCCUPANCY STATUS OF PROPOSED CRITICAL HABITAT FOR THE QUINO CHECKERSPOT BUTTERFLY

Unit	Occupied at time of listing?	Currently occupied?	Size of unit in acres (hectares)
1. Warm Springs	yes	yes	2,684 (1,086)
2. Skinner/Johnson	yes	yes	12,030 (4,869)
3. Sage	yes	yes	2,693 (1,090)
4. Wilson Valley	yes	yes	4,813 (1,948)
5. Vail Lake/Oak Mountain	yes	yes	8,187 (3,313)
6. Tule Peak	yes	yes	6,433 (2,603)
7. Bautista	no	yes	14,014 (5,671)
8. Otay	yes	yes	36,726 (14,863)
9. La Posta/Campo	no	yes	8,393 (3,397)
10. Jacumba	yes	yes	2,514 (1,017)

The approximate area of various land ownerships encompassed within each proposed critical habitat unit is shown in Table 2.

TABLE 2.—PROPOSED CRITICAL HABITAT UNITS FOR THE QUINO CHECKERSPOT BUTTERFLY
[Area estimates reflect all land within critical habitat unit boundaries]

Critical habitat unit	Land ownership by type ¹	Size of unit in acres (hectares)
1. Warm Springs	Private	2,684 (1,086)
	BLM	107 (43)
	Local	3,312 (1,340)
3. Sage	CDFG	608 (246)
	Private	8,003 (3,239)
	BLM	126 (51)
4. Wilson Valley	Private	2,567 (1,039)
	BLM	468 (189)
	Private	4,345 (1,759)
5. Vail Lake/Oak Mountain	BLM	822 (333)
	CNF	912 (369)
	Private	6,453 (2,612)
6. Tule Peak	BLM	328 (133)
	CDFG	321 (123)
	Cahuilla Tribe	1,203 (487)
7. Bautista	Private	4,581 (1,861)
	SBNF	8,420 (3,407)
	BLM	1,223 (495)
8. Otay	CSLC	74 (30)
	Private	4,297 (1,739)
	BLM	7,663 (3,101)
9. La Posta/Campo	CDFG	6,361 (2,574)
	USFWS	405 (164)
	Local	4,427 (1,792)
10. Jacumba	State	43 (17)
	DOD	109 (44)
	Private	17,718 (7,170)
Total	DOD	1,083 (438)
	BLM	1,828 (740)
	Campo Tribe	3,156 (1,277)
Total	Private	2,326 (942)
	CDPR	349 (141)
	Private	2,165 (876)
Total	98,487 (39,857)

¹ Private = private ownership, including conserved lands managed for species' recovery; BLM = Bureau of Land Management; Local = City or County owned land; CDFG = California Department of Fish and Game; CDPR = California Department of Parks and Recreation; CNF = Cleveland National Forest; CSLC = California State Lands Commission; Cahuilla Tribe = Cahuilla Band of Indians; SBNF = San Bernardino National Forest; USFWS = U.S. Fish and Wildlife Service Refuge; DOD = U.S. Department of Defense; Campo Tribe = Campo Band of Kumeyaay Indians.

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for the Quino checkerspot butterfly, below.

Unit 1: Warm Springs

Unit 1 consists of approximately 2,684 ac (1,086 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at

the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3); Dwarf plantain, thread-leaved birds-beak, and purple owl's-clover host

plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 39, 41; Service GIS database). Unit 1 is located in Riverside County, north of Interstate 15, between Interstate 215 and SR 79, north of Murrieta Hot Springs Road to Scott Road, in the vicinity of Warm Springs Creek. This unit includes land associated with the Warm Springs Creek (core) and Warm Springs Creek North (non-core) occurrence complexes as described in the recovery plan (Service 2003a, p. 79); new information indicates the Warm Springs Creek North (non-core) Occurrence Complex should be considered part of the Warm Springs Creek Core Occurrence Complex (see Background section above).

Habitat in this unit is threatened by invasion of nonnative annuals, development, off-road vehicle use, foot traffic, and other recreational impacts (Service 2003 pp. 41, 79; Service GIS satellite imagery). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion). The majority of Unit 1 is privately owned (Table 1), but this portion of the unit is part of a plan for conservation and management under the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The remaining portion of the unit is in conservation, is privately owned, and is managed by the Center for Natural Lands Management (CNLM) under the Assessment District 161 Habitat Conservation Plan. We are considering excluding all of this unit, which is within the MSHCP plan area, from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 2: Skinner/Johnson

Unit 2 consists of approximately 12,030 ac (4,869 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): Dwarf plantain, white snapdragon, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 39, 41; Service GIS database). Unit 2 is located in Riverside County, north of the City of Temecula, in the vicinity of Lake Skinner. This unit includes land associated with the Skinner/Johnson

Core Occurrence Complex as described in the recovery plan (Service 2003a, p. 79).

Habitat in this unit is threatened by invasion of nonnative annuals, housing and utilities infrastructure development, off-road vehicle use, foot traffic, and other recreational impacts (Service 2003 pp. 41, 79; Service GIS satellite imagery), and elevated soil nitrogen levels (Service 2003 pp. 61, 62). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion). The majority of land in Unit 2 is held in conservation and managed within the Southwest Riverside County Multiple Species preserve, or conserved and managed by CNLM. We are considering excluding 11,923 ac (4,825 ha), the non-Federal lands within the MSHCP plan area in this unit, from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 3: Sage

Unit 3 consists of approximately 2,692 ac (1,090 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): Dwarf plantain, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 41, 43; Service GIS database). Unit 3 is located in Riverside County, northeast of Temecula, in the vicinity of the community of Sage. This unit includes land associated with the Sage (core) and San Ignacio (non-core) occurrence complexes as described in the recovery plan (Service 2003a, p. 79). New occurrence information indicates the San Ignacio (non-core) Occurrence Complex should be considered part of the Sage Core Occurrence Complex (see Background and Criteria Used to Identify Critical Habitat sections above).

Habitat in this unit is threatened by invasion of nonnative annuals, rural development, off-road vehicle use, foot traffic, and other recreational impacts (Service 2003 p. 79; Service GIS satellite imagery). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section

above for a detailed discussion). Land in Unit 3 is primarily privately owned (Table 2), but this area is included in the plan for conservation and management under the MSHCP. We are considering excluding 2,567 ac (1,039 ha), the non-Federal lands within the MSHCP plan area in this unit, from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 4: Wilson Valley

Unit 4 consists of approximately 4,813 ac (1,948 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): Dwarf plantain, white snapdragon, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 41, 43; Service GIS database). Unit 4 is located in Riverside County, north of SR 79, east of Oak Mountain and Temecula, in the vicinity of Wilson Valley. This unit includes land associated with the Wilson Valley Core Occurrence Complex described in the recovery plan (Service 2003a, p. 79).

Habitat in this unit is threatened by invasion of nonnative annuals, development, trash dumping, off-road vehicle use, foot traffic, and other recreational impacts (Service 2003 pp. 59, 79; Service GIS satellite imagery). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion). A small part of the land in Unit 4 is managed by the Bureau of Land Management (BLM), and the majority is privately owned (Table 2). The private land in this unit is planned for conservation and management under the MSHCP. We are considering excluding 4,345 ac (1,758 ha), the non-Federal lands within the MSHCP plan area in this unit, from the final designation under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 5: Vail Lake/Oak Mountain

Unit 5 consists of approximately 8,187 ac (3,313 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the

conservation of the subspecies (PCEs 1, 2, and 3): Dwarf plantain, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 41, 43; Service GIS database). Unit 5 is located in Riverside County, north and south of SR 79, east of Temecula, in the vicinity of Oak Mountain and Vail Lake. This unit includes land associated with the Vail Lake (core) and Butterfield/Radec (non-core) occurrence complexes described in the recovery plan (Service 2003a, p. 79). New occurrence information indicates that the Butterfield/Radec (non-core) Occurrence Complex should be considered part of the Vail Lake Core Occurrence Complex (see Background and Summary of Changes from Previously Designated Critical Habitat sections above).

Habitat in this unit is threatened by invasion of nonnative annuals, development, dumping, off-road vehicle use, foot traffic, and other recreational impacts (Service 2003 pp. 59, 79; Service GIS satellite imagery). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion). Part of the land in Unit 5 is managed by the Bureau of Land Management (BLM) and part by the Cleveland National Forest (CNF), but the majority is under private ownership (Table 2) and planned for conservation and management under the MSHCP. We are considering excluding 6,453 ac (2,611 ha), the non-Federal lands within the MSHCP plan area in this unit, from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 6: Tule Peak

Unit 6 consists of approximately 6,433 ac (2,603 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): dwarf plantain, woolly plantain, white snapdragon, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 44–47; Service GIS satellite imagery). Unit 6 is located in Riverside County, south of SR 371 and the community of Anza, in the vicinity of Tule Peak Road and the southern

boundary of the Cahuilla Band of Indians Tribal lands. This unit includes land associated with the Tule Peak (core), Southwest Cahuilla (non-core), and Silverado (core) occurrence complexes described in the recovery plan (Service 2003a, p. 79). New occurrence information indicates all these occurrence complexes are better described as a single Tule Peak/Silverado Core Occurrence Complex (see Background section above).

Habitat in this unit is threatened by invasion of nonnative annuals, rural development, and recreational activity (Service 2003 pp. 81; Service GIS satellite imagery). In particular, recreational activity and rural development continue to result in the loss of habitat on private land (Reed 2001, pp. 1–2; TeraCor 2002, p. 7; Osborne 2007, p. 9; Service GIS satellite imagery). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion). In light of the recent climatic warming and drying trends (see Background and Special Management Considerations or Protection sections above), prudent design of reserves and other managed habitats in this unit should include landscape connectivity to other habitat areas and ecological connectivity (linkage between habitat patches joined by natural dispersal areas; Service 2003a, p. 162) with undeveloped lands to accommodate range shifts northward and upward in elevation (Service 2003a, p. 64).

Land ownership in Unit 6 includes BLM, California Department of Fish and Game, Cahuilla Band of Indians Tribal reservation, and private lands (Table 2). The majority of the unit consists of privately owned lands not included in the MSHCP Conservation Area, but within the MSHCP area boundary. We are considering excluding 6,105 ac (2,471 ha) of private lands within this unit from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below). The inclusion of Tribal lands in this unit serves to ensure the persistence of the Tule Peak/Silverado Core Occurrence Complex and will contribute to the conservation and recovery of the subspecies overall. However, we recognize the importance of government-to-government relationships with Tribes, and we are seeking public comment on the appropriateness of the inclusion or the exclusion of these lands in the final

designation of critical habitat (see Public Comments section above).

Unit 7: Bautista

Unit 7 consists of approximately 14,014 ac (5,671 ha) of habitat that was not within the geographical area occupied at the time of listing. This unit contains the Bautista Road (now core), Pine Meadow (non-core), and Lookout Mountain (non-core) occurrence complexes as described in the recovery plan (Service 2003a, p. 79) and the recently described Horse Creek (non-core) Occurrence Complex (see Background and Criteria Used to Identify Critical Habitat sections above). As further discussed in the Background section, we have determined that the Bautista Road Occurrence Complex should be considered a core occurrence complex, and that habitat connectivity to higher elevation occurrence complexes is essential for the conservation of the subspecies. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): dwarf plantain, woolly plantain, white snapdragon, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 44–47; Service GIS database). It is located in Riverside County, north of SR 371 and the community of Anza.

Approximately half of the land in Unit 7 is within the San Bernardino National Forest. Part of the other half of the unit, which is outside the San Bernardino National Forest, is owned by the BLM. The remainder of the unit is privately owned (Table 2), and is not planned for conservation and management under the MSHCP, but is within the MSHCP area boundary. We are considering excluding 4,371 ac (1,769 ha), all of the non-Federal lands in this unit, from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 8: Otay

Unit 8 consists of approximately 36,726 ac (14,863 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): dwarf plantain, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 50, 51; Service GIS database). Unit 8 is located in San Diego County, from the Mexican border north

to north of SR 94 in the vicinity of Otay Mountain and Otay Lakes. This unit includes land associated with the Otay Valley (core), West Otay Mountain (core), Otay Lakes/Rancho Jamul (core), Proctor Valley (non-core), Marron Valley (core), Dulzura (non-core), and Honey Springs (non-core) occurrence complexes as described in the recovery plan (Service 2003a, p. 47). New occurrence information indicates all these occurrence complexes are better described as a single Otay Mountain Core Occurrence Complex (see Background and Summary of Changes from Previously Designated Critical Habitat sections above).

Habitat in this unit is threatened by invasion of nonnative annuals, Border Patrol activity, development, trash dumping, off-road vehicle use, foot traffic, other recreational activities (Service 2003 p. 84), fire (Service 2003a, p. 61), and elevated soil nitrogen levels (Service 2003a, pp. 61, 62). Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion).

Part of the land in Unit 8 is owned and managed by multiple public entities, including the BLM, the Service, and the California Department of Fish and Game (CDFG). However, a large portion of this unit remains privately owned (Table 2) and is within the San Diego County Multiple Species Conservation Program (MSCP) area. We are considering excluding 1,684 ac (681 ha) of non-Federal lands within the MSCP City of Chula Vista subarea plan area in this unit from the final revision to designated critical habitat under section 4(b)(2) of the Act (see Areas Considered For Exclusion Under Section 4(b)(2) of the Act section below).

Unit 9: La Posta/Campo

Unit 9 consists of approximately 8,393 ac (3,397 ha) of habitat that was not within the geographical area occupied at the time of listing. However, this unit is now known to be occupied, and it contains the recently described La Posta/Campo Core Occurrence Complex (see Background and Criteria Used to Identify Critical Habitat sections above). We determined the La Posta/Campo Core Occurrence Complex to be essential to the conservation of the subspecies because it is likely to contain a resilient source population (see Background and Criteria Used to Identify Critical Habitat sections above). This unit contains all of the features

essential to the conservation of the subspecies (PCEs 1, 2, and 3): White snapdragon, thread-leaved birds-beak, and purple owl's-clover host plants; nectar sources; open, woody-canopy scrublands; and hilltops (PSBS 2005a, p. 18; 2005b, p. 26; O'Conner 2006, pp. 1–4; Alfaro and Alfaro 2007, pp. 6–8; Service GIS database).

Unit 9 is located in San Diego County, north and south of SR 94, and east of the community of Campo. Part of the land in Unit 9 is managed by the BLM and owned by the U.S. Department of Defense; other portions of the unit are privately owned and include Campo Band of Kumeyaay Indians Tribal lands (Table 2). The inclusion of Tribal lands in this unit serves to ensure the persistence of the La Posta/Campo Core Occurrence Complex and will contribute to the conservation and recovery of the subspecies overall. However, we recognize the importance of government-to-government relationships with Tribes, and we are seeking public comment on the appropriateness of the inclusion or exclusion of these lands in the final designation of critical habitat (see Public Comments section above).

Unit 10: Jacumba

Unit 10 consists of approximately 2,514 ac (1,017 ha) of habitat that was occupied by the subspecies at the time of listing and that remains occupied at the present time. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3): Dwarf plantain and woolly plantain host plants; nectar sources; open, woody-canopy scrublands; and hilltops (Service 2003a, pp. 52, 54; Service GIS database). Unit 10 is located in San Diego County, south of Interstate 8, and north of the community of Jacumba. This unit includes land associated with the Jacumba Core Occurrence Complex. Although it was described in the recovery plan as non-core (Service 2003a, p. 52), based on new occurrence information we now consider this to be a core occurrence complex (see Background and Criteria Used to Identify Critical Habitat sections above). Part of the land in Unit 10 is within Anza Borrego Desert State Park, but the majority of the unit is privately owned (Table 2).

Habitat in this unit is threatened by invasion of nonnative annuals; Border Patrol activity; habitat destruction, degradation, and fragmentation associated with development (O'Rourke and Mulligan 2007, p. 2); and off-road vehicle use, foot traffic, and other recreational uses (Service 2003a, p. 84; Service GIS satellite imagery).

Therefore, the PCEs in this unit may require special management considerations or protection to minimize impacts resulting from these threats (see Special Management Considerations or Protection section above for a detailed discussion).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our definition of "destruction or adverse modification" (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004) and *Sierra Club v. U.S. Fish and Wildlife Service, et al.*, 245 F.3d 434, 442F (5th Cir 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species.

Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. This is a procedural requirement only, as conservation recommendations in a conference report or opinion are strictly advisory.

The primary utility of the conference procedures is to allow a Federal agency to maximize its opportunity to adequately consider species proposed for listing and proposed critical habitat and, if we list the proposed species or designate proposed critical habitat, to avoid potential delays in implementing their proposed action because of the section 7(a)(2) compliance process. We may conduct conferences either informally or formally. We typically use informal conferences as a means of providing advisory conservation recommendations to assist the agency in eliminating conflicts that the proposed action may cause. We typically use formal conferences when we or the Federal agency believes the proposed action is likely to jeopardize the continued existence of the species

proposed for listing or adversely modify proposed critical habitat.

We generally provide the results of an informal conference in a conference report, while we provide the results of a formal conference in a conference opinion. We typically prepare conference opinions on proposed species or critical habitat in accordance with procedures contained at 50 CFR 402.14, as if the proposed species were already listed or the proposed critical habitat was already designated. We may adopt the conference opinion as the biological opinion when the species is listed or 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)).

If we list a species or designate critical habitat, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act (33 U.S.C. 1251, *et seq.*) or a permit from us under section 10 of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7(a)(2) consultations.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

- (1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or
- (2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to

the project, if any are identifiable. We define "Reasonable and prudent alternatives" at 50 CFR 402.02 as alternative actions identified during consultation that:

- Can be implemented in a manner consistent with the intended purpose of the action,
- Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,
- Are economically and technologically feasible, and
- Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

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

Application of the "Adverse Modification" Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the PCEs, or other conservation role and function of the affected designated area, to an extent that appreciably reduces the conservation value of critical habitat for the Quino checkerspot butterfly. Generally, the conservation role of Quino checkerspot butterfly 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, activities involving a Federal action that may

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

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore should result in consultation for the Quino checkerspot butterfly include, but are not limited to, actions that would remove host plants and nectar sources, introduce or increase invasion rates of invasive nonnative exotic plants species, or fragment habitat. Such activities could include, but are not limited to:

- Off-road vehicle use;
- Mechanical soil disturbance;
- Clearing or grading;
- Development; and
- Pesticide use.

These activities could result in reduction or degradation of habitat necessary for the growth and reproduction of these butterflies and their host plants (including reduction or preclusion of necessary movement of adults between breeding areas), directly or cumulatively causing adverse effects to Quino checkerspot butterflies and their life cycles.

Federal agencies already consult with us on activities in areas currently occupied by the species and areas currently designated as critical habitat to ensure that their actions do not jeopardize the continued existence of the species or destroy or adversely modify designated critical habitat. These actions include, but are not limited to:

- (1) Regulation of activities affecting waters of the United States, including vernal pool and other Quino checkerspot butterfly habitat areas in watersheds, by the Corps under section 404 of the Clean Water Act;
- (2) Regulation of grazing, mining, and recreation by the BLM, Forest Service, or the Service;
- (3) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities on Federal land by BLM, Forest Service, DOD, and the Service;
- (4) Regulation of airport improvement activities by the Federal Aviation Administration jurisdiction;
- (5) Construction of roads and fences along the International Border with Mexico and immigration enforcement activities by the Immigration and Naturalization Service/Border Patrol that take place in Quino checkerspot butterfly habitat;
- (6) Hazard mitigation and post disaster repairs funded by the Federal Emergency Management Agency;

(7) Construction of communication sites licensed by the Federal Communications Commission;

(8) Activities funded by the U.S. Environmental Protection Agency, Department of Energy, or any other Federal agency; and

(9) Construction of fire breaks by the BLM, Forest Service, Service, or other Federal agencies for the maintenance or control of fire management and suppression activities.

Exclusions

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

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

In the following sections, we address a number of general issues that are relevant to the exclusions we are considering. In addition, we are 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 when it is complete. Based on public comment on that document and the proposed designation itself, as well as the information in the final economic analysis, the Secretary may exclude from critical habitat areas different from those identified for possible exclusion in this proposed rule under the provisions of section 4(b)(2) of the Act, up to and including all areas proposed for designation. This is also addressed in our implementing regulations at 50 CFR 424.19.

Benefits of Designating Critical Habitat

The process of designating critical habitat as described in the Act requires that the Service identify those lands within the geographical area occupied by the species at the time of listing on which are found the physical or biological features essential to the conservation of the species that may

require special management considerations or protection, and those areas outside the geographical area occupied by the species at the time of listing that are essential for the conservation of the species. In identifying those lands, the Service must consider the recovery needs of the species, such that, on the basis of the best scientific and commercial data available at the time of designation, the habitat that is identified, if protected or managed properly, could provide for the survival and recovery of the species.

The identification of those areas that are essential for the conservation of the species is beneficial. The process of proposing and finalizing a critical habitat rule provides the Service with the opportunity to determine the physical and biological features essential to the conservation of the species within the geographical area occupied by the species at the time of listing, as well as to determine other areas essential for the conservation of the species. The designation process includes peer review and public comment on the areas proposed for designation and our rationale for including them. This process is valuable to land owners and managers in developing conservation management plans for designated areas, as well as any other occupied habitat or suitable habitat that may not have been included in the Service's determination of essential habitat.

The consultation provisions under section 7(a) of the Act constitute the regulatory benefits of critical habitat. As discussed above, Federal agencies must consult with us on discretionary actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. Federal agencies must also consult with us on discretionary actions that may affect a listed species and refrain from undertaking actions that are likely to jeopardize the continued existence of such species. The analysis of effects to critical habitat is a separate and different analysis from that of the effects to the species. Therefore, the difference in outcomes of these two analyses represents the regulatory benefit of critical habitat. For some species, and in some locations, the outcome of these analyses will be similar, because effects on habitat will often result in effects on the species. However, the regulatory standard is different: The jeopardy analysis looks at the action's impact on survival and recovery of the species, while the adverse modification analysis looks at the action's effects on the designated habitat's contribution to the species' conservation. This will, in many

instances, lead to different results and different regulatory requirements. Thus, critical habitat designations may provide greater regulatory benefits to the recovery of a species than would listing alone.

There are two limitations to the regulatory effect of critical habitat. First, a section 7(a)(2) consultation is required only where there is a Federal nexus (an action authorized, funded, or carried out by any Federal agency)—if there is no Federal nexus, the critical habitat designation of private lands itself does not restrict any actions that destroy or adversely modify critical habitat. Second, the designation only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure that the conservation role and function of those areas that contain the physical or biological features essential to the conservation of the species or of unoccupied areas that are essential for the conservation of the species is not appreciably reduced. Critical habitat designation alone, however, does not require property owners to undertake affirmative actions to promote the recovery of the species.

Once an agency determines that consultation under section 7(a)(2) of the Act is necessary, the process may conclude informally when we concur in writing that the proposed Federal action is not likely to adversely affect critical habitat. However, if we determine through informal consultation that adverse impacts are likely to occur, then we would initiate formal consultation, which would conclude when we issue a biological opinion on whether the proposed Federal action is likely to result in destruction or adverse modification of critical habitat.

If in a biological opinion we conclude that an action will result in destruction of adverse modification of critical habitat, we suggest reasonable and prudent alternatives to the proposed Federal action, if any are identifiable. If we conclude that an action will not result in destruction or adverse modification, the biological opinion may contain discretionary conservation recommendations to minimize adverse effects to, or provide a benefit to, critical habitat, but it would not contain any mandatory reasonable and prudent measures or terms and conditions directly related to critical habitat.

As stated above, the designation of critical habitat does not require that any management or recovery actions take place on the lands included in the designation. Even in cases where consultation has been initiated under section 7(a)(2) of the Act, the end result

of consultation is to avoid adverse modification of critical habitat, but not specifically to manage critical habitat or institute recovery actions on critical habitat. Conversely, voluntary conservation efforts implemented through management plans may institute proactive actions over the lands they encompass and are often put in place to remove or reduce known threats to a species or its habitat (i.e., implementing recovery actions). We believe that in many instances the benefit to a species and/or its habitat realized through the designation of critical habitat is low when compared to the conservation benefit that can be achieved through voluntary conservation efforts.

For example, the conservation achieved through implementing habitat conservation plans (HCPs) or other habitat management plans can be greater than what we achieve through multiple site-by-site, project-by-project, section 7(a)(2) consultations involving consideration of critical habitat. Management plans may commit resources to implement long-term management and protection to particular habitat for at least one and possibly additional listed or sensitive species. Section 7(a)(2) consultations commit Federal agencies to preventing adverse modification of critical habitat caused by the particular project only, and not to providing conservation or long-term benefits to areas not affected by the proposed project. Thus, implementation of any HCP or management plan that considers enhancement or recovery as the management standard will often provide as much or more benefit than a consultation for critical habitat designation.

Another benefit of including lands in critical habitat is that 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 the Quino checkerspot butterfly. In general, critical habitat designation always has educational benefits; however, in some cases, they may be redundant with other educational effects. For example, HCPs have significant public input and may largely duplicate the educational benefits of a critical habitat designation. Including lands in critical habitat also would inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

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

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without 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 are essential to our understanding the status of species on non-Federal lands, and necessary for us to implement recovery actions such as reintroducing listed species and restoring and protecting habitat.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. We promote these private-sector efforts through the Department of the Interior's Cooperative Conservation philosophy. Conservation agreements with non-Federal landowners (HCPs, safe harbor agreements, other conservation agreements, easements, and State and local regulations) enhance species conservation by extending species' protections beyond those available through section 7 consultations. In the past decade, we have encouraged non-Federal landowners to enter into conservation agreements, based on the view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through regulatory methods (61 FR 63854; December 2, 1996).

Many private landowners, however, are wary of the possible consequences of attracting endangered species to their property. Mounting evidence suggests 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. This perception results 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).

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 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). We believe that the judicious exclusion of specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation.

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(a)(2) of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus the benefits of excluding areas that are covered by effective partnerships or voluntary conservation commitments can often be high.

Benefits of Excluding Lands With Approved Management Plans

Potential benefits of excluding lands within approved long-term management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by critical habitat. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine conservation efforts and partnerships in many areas.

Designation of critical habitat within the boundaries of management plans that provide conservation measures for a species could be viewed as a disincentive to 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 will be affected. Addition of new regulatory requirements within approved long-term management plans would remove a significant incentive for others to undertake the time and expense of management planning.

A related benefit of excluding lands within management plans from critical habitat designation is the unhindered, continued ability it gives us 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. Designating lands within approved management plan areas as critical habitat 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 excluding lands with approved long-term management plans, we preserve our current partnerships and encourage additional management plans and other conservation actions in the future.

The information provided in the previous section applies to all the following discussions of benefits of inclusion or exclusion of critical habitat.

Areas Considered for Exclusion Under Section 4(b)(2) of the Act

After considering the following areas under section 4(b)(2) of the Act, we are considering excluding, under section 4(b)(2) of the Act, all 1,684 ac (681 ha) of non-Federal lands within the San Diego County Multiple Species Program (MSCP, a habitat conservation plan) City of Chula Vista Subarea Plan area from the revised critical habitat designation for the Quino checkerspot butterfly (see Figure 1 below), and 37,245 ac (15,073 ha) of non-Federal lands within the Multiple Species Habitat Conservation Plan area in western Riverside County. In the paragraphs below, we provide further discussion of our potential exclusion of these lands under section 4(b)(2) of the Act. We are providing the following information for public review, and specifically soliciting comments on the appropriateness of including or excluding these lands from the final

critical habitat designation (see Public Comment section above).

Habitat Conservation Plan Lands—Exclusions Under Section 4(b)(2) of the Act

Under section 4(b)(2), when considering an area covered by a current plan (HCPs, as well as other types of conservation plans), we take into consideration a number of factors including:

(1) Whether the plan is complete and provides protection from adverse modification or destruction;

(2) Whether there is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and

(3) Whether the plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

We also consider preserving partnerships and encouraging additional HCPs and other conservation actions in the future.

San Diego County Multiple Species Conservation Program Habitat Conservation Plan (MSCP)

In southwestern San Diego County, the MSCP effort encompasses more than 582,000 ac (236,000 ha) and anticipates the participation of 12 jurisdictions. Under the broad umbrella of the MSCP, each of the 12 participating jurisdictions prepares a subarea plan that implements the goals of the MSCP within that particular jurisdiction. We consult on each subarea plan under section 7 of the Act to ensure they are consistent with the aims of the MSCP. The MSCP provides for the establishment, over a 50 year period, of approximately 171,000 ac (69,200 ha) of preserve areas to provide conservation benefits to 85 federally listed and sensitive species. Although not a covered species under the umbrella of the MSCP, the Quino checkerspot butterfly is a covered species under the City of Chula Vista Subarea Plan, which provides for the long-term conservation of this subspecies.

MSCP City of Chula Vista Subarea Plan

We approved the City of Chula Vista's Subarea Plan, covering approximately 58,000 ac (23,472 ha) under the City's jurisdiction, through an incidental take permit issued on January 12, 2005. This subarea plan was prepared with the intent to meet the following goals: (1) To conserve covered species (including the Quino checkerspot butterfly) and their habitats through the conservation of

interconnected significant habitat cores and linkages; (2) to delineate and assemble a preserve using a variety of techniques including public acquisition, on- and off-site mitigation, and land use regulations; (3) to provide a preserve management program that, together with Federal and State management activities, will be carried out over the long term, further ensuring the conservation of covered species; (4) to provide necessary funding for a preserve management program and biological monitoring of the preserve; and (5) to reduce or eliminate redundant Federal, State and local natural resource regulatory and environmental review of individual projects by obtaining Federal and State take authorizations for 86 species (Chula Vista Plan 2003, Section 1, p. 2).

The City of Chula Vista developed a conservation program for the Quino checkerspot butterfly as part of the subarea plan. The city has begun implementing conservation measures for the Quino checkerspot butterfly that minimize and mitigate the impacts of take of the subspecies in its jurisdiction and contribute to the long-term conservation and recovery of the subspecies through the following actions detailed in the City of Chula Vista Subarea Plan, including: (1) Preserving the area located within the 2002 final critical habitat designation for the Quino checkerspot butterfly (67 FR 18356); (2) maintaining connectivity along key habitat linkages within the City's boundaries; (3) managing the preserve for the benefit of the Quino checkerspot butterfly (and other covered species); (4) restoring/enhancing Quino checkerspot butterfly habitat; and (5) minimizing project impacts to the Quino checkerspot butterfly (Chula Vista Subarea Plan 2003, Section 4, p. 41).

The City of Chula Vista will conserve and manage all properties dedicated to their preserve system, including 1,548 ac (626 ha) or approximately 92 percent of the 1,684 ac (681 ha) of proposed revised critical habitat in Unit 8 (Otay Unit) within the plan area. This subspecies will benefit from the system of large, interconnected blocks of habitat that the City of Chula Vista Subarea Plan will establish and preserve in perpetuity (Service 2003b, p. 70). Land within the habitat preserve will be managed and maintained in accordance with specific management objectives as follows: (1) To ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the preserve; (2) to protect existing and restored biological resources from intense or disturbing

activities within the preserve while accommodating compatible uses; (3) to enhance and restore, where feasible, appropriate native plant associations and wildlife connections to adjoining habitat to provide viable wildlife and sensitive species habitat; (4) to facilitate monitoring of selected target species, habitats, and linkages to ensure long-term persistence of viable populations of priority plant and animal species (including the Quino checkerspot butterfly); and (5) to ensure functional habitats and linkages for those species (Service 2003b, p. 18). The preserve will be adaptively managed, according to the measures included in the City of Chula Vista Subarea Plan and the MSCP, which will further reduce indirect effects and benefit the Quino checkerspot butterfly (Service 2003b, p. 70).

The Quino checkerspot butterfly is threatened primarily by urban and agricultural development, invasion of nonnative plant species, off-road vehicle use, grazing, and fire management practices (67 FR 18356, April 15, 2002). As described above, the MSCP and the

approved City of Chula Vista Subarea Plan will enhance Quino checkerspot butterfly habitat by removing or reducing threats to this subspecies and its PCEs. The City of Chula Vista Subarea Plan has already preserved approximately 922 ac (373 ha) of habitat within the 1,684 ac (681 ha) of plan area that includes proposed revised critical habitat. The City of Chula Vista will not permit development within the "Habitat Preserve 100 Percent Conservation Area" (planned preserve) unless a Boundary Adjustment or HCP Amendment is approved by the Service. Therefore, although not all lands identified for preservation and management have been officially dedicated to the preserve system, 922 ac (373 ha) have, and we believe the 626 additional acres (253 ha) of proposed revised critical habitat identified for preservation and management are assured conservation under the City of Chula Vista Subarea Plan. Furthermore, of the remaining 164 ac (66 ha) of proposed revised critical habitat not identified for preservation and

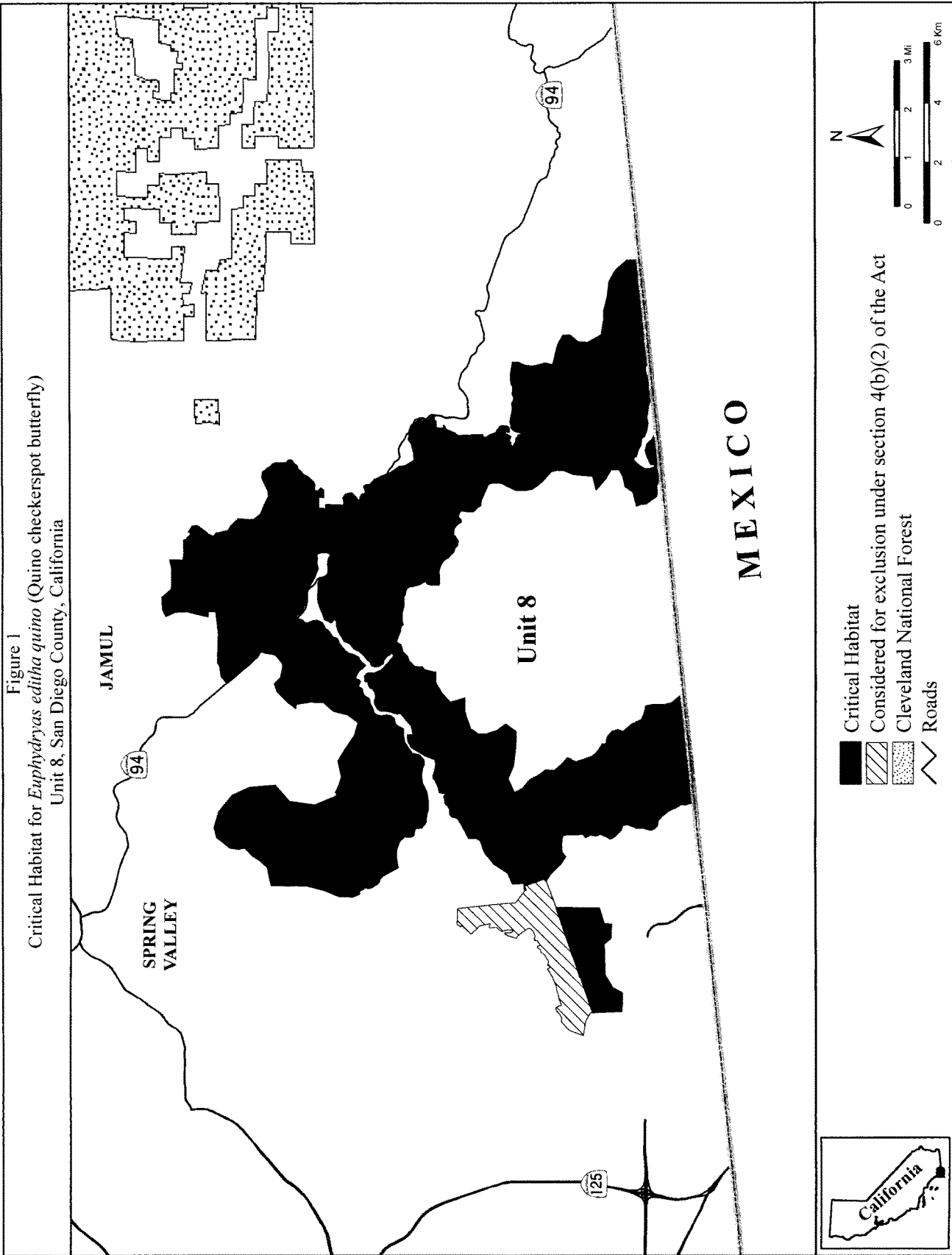
management, 28 ac (11 ha) have already been acquired for conservation under the HCP and are managed by the City of Chula Vista. The final 136 ac (55 ha) of critical habitat (8 percent of all proposed revised critical habitat under this HCP) are not currently planned for conservation; however, additional conservation would be required under the California Environmental Quality Act (CEQA) and the City of Chula Vista Subarea Plan if these areas were proposed for development in the future.

We are therefore considering excluding approximately 1,684 ac (681 ha) of non-Federal lands from final critical habitat designation for this subspecies within proposed Unit 8 (Otay) (see Table 3 and Figure 1 below).

Table 3 below provides approximate areas (ac, ha) of lands in Unit 8 that meet the definition of critical habitat but that we are considering excluding from the final critical habitat rule. Figure 1 is a map of the lands in Unit 8 that we are considering excluding from the final critical habitat rule.

TABLE 3.—AREAS BEING CONSIDERED FOR EXCLUSION WITHIN PROPOSED CRITICAL HABITAT UNIT 8

Geographic area: Unit 8 (Otay unit)	Areas meeting the definition of critical habitat in acres (hectares)	Areas considered for exclusion in acres (hectares)
BLM	7,663 (3,101)	0
CDFG	6,361 (2,574)	0
USFWS	405 (164)	0
Local	4,427 (1792)	721 (292)
State	43 (17)	3 (1)
DOD	109 (44)	0
Private	17,718 (7170)	960 (388)
Total	36,726 (14,863)	1,684 (681)



Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The MSHCP is a large-scale, multi-jurisdictional habitat conservation plan (HCP) encompassing 1.26 million ac (510,000 ha) in western Riverside County. The MSHCP addresses 146 listed and unlisted "covered species," including the Quino checkerspot butterfly. 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 (County Flood Control), Riverside County Transportation Commission, Riverside County Parks and Open Space District (County Parks), and Riverside County Waste Department; California Department of Parks and Recreation (State Parks); 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 associated incidental take of covered species. On June 22, 2004, the Service issued an incidental take permit (TE-088609-0) under section 10(a)(1)(B) of the Act to 22 permittees under the MSHCP for a period of 75 years.

The MSHCP requires establishment of 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 pre-existing natural and open space areas defined by the MSHCP as Public/Quasi-Public (PQP) lands. These PQP lands include those under Federal ownership, primarily managed by the U.S. Forest Service (USFS) and BLM, and also permittee-owned open-space areas, primarily managed by State and County Parks. Collectively, the Additional Reserve Lands and PQP lands form the overall MSHCP Conservation Area. The configuration of the 153,000 ac (61,916 ha) of Additional Reserve Lands is not mapped or precisely identified in the MSHCP, but rather is based on textual descriptions within the bounds of a 310,000-ac (125,453-ha) Criteria Area interpreted as implementation of the MSHCP takes place. Units 1-7 of proposed revised critical habitat for the Quino checkerspot butterfly are located within the MSHCP Plan Area.

Quino checkerspot butterfly conservation measures under the MSHCP include protection of at least 67,493 ac (27,314 ha) of suitable conserved habitat mosaic within 7 "Core Areas" (not to be confused with "core occurrence complexes") and 12

satellite locations within the overall MSHCP Conservation Area. This acreage goal will be provided through private lands within the Criteria Area that are targeted for inclusion within the MSHCP Conservation Area as Additional Reserve Lands and through coordinated management of PQP lands.

To date, 28 percent (10,349 ac (4,188 ha)) of non-federal land within the proposed revision to critical habitat are within pre-existing PQP, or have been acquired for conservation and management. While 48 percent (17,686 ac (7,157 ha)) of the privately-owned acreage within proposed Units 1-7 are within the bounds of the original textual descriptions of anticipated Additional Reserve Lands (i.e., the "Conceptual Reserve Design" targeted for conservation), 14 percent (5,301 ac (2,145 ha)) are outside PQP lands and the Conceptual Reserve Design (not conserved or targeted for conservation), but still within the Criteria Area (possible conservation under MSHCP). Within the Criteria Area, the MSHCP allows for adjustments to be made in the final configuration of the Additional Reserve Lands. Thus, areas of proposed revised critical habitat within the Criteria Area but outside the Conceptual Reserve Design may still be included as Additional Reserve Lands under the MSHCP.

In particular, 2,819 ac (951 ha) of private land north of Tule Peak road within proposed Unit 6 (Tule Peak) are not included in PQP or the Conceptual Reserve Design. However, all non-Tribal portions of proposed Unit 6 (3,614 ac (1,463 ha)) fall within the MSHCP Criteria Area, and Condition 12 of the Special Terms and Conditions for Incidental Take Permit TE-088609-0, requires the Regional Conservation Authority to "work to conserve the Quino checkerspot butterfly within the [Tule Peak/Silverado Core Occurrence Complex] and, if necessary, to use the Criteria Refinement Process to achieve this conservation" (Service 2004a, p. 2). Thus, the issued incidental take permit requires, and the MSHCP provides a mechanism for, permittees to achieve additional conservation outside of the MSHCP Conservation Area in proposed Unit 6.

In addition, we have identified approximately 3,506 ac (1,418 ha) of privately-owned land in proposed Unit 7 (Bautista) (approximately 25 percent of Unit 7) and 385 ac (156 ha) in proposed Unit 2 (Skinner/Johnson) (approximately 3 percent of the Unit 2) that fall completely outside of the Criteria Area where future projects consistent with the policies and guidelines of the MSHCP may be

approved for development. These areas comprise approximately 10 percent (3,891 ac (1,575 ha)) of proposed revised critical habitat considered for exclusion under the MSHCP. However, the acreage outside the Criteria Area in proposed Unit 2 is located at the outer edge of the core complexes and is approximately one percent of proposed revised critical habitat considered for exclusion. Further, threats to the subspecies within private lands in proposed Unit 7 appear lower relative to other areas where development is permitted under the MSHCP, and all private land in this area is designated as Rural Mountainous under the MSHCP (a minimum lot size of 10 ac (4 ha) and limited animal keeping and agricultural uses allowed; Dudek 2003, Vol. 1, p. xii). The Service will work to fund and facilitate conservation of additional Quino checkerspot butterfly habitat that would not otherwise be conserved under the MSHCP in proposed Unit 2 (Skinner/Johnson) and proposed Unit 7 (Bautista). If our interpretation of MSHCP-derived habitat conservation in these units is not correct or future habitat conservation is determined to be insufficient to protect the Quino checkerspot butterfly, we intend to include in the final revised critical habitat designation all or part of the 3,506 ac (1,418 ha) of privately-owned land in proposed Unit 7 (Bautista) and 385 ac (156 ha) in proposed Unit 2 (Skinner/Johnson) considered for exclusion.

In addition to habitat conservation for the Quino checkerspot butterfly, the distribution of the subspecies within the MSHCP Conservation Area will be documented through annual surveys verifying continued occupancy at a minimum of 75 percent of the known locations, and an adaptive management program will be implemented to maintain and/or enhance habitat to increase its value for, and the viability of, the Quino checkerspot butterfly (Dudek 2003, Volume I, Section 9, Table 9-2, pp. 9-28, 9-29). These "known locations" include all core occurrence complexes within the MSHCP Conservation Area proposed as revised critical habitat, as well as other occupied areas we have not included in our proposed revised designation. Further management actions include, but are not limited to, minimization of threats such as nonnative species invasion, farming, grazing, off-road vehicles, human collection, and other specific threats to the subspecies (Service 2004b, p. 281). We anticipate that monitoring and management will

ensure continued occupancy of all core occurrence complexes.

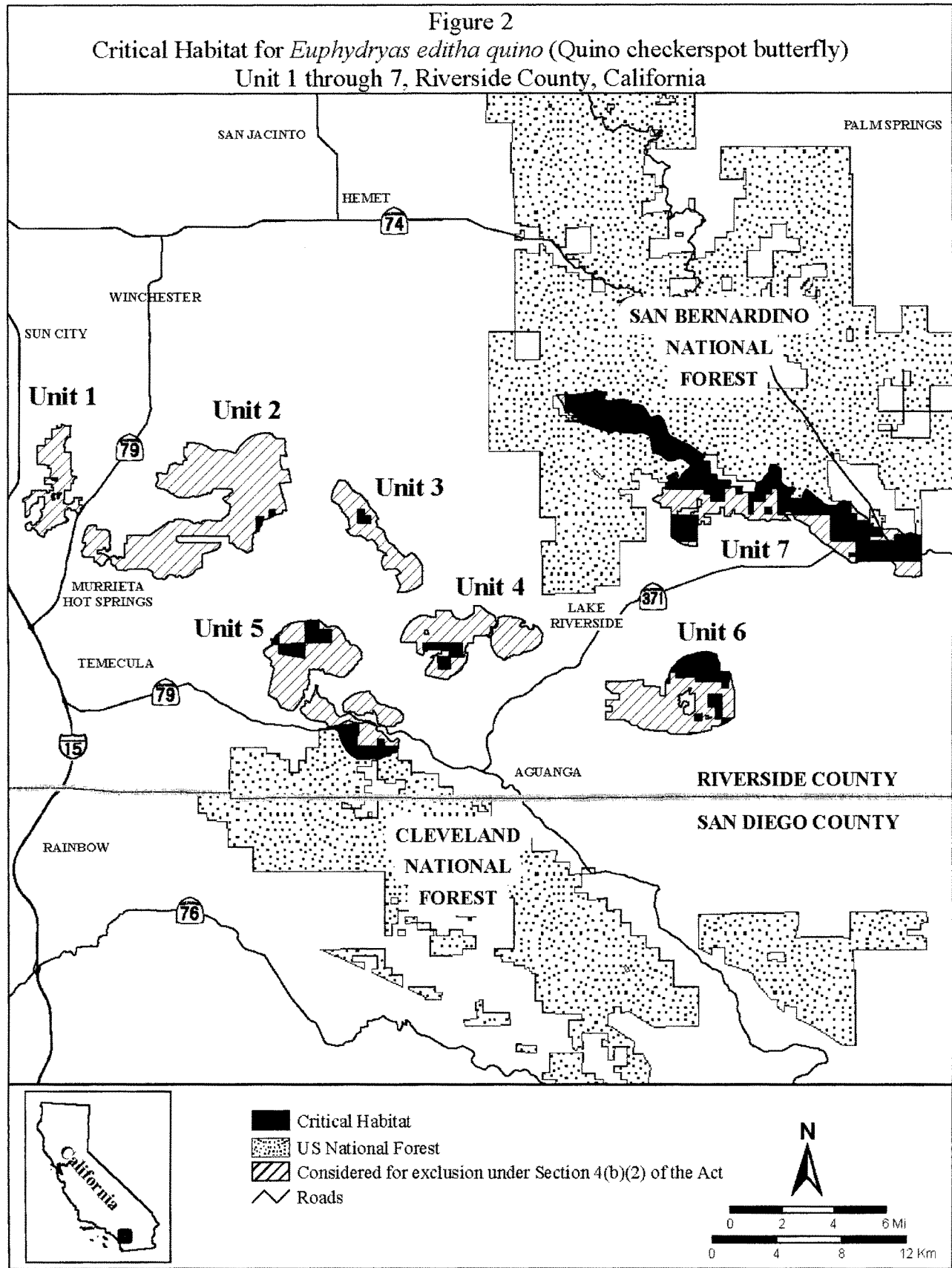
The Quino checkerspot butterfly is threatened primarily by urban and agricultural development, nonnative plant species invasion, off-road vehicle use, grazing, and fire management practices (67 FR 18356, April 15, 2002). As described above, the MSHCP provides enhancement of habitat by removing or reducing threats to this subspecies and the PCEs. This MSHCP preserves habitat that supports identified core populations of this subspecies and therefore may provide for recovery of this subspecies in the MSHCP area.

The habitat conservation goals, avoidance and minimization measures, and adaptive management program for the Quino checkerspot butterfly (and its PCEs) provided by the Western Riverside County MSHCP may exceed any conservation value provided as a result of regulatory protections that have been or may be afforded through critical habitat designation. We are considering exclusion of approximately 37,245 (15,073) of permittee-owned PQP and private lands from revised critical habitat designation within proposed Units 1–7 (Warm Springs Creek, Skinner/Johnson, Sage, Wilson Valley, Vail Lake/Oak Mountain, Tule Peak, and Bautista) under section 4(b)(2) of

the Act. Lands within these areas considered for exclusion are owned by or fall within the jurisdiction of MSHCP permittees. Projects in these areas conducted or approved by MSHCP permittees are subject to the conservation requirements of the MSHCP. Table 4 below provides approximate areas (ac, ha) of lands in Units 1–7 that meet the definition of critical habitat but that we are considering excluding from the final critical habitat rule, and Figure 2 is a map of the lands in Units 1–7 covered by the MSHCP that we are considering excluding from the final critical habitat rule.

TABLE 4.—AREAS BEING CONSIDERED FOR EXCLUSION WITHIN PROPOSED CRITICAL HABITAT UNITS 1–7

Geographic area: Units 1–7	Areas meeting the definition of critical habitat in acres (hectares)	Areas considered for exclusion in acres (hectares)
BLM	3,074 (1,244)	0
CDFG	929 (376)	929 (376)
USFS	9,314 (3,769)	0
Local	3,312 (1,340)	3,312 (1,340)
State	74 (30)	74 (30)
Tribal	1,203 (487)	0
Private	32,930 (13,326)	32,930 (13,326)
Total	50,836 (20,573)	37,245 (15,073)



Economic Analysis

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

Peer Review

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

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

Public Hearings

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

Regulatory Planning and Review

In accordance with Executive Order (E.O.) 12866, this document is a significant rule in that it may raise novel legal and policy issues, but we do not anticipate that it will have an annual effect on the economy of \$100 million or more or to affect the economy in a material way. To determine the economic consequences of designating

the specific area as critical habitat, we are preparing a draft economic analysis of this proposed action, which will be available for public comment. This economic analysis also will be used to determine compliance with E.O. 12866, the Regulatory Flexibility Act, the Small Business Regulatory Enforcement Fairness Act, E.O. 12630, and E.O. 13211. Due to the tight timeline for publication in the **Federal Register**, the Office of Management and Budget (OMB) has not formally reviewed this rule.

Further, E.O. 12866 directs Federal agencies promulgating regulations to evaluate regulatory alternatives (OMB Circular A-4, September 17, 2003). Under Circular A-4, once an agency determines that the Federal regulatory action is appropriate, the agency must consider alternative regulatory approaches. Because the determination of critical habitat is a statutory requirement under the Act, we must 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 species. As such, we believe that the evaluation of the inclusion or exclusion of particular areas, or a combination of both, constitutes our regulatory alternative analysis for designations.

We will announce the availability of the draft economic analysis in the **Federal Register** and in local newspapers so that it is available for public review and comments. The draft economic analysis will also be available on the Internet at <http://www.regulations.gov> or at the Carlsbad Fish and Wildlife Office (see **ADDRESSES**).

Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601, *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small

entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

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

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501, *et seq.*), we make the following findings:

(a) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)-(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or [T]ribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty

arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and [T]ribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding,” and the State, local, or Tribal governments “lack authority” to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.”

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

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

Furthermore, in accordance with the President’s memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), E.O. 13175, and the Department of the Interior’s manual at 512 DM 2, we acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis and are currently coordinating with affected tribes regarding this proposed critical habitat designation. See the Government-to-Government Relationship with Tribes Section below.

Takings

In accordance with E.O. 12630 (“Government Actions and Interference with Constitutionally Protected Private Property Rights”), we have analyzed the potential takings implications of designating revised critical habitat for the Quino checkerspot butterfly in a takings implications assessment. The takings implications assessment concludes that this designation of revised critical habitat for the Quino checkerspot butterfly does not pose significant takings implications for lands within or affected by the revised designation.

Federalism

In accordance with E.O. 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed revised critical habitat designation with appropriate State resource agencies in California. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the subspecies are more clearly defined, and the primary constituent elements of the habitat necessary to the conservation of the subspecies are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or

authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform

In accordance with E.O. 12988 (Civil Justice Reform), 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 revision to critical habitat uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the Quino checkerspot butterfly.

Paperwork Reduction Act of 1995

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, *et seq.*). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (NEPA)

It is our position that, outside the jurisdiction of the Circuit Court of the United States for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (42 U.S.C. 4321, *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld by the Circuit Court of the United States for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

Clarity of the Rule

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

- (a) Be logically organized;
- (b) Use the active voice to address readers directly;

(c) Use clear language rather than jargon;

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

(e) Use lists and tables wherever possible.

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

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, Government-to-Government Relations with Native American Tribal Governments (59 FR 22951), E.O. 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

We are currently coordinating with affected Tribes regarding this proposed revised critical habitat designation. We have identified Tribal lands of the Cahuilla Band of Indians and the Campo Band of Kumeyaay Indians that meet the definition of critical habitat for the Quino checkerspot butterfly, and we have included these lands in this proposal. We are soliciting public comment on the appropriateness of including or excluding these lands in the final revised rule. We will continue to coordinate with the Tribal governments during the designation process.

Energy Supply, Distribution, or Use

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions

Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. While this proposed rule to designate critical habitat for the Quino checkerspot butterfly is a significant regulatory action under E.O. 12866 in that it may raise novel legal and policy issues, we do not expect it to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

References Cited

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

Author

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

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. In § 17.95(i), revise the entry for “Quino Checkerspot Butterfly (*Euphydryas editha quino*).” to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects.*

* * * * *

Quino Checkerspot Butterfly (*Euphydryas editha quino*)

(1) Critical habitat units are depicted for Riverside and San Diego Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the Quino checkerspot butterfly are:

(i) Open areas within scrublands at least 21.5 square feet (ft) (2 square meters (m)) in size that:

(A) Contain no woody canopy cover; and

(B) Contain one or more of the host plants *Plantago erecta*, *Plantago patagonica*, or *Antirrhinum coulterianum*; or

(C) Contain one or more of the host plants *Cordylanthus rigidus* or *Castilleja exserta* that are within 328 ft (100 m) of the host plants *Plantago erecta*, *Plantago patagonica*, or *Antirrhinum coulterianum*; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 inches (11 millimeters) used for Quino checkerspot butterfly growth, reproduction, and feeding;

(ii) Open scrubland areas and vegetation within 656 ft (200 m) of the open canopy areas (described in paragraph (2)(i) of this entry) used for movement and basking; and

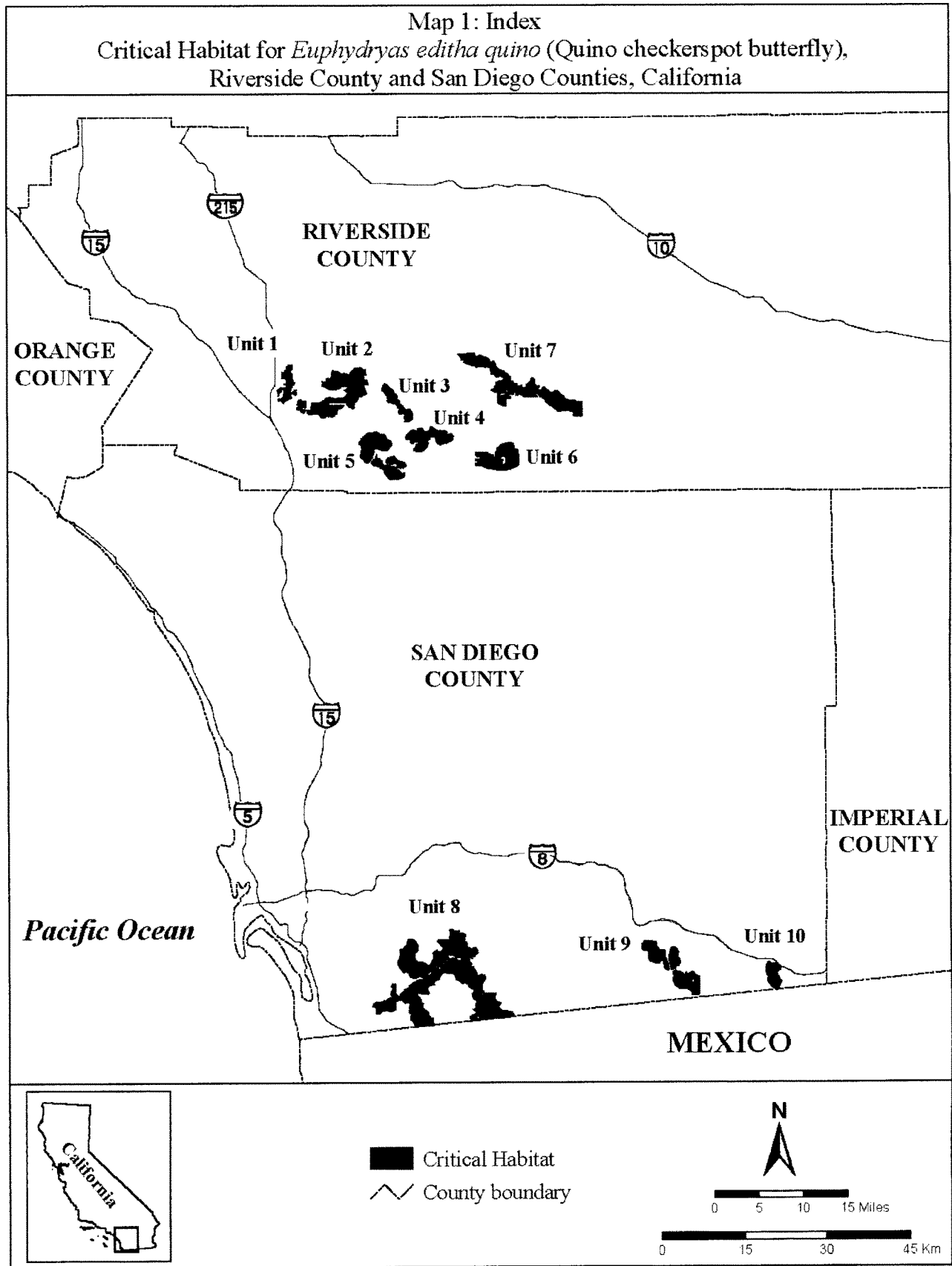
(iii) Hilltops or ridges within scrublands, linked by open areas and natural vegetation (described in paragraph (2)(ii) of this entry) to open canopy areas (described in paragraph (2)(i) of this entry) containing an open, woody-canopy area at least 21.5 square ft (2 square m) in size used for Quino checkerspot butterfly mating (hilltopping behavior).

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

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 1:24,000 maps, and critical habitat units were then mapped using Universal Transverse Mercator (UTM) coordinates.

(5) Note: Index map of critical habitat units for the Quino checkerspot butterfly follows:

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(6) Unit 1: Warm Springs Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Romoland and Murrieta. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N):

486500, 3721400; 486594, 3721400;
486593, 3721303; 486603, 3721303;
486684, 3721219; 486714, 3721251;
486695, 3721307; 486796, 3721308;
486796, 3721400; 486800, 3721400;
486800, 3721466; 486838, 3721466;
486856, 3721483; 486906, 3721478;
486947, 3721437; 486991, 3721417;
487048, 3721404; 487109, 3721412;
487385, 3721414; 487376, 3721012;
487377, 3721007; 487386, 3720700;
487340, 3720700; 487215, 3720703;
487200, 3720663; 487163, 3720619;
487132, 3720604; 487104, 3720579;
487104, 3720517; 487070, 3720430;
487042, 3720336; 487017, 3720299;
486976, 3720246; 486973, 3720187;
487007, 3720119; 487063, 3720057;
487000, 3719916; 487000, 3719786;
487000, 3719786; 487387, 3719786;
487406, 3718785; 487522, 3718606;
487419, 3718593; 487428, 3718414;
487475, 3718323; 487742, 3718254;
487745, 3718176; 487692, 3718160;
487560, 3718057; 487560, 3717849;
487394, 3717843; 487388, 3717500;
487400, 3717500; 487400, 3717403;
487343, 3717391; 487259, 3717400;
487203, 3717421; 487093, 3717412;
487025, 3717429; 487021, 3717366;
487013, 3717289; 487013, 3717162;
487000, 3717103; 487008, 3716967;
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487017, 3716594; 487085, 3716585;
487157, 3716564; 487216, 3716564;
487246, 3716564; 487288, 3716564;
487335, 3716568; 487400, 3716568;
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488100, 3716300; 488000, 3716300;
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487798, 3716000; 487782, 3716040;
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487714, 3716139; 487668, 3716169;
487622, 3716187; 487400, 3716181;
487400, 3716300; 487200, 3716300;
487200, 3716200; 487068, 3716200;
487017, 3716121; 487000, 3716063;
486991, 3715928; 486997, 3715850;
487023, 3715778; 487075, 3715741;

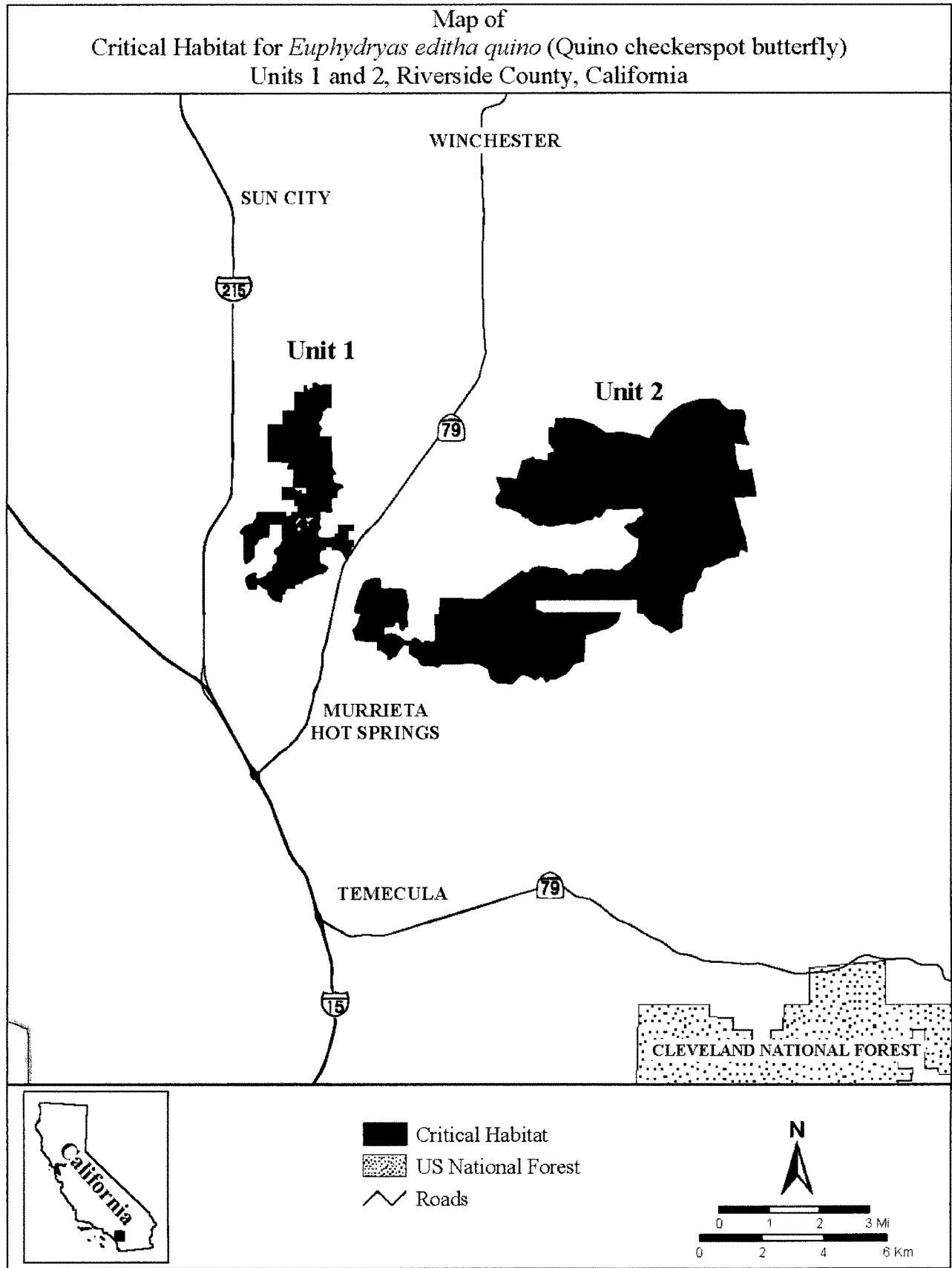
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487201, 3715522; 487141, 3715470;
487115, 3715447; 487052, 3715419;
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486824, 3715370; 486787, 3715324;
486732, 3715329; 486600, 3715280;
486462, 3715205; 486416, 3715116;
486300, 3715113; 486300, 3715100;
486200, 3715100; 486200, 3714976;
485959, 3714976; 485921, 3714900;
485900, 3714900; 485900, 3714800;
485800, 3714800; 485800, 3714700;
485784, 3714700; 485784, 3714670;
485784, 3714640; 485784, 3714602;
485780, 3714568; 485760, 3714543;
485726, 3714552; 485685, 3714559;
485635, 3714570; 485558, 3714597;
485492, 3714631; 485427, 3714695;
485394, 3714760; 485368, 3714777;
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485341, 3714892; 485306, 3714930;
485249, 3714961; 485218, 3714976;
485168, 3715007; 485141, 3715022;
485122, 3715057; 485099, 3715080;
485086, 3715100; 484995, 3715100;
484984, 3715080; 484984, 3715053;
484988, 3715030; 484980, 3714980;
484957, 3714949; 484926, 3714949;
484884, 3714949; 484853, 3714942;
484830, 3714942; 484780, 3714942;
484723, 3714968; 484688, 3715015;
484669, 3715080; 484650, 3715126;
484638, 3715164; 484627, 3715191;
484619, 3715233; 484619, 3715268;
484642, 3715318; 484684, 3715333;
484715, 3715364; 484746, 3715395;
484788, 3715414; 484853, 3715441;
484895, 3715448; 484949, 3715452;
484976, 3715433; 484976, 3715398;
484949, 3715371; 484926, 3715356;
484926, 3715319; 484965, 3715322;
484999, 3715276; 485072, 3715264;
485118, 3715291; 485168, 3715302;
485210, 3715333; 485249, 3715352;
485291, 3715375; 485310, 3715425;
485360, 3715475; 485433, 3715494;
485479, 3715502; 485479, 3715563;
485487, 3715625; 485502, 3715659;
485517, 3715698; 485560, 3715728;
485579, 3715736; 485606, 3715759;
485629, 3715817; 485629, 3715859;
485629, 3715920; 485629, 3716009;
485629, 3716036; 485613, 3716074;
485567, 3716089; 485552, 3716116;
485552, 3716166; 485567, 3716216;
485632, 3716262; 485713, 3716304;
485748, 3716350; 485764, 3716380;
485765, 3716398; 485787, 3716458;
485825, 3716500; 485804, 3716581;
485788, 3717000; 485392, 3717000;
485388, 3716717; 485354, 3716594;
485222, 3716606; 485078, 3716547;

485019, 3716479; 484981, 3716403;
484896, 3716326; 484892, 3715957;
484654, 3715754; 484620, 3715779;
484578, 3715889; 484580, 3716138;
484583, 3716344; 484586, 3716678;
484539, 3716700; 484438, 3716734;
484497, 3716865; 484620, 3716967;
484764, 3717018; 484870, 3717052;
484972, 3717204; 484998, 3717387;
485345, 3717387; 485524, 3717387;
485647, 3717387; 485778, 3717391;
485910, 3717391; 485917, 3717391;
485913, 3717245; 486095, 3717283;
486097, 3717383; 486118, 3717383;
486313, 3717391; 486317, 3717500;
486300, 3717500; 486300, 3717600;
486200, 3717600; 486200, 3717800;
485800, 3717800; 485800, 3718175;
486163, 3718175; 486238, 3718082;
486274, 3718090; 486292, 3718033;
486413, 3718101; 486408, 3717984;
486594, 3717987; 486594, 3718160;
486565, 3718191; 486163, 3718186;
486139, 3718305; 486147, 3718377;
486139, 3718441; 486191, 3718496;
486176, 3718570; 486183, 3718769;
486008, 3718772; 485986, 3718773;
485984, 3718800; 485982, 3718873;
486034, 3718909; 486039, 3718963;
485800, 3718973; 485800, 3719000;
485327, 3719000; 485332, 3720171;
485823, 3720165; 485823, 3720600;
485840, 3720600; 486211, 3720600;
486211, 3721200; 486500, 3721200;
thence returning to 486500, 3721400.

Excluding land bounded by 486582, 3717252; 486550, 3717202; 486608, 3717086; 486628, 3717059; 486574, 3717031; 486614, 3716925; 486693, 3716965; 486682, 3716995; 486650, 3717058; 486697, 3717101; 486864, 3717241; 486832, 3717270; 486786, 3717234; 486726, 3717252; 486629, 3717201; 486583, 3717252; 486582, 3717252; land bounded by 486299, 3716790; 486300, 3716789; 486317, 3716777; 486345, 3716782; 486393, 3716790; 486417, 3716836; 486422, 3716876; 486408, 3716916; 486381, 3716940; 486331, 3716940; 486297, 3716923; 486270, 3716893; 486270, 3716841; 486299, 3716790; land bounded by 486263, 3717190; 486285, 3717155; 486250, 3717111; 486206, 3717018; 486278, 3717002; 486378, 3717118; 486454, 3717173; 486393, 3717233.

(ii) Note: Map of Units 1 and 2 (Warm Springs Unit and Skinner/Johnson Unit) follows:

BILLING CODE 4310-55-P



(7) Unit 2: Skinner/Johnson Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Murrieta, Bachelor Mountain, Winchester, Sage, and Hemet. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 493342, 3718446; 493505, 3718997; 493857, 3719125; 493926, 3719048; 494331, 3719034; 494331, 3719244; 494576, 3719307; 494366, 3719586; 494373, 3720068; 494548, 3720054; 494576, 3720354; 494876, 3720368; 495315, 3720326; 495790, 3720144; 496195, 3719879; 496691, 3719921; 497228, 3719823; 497584, 3719698; 497807, 3720095; 498268, 3720563; 498673, 3720800; 499162, 3720926; 499608, 3720947; 499818, 3720905; 499909, 3720759; 500090, 3720605; 500299, 3720612; 500586, 3720598; 500669, 3720410; 500621, 3720047; 500628, 3719893; 500767, 3719516; 500313, 3719586; 500362, 3719006; 500460, 3718706; 500676, 3718678; 500851, 3718734; 500977, 3718127; 500998, 3717897; 500279, 3717848; 500500, 3717082; 500500, 3716956; 500559, 3716838; 500652, 3716586; 500694, 3716342; 500711, 3716174; 500708, 3716117; 500564, 3716194; 500488, 3716156; 500440, 3715976; 500289, 3715938; 500090, 3715919; 499900, 3715824; 499748, 3715730; 499559, 3715644; 499331, 3715616; 499246, 3715474; 499227, 3715312; 499113, 3715161; 499018, 3714876; 498924, 3714838; 498848, 3714829; 498701, 3714763; 498644, 3714484; 498629, 3714216; 498645, 3714094; 498629, 3714022; 498629, 3713724; 498286, 3713546; 497959, 3713769; 497691, 3713843; 497408, 3714156; 497194, 3714181; 497198, 3714603; 494946, 3714595; 494959, 3714662; 494938, 3714662; 494895, 3714590; 493983, 3714586; 493924, 3714539; 493920, 3714302; 494149, 3714179; 496634, 3714183; 496648, 3714170; 496588, 3713933; 496320, 3713724; 496022, 3713620; 495546, 3713486; 495516, 3713263; 495486, 3712667; 495174, 3712577; 494920, 3712265; 494612, 3712103; 494403, 3712080; 494276, 3711995; 494200, 3712131; 494102, 3712181; 493932, 3712058; 493801, 3712148; 493682, 3712190; 493496, 3712237; 493398, 3712152; 493241, 3712008; 493186, 3711929; 492969, 3711967; 492731, 3711967; 492478, 3712116; 492418, 3712414; 492120, 3712577; 491808, 3712607; 491480, 3712577; 490973, 3712578; 490921, 3712582; 490823, 3712484; 490760, 3712477; 490673, 3712527; 490605, 3712527; 490293, 3712533; 490225, 3712589;

490188, 3712695; 490157, 3712745; 490119, 3712782; 490069, 3712770; 490032, 3712801; 489957, 3712869; 489908, 3712901; 489864, 3712950; 489870, 3713069; 489889, 3713150; 489796, 3713187; 489702, 3713181; 489628, 3713118; 489528, 3712963; 489441, 3712795; 489347, 3712801; 489329, 3712764; 489298, 3712733; 489204, 3712733; 489198, 3712851; 489123, 3712907; 489049, 3712963; 488968, 3713013; 488874, 3713006; 488850, 3713044; 488856, 3713224; 488856, 3713274; 488713, 3713286; 488526, 3713286; 488333, 3713311; 488271, 3713343; 488202, 3713318; 488159, 3713367; 488115, 3713467; 488078, 3713598; 488072, 3713672; 488109, 3713697; 488152, 3713716; 488221, 3713822; 488277, 3713952; 488277, 3714015; 488308, 3714096; 488308, 3714164; 488258, 3714189; 488171, 3714189; 488115, 3714257; 488215, 3714587; 488321, 3714942; 488377, 3715035; 488426, 3715154; 488532, 3715235; 488675, 3715272; 488812, 3715291; 488930, 3715284; 488968, 3715216; 488968, 3715079; 488980, 3714979; 489049, 3714955; 489105, 3714955; 489273, 3714961; 489634, 3714955; 489764, 3714886; 489808, 3714699; 489845, 3714481; 489845, 3714345; 489796, 3714170; 489802, 3714077; 489820, 3713909; 489827, 3713803; 489820, 3713753; 489764, 3713741; 489702, 3713679; 489659, 3713629; 489584, 3713691; 489578, 3713784; 489553, 3713884; 489478, 3713915; 489435, 3713896; 489422, 3713809; 489347, 3713766; 489198, 3713747; 489098, 3713741; 489049, 3713685; 489049, 3713585; 489055, 3713511; 489111, 3713492; 489204, 3713523; 489310, 3713535; 489435, 3713504; 489497, 3713455; 489565, 3713436; 489634, 3713386; 489740, 3713305; 489839, 3713274; 489945, 3713293; 489995, 3713367; 490057, 3713392; 490144, 3713367; 490225, 3713299; 490287, 3713224; 490343, 3713224; 490381, 3713286; 490536, 3713280; 490667, 3713268; 490704, 3713311; 490710, 3713778; 490698, 3713996; 490698, 3714114; 490850, 3714114; 490869, 3714648; 492225, 3714618; 492984, 3715139; 493508, 3715510; 493555, 3715460; 493712, 3715456; 493826, 3715617; 494051, 3715646; 494276, 3715634; 494479, 3715579; 494653, 3715574; 494785, 3715540; 494929, 3715439; 495005, 3715350; 495137, 3715413; 495340, 3715413; 495404, 3715366; 495476, 3715439; 495552, 3715528; 495697, 3715553; 495820, 3715566; 495981, 3715562; 496078, 3715553; 496163, 3715532; 496324, 3715523; 496375, 3715557; 496469, 3715515;

496553, 3715512; 496596, 3715511; 496710, 3715562; 496802, 3715669; 496931, 3715750; 497154, 3715973; 497259, 3716361; 497244, 3716539; 497020, 3716658; 496782, 3716897; 496920, 3717018; 497045, 3717030; 497185, 3717102; 497185, 3717183; 497276, 3717222; 497338, 3717246; 497391, 3717318; 497391, 3717414; 497324, 3717510; 497257, 3717524; 497204, 3717515; 497154, 3717486; 497139, 3717507; 496559, 3717478; 496201, 3717493; 496022, 3717239; 495965, 3717214; 495888, 3717265; 495802, 3717246; 495773, 3717169; 495706, 3717135; 495571, 3717135; 495432, 3717073; 495197, 3717020; 495038, 3717025; 494885, 3717025; 494774, 3716991; 494601, 3716958; 494438, 3716943; 494323, 3716948; 494203, 3716987; 494150, 3716982; 494073, 3716953; 493958, 3717001; 493814, 3717083; 493713, 3717150; 493732, 3717183; 493684, 3717212; 493651, 3717179; 493526, 3717251; 493444, 3717361; 493152, 3717492; 492789, 3717548; 492663, 3717680; 492649, 3717813; 492817, 3718043; 492761, 3718281; 492705, 3718371; 492677, 3718490; thence returning to 493342, 3718446.

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

(8) Unit 3: Sage Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangle Sage. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 505329, 3717152; 505525, 3716882; 505689, 3716748; 505724, 3716732; 505731, 3716682; 505851, 3716399; 505928, 3716298; 505994, 3716256; 506110, 3716116; 506255, 3715999; 506255, 3715899; 506423, 3715660; 506393, 3715621; 506342, 3715605; 506300, 3715547; 506277, 3715493; 506284, 3715423; 506335, 3715272; 506323, 3715195; 506474, 3715090; 506633, 3715020; 506714, 3714951; 506745, 3714885; 506791, 3714813; 506791, 3714722; 506865, 3714514; 507059, 3714186; 507059, 3714186; 507326, 3714052; 507396, 3713971; 507400, 3713909; 507462, 3713878; 507527, 3713828; 507655, 3713654; 507747, 3713540; 507789, 3713516; 508057, 3713292; 508221, 3713367; 508444, 3713546; 508638, 3713441; 508891, 3713173; 509099, 3712801; 509144, 3712458; 509129, 3712160; 509120, 3711647; 508821, 3711411; 508589, 3711304; 508545, 3711284; 508420, 3711226; 507963, 3711122; 507714, 3711122; 507604, 3711132; 507774, 3711505; 507506, 3712160; 507804, 3712324; 507550, 3712563; 507133, 3712578; 506791, 3712533; 506582,

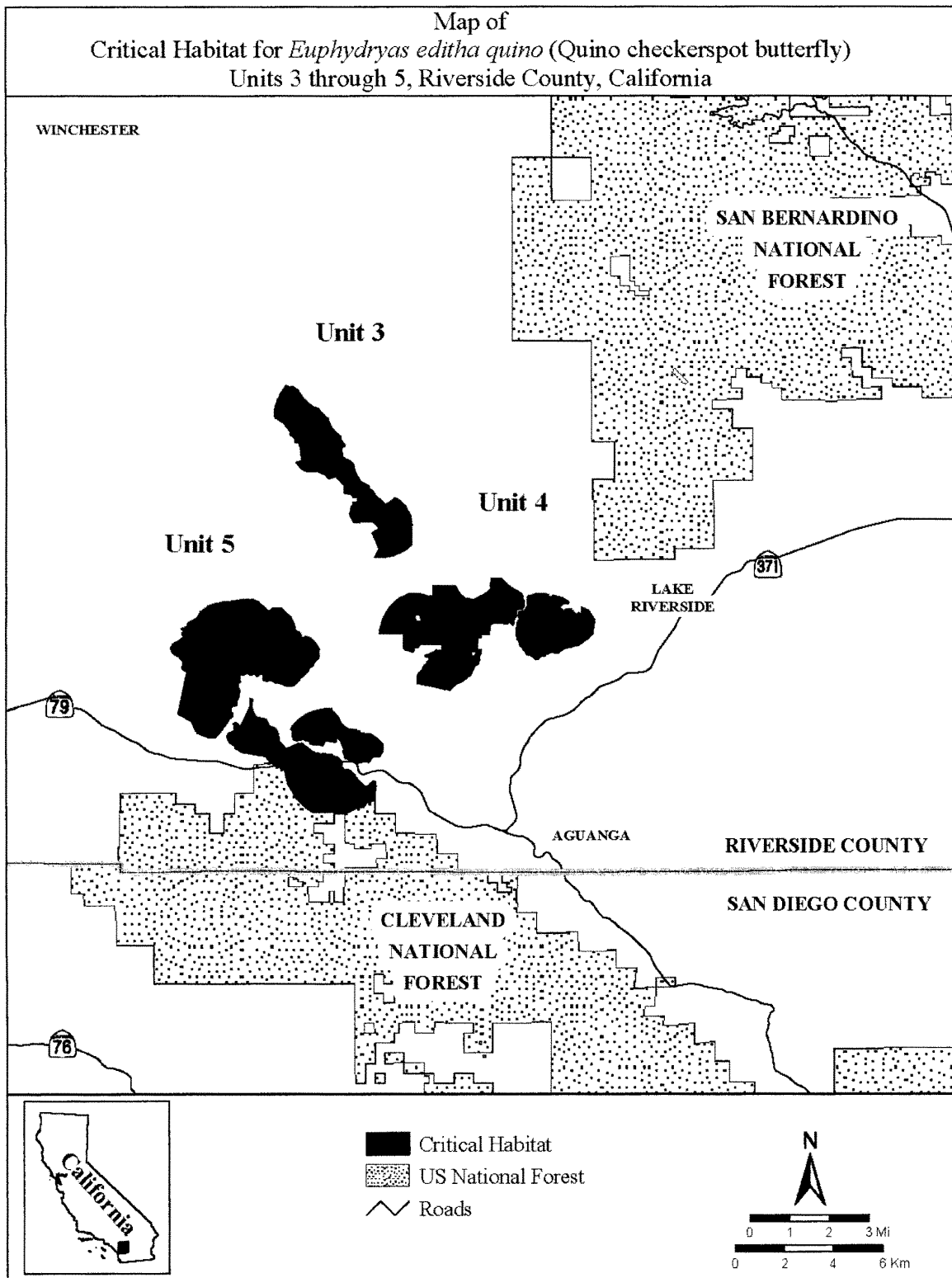
3712875; 506657, 3713233; 506722,
3713230; 506726, 3713379; 506923,
3713379; 506912, 3713534; 506722,
3713530; 506722, 3713615; 506633,
3713662; 506374, 3713724; 506359,
3714037; 506031, 3714395; 505763,
3714305; 505584, 3714454; 505298,
3714609; 504886, 3714595; 504655,
3714679; 504397, 3714986; 504634,

3715042; 504601, 3715422; 504517,
3715742; 504390, 3715761; 504383,
3715900; 504292, 3715984; 504157,
3716090; 504176, 3716194; 504062,
3716327; 503929, 3716545; 503759,
3716630; 503559, 3716752; 503513,
3716931; 503555, 3717141; 503614,
3717360; 503673, 3717529; 503765,
3717697; 503917, 3717941; 504013,

3718049; 504138, 3718005; 504308,
3718005; 504498, 3717882; 504612,
3717711; 504744, 3717502; 504925,
3717322; 505124, 3717209; thence
returning to 505329, 3717152.

(ii) Note: Map of Units 3, 4, and 5
(Sage Unit, Wilson Valley Unit, and Vail
Lake/Oak Mountain Unit) follows:

BILLING CODE 4310-55-P



BILLING CODE 4310-55-C

(9) Unit 4: Wilson Valley Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Cahuilla Mountain, Sage, and Vail Lake. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927

(NAD27) coordinates (E, N): 512349, 3710299; 512734, 3710299; 513121, 3709941; 513587, 3709678; 513636, 3709588; 513636, 3709519; 513636, 3709477; 513652, 3709445; 513671, 3709410; 513691, 3709379; 513699, 3709347; 513699, 3709297; 513699, 3709281; 513695, 3709272; 513704,

3709236; 513704, 3709200; 513690, 3709176; 513682, 3709142; 513673, 3709101; 513626, 3709068; 513563, 3709021; 513508, 3709024; 513452, 3709040; 513405, 3709021; 513383, 3708974; 513383, 3708911; 513383, 3708855; 513397, 3708792; 513389, 3708739; 513347, 3708706; 513317,

3708670; 513281, 3708610; 513281, 3708554; 513276, 3708458; 513258, 3708368; 513096, 3708522; 513054, 3708467; 513009, 3708447; 512944, 3708447; 512852, 3708467; 512750, 3708472; 512688, 3708455; 512613, 3708460; 512499, 3708465; 512429, 3708457; 512372, 3708452; 512307, 3708385; 512287, 3708035; 512232, 3708005; 511931, 3708001; 511951, 3707873; 511815, 3707873; 511822, 3707739; 511805, 3707739; 511801, 3707433; 511947, 3707432; 511953, 3707304; 511885, 3707156; 511855, 3706843; 511721, 3706784; 511512, 3706396; 511170, 3706128; 510887, 3706009; 510693, 3705786; 510261, 3705860; 509308, 3706054; 509308, 3706307; 509366, 3706452; 509488, 3706574; 509545, 3706646; 509550, 3706708; 509633, 3706809; 509725, 3706843; 509705, 3706944; 509793, 3706966; 509793, 3707132; 509671, 3707115; 509654, 3707201; 510004, 3707343; 510118, 3707426; 510314, 3707395; 510314, 3707612; 509436, 3707617; 509426, 3707524; 509204, 3707503; 509204, 3707374; 509154, 3707302; 508784, 3707433; 508755, 3708045; 507789, 3708054; 507806, 3708252; 507876, 3708505; 507963, 3708723; 508076, 3708932; 508224, 3709141; 508416, 3709359; 508622, 3709515; 508643, 3709514; 508653, 3709524; 508995, 3709688; 509442, 3709688; 509770, 3709584; 509978, 3709599; 509978, 3709986; 510529, 3709986; 510872, 3709986; 510914, 3709980; 511075, 3709669; 511274, 3709502; 511647, 3709432; 511944, 3709578; 512214, 3709750; 512321, 3709853; 512321, 3710025; 512338, 3710155; thence returning to 512349, 3710299. Excluding land bounded by 511571, 3707318; 511590, 3707182; 511689, 3707184; 511715, 3707251; 511714, 3707318; land bounded by 509258, 3708799; 509245, 3708748; 509292, 3708557; 509519, 3708562; 509442, 3708799. Returning to lands bounded by 513805, 3709554; 514178, 3709688; 514582, 3709657; 514612, 3709641; 514673, 3709630; 514679, 3709556; 514848, 3709545; 514843, 3709619; 515281, 3709494; 515515, 3709325; 515505, 3709275; 515473, 3709258; 515422, 3709247; 515402, 3709246; 515380, 3709258; 515361, 3709262; 515338, 3709288; 515319, 3709288; 515305, 3709275; 515282, 3709258; 515251, 3709236; 515243, 3709218; 515234, 3709192; 515212, 3709177; 515201, 3709173; 515183, 3709151; 515159, 3709110; 515142, 3709084; 515152, 3709066; 515171, 3709058; 515237, 3709039; 515268, 3709020; 515294, 3709003; 515316, 3709000; 515336, 3709007; 515373, 3709026; 515405, 3709039; 515425, 3709043; 515446, 3709026; 515473, 3709058; 515500, 3709066; 515548, 3709061; 515573, 3709056; 515595, 3709048; 515614, 3709040; 515635, 3709013; 515672, 3709005; 515684, 3708990; 515693, 3708955; 515711, 3708930; 515765, 3708871; 515829, 3708857; 515877, 3708872; 515925, 3708905; 515928, 3708910; 515939, 3708908; 515963, 3708892; 515990, 3708863; 516005, 3708842; 516021, 3708853; 516008, 3708885; 516001, 3708928; 516009, 3708948; 516005, 3708978; 516005, 3709001; 516001, 3709027; 516005, 3709050; 516005, 3709085; 516000, 3709121; 516003, 3709134; 516293, 3709018; 516576, 3708601; 516497, 3708071; 516304, 3707868; 516085, 3707715; 515954, 3707614; 515637, 3707519; 515366, 3707461; 515216, 3707364; 515117, 3707274; 514885, 3707298; 514839, 3707306; 514786, 3707319; 514728, 3707268; 514659, 3707246; 514614, 3707242; 514583, 3707225; 514555, 3707166; 514540, 3707130; 514459, 3707136; 514381, 3707132; 514272, 3707031; 514205, 3706990; 514147, 3707005; 514102, 3707048; 514067, 3707091; 514016, 3707128; 513951, 3707156; 513859, 3707175; 513798, 3707207; 513755, 3707270; 513723, 3707326; 513519, 3707590; 513482, 3707700; 513435, 3707772; 513426, 3707786; 513372, 3707934; 513345, 3708008; 513374, 3708258; 513346, 3708285; 513367, 3708325; 513372, 3708380; 513389, 3708480; 513422, 3708565; 513463, 3708607; 513469, 3708654; 513469, 3708692; 513452, 3708712; 513450, 3708745; 513450, 3708833; 513458, 3708877; 513472, 3708927; 513499, 3708946; 513543, 3708966; 513571, 3708971; 513590, 3708971; 513635, 3708974; 513665, 3708982; 513709, 3708993; 513742, 3709057; 513817, 3709165; 513820, 3709231; 513817, 3709262; 513825, 3709265; 513801, 3709544; thence returning to 513805, 3709554.

(ii) Note: Map of Unit 4 is provided at paragraph (8)(ii) of this entry.

(10) Unit 5: Vail Lake/Oak Mountain Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Bachelor Mountain, Sage, Pechanga, and Vail Lake. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 500789, 3709170; 501057, 3709256; 501518, 3709360; 501801, 3709375; 502218, 3709450; 502695, 3709435; 502903, 3709316; 503261, 3709003; 503276, 3708988; 503348, 3708996; 503445, 3709072; 503607, 3709072; 503802, 3709072; 503899, 3708985; 504029, 3708888; 504180, 3708759; 504306, 3708515; 504355, 3708382; 504362, 3708284; 504432, 3708166; 504537, 3708152; 504614, 3708068; 504648, 3707921; 504774, 3707942; 504865, 3707942; 505002, 3707895; 505124, 3707773; 505254, 3707625; 505350, 3707486; 505372, 3707437; 505335, 3707376; 505346, 3707247; 505357, 3707096; 505238, 3706988; 505152, 3706912; 505109, 3706772; 504957, 3706685; 504893, 3706523; 504684, 3706338; 504688, 3706333; 504666, 3706311; 504595, 3706277; 504558, 3706203; 504483, 3706128; 504409, 3706046; 504278, 3705960; 504077, 3705945; 503976, 3705968; 503722, 3706068; 503610, 3706053; 503371, 3706177; 503222, 3706128; 503069, 3706177; 503020, 3706404; 502957, 3706449; 502815, 3706322; 502718, 3706460; 502614, 3706397; 502506, 3706408; 502416, 3706460; 502259, 3706397; 502132, 3706423; 502147, 3706142; 502130, 3706106; 502108, 3706101; 502077, 3706085; 502075, 3706077; 502076, 3706057; 502075, 3706039; 502065, 3705991; 502070, 3705994; 502069, 3705992; 502071, 3705956; 502074, 3705903; 502075, 3705885; 502099, 3705848; 502141, 3705785; 502096, 3705671; 502093, 3705508; 502027, 3705404; 502006, 3705209; 501930, 3705150; 501815, 3705137; 501787, 3705102; 501753, 3704963; 501749, 3704922; 501839, 3704849; 501836, 3704734; 501784, 3704682; 501659, 3704637; 501659, 3704568; 501631, 3704488; 501555, 3704419; 501468, 3704308; 501458, 3704252; 501395, 3704224; 501361, 3704186; 501361, 3704145; 501319, 3704082; 501271, 3704030; 501177, 3703947; 501101, 3703871; 500848, 3703894; 500372, 3704073; 500133, 3704550; 499606, 3704843; 499592, 3704856; 499957, 3706503; 499761, 3706664; 499806, 3706947; 499627, 3707141; 499514, 3707178; 499509, 3707191; 499362, 3707290; 499338, 3707398; 499310, 3707486; 499322, 3707557; 499390, 3707649; 499493, 3707736; 499625, 3707800; 499716, 3707852; 499808, 3707908; 499852, 3707939; 499752, 3708027; 499748, 3708099; 499848, 3708135; 499732, 3708272; 499848, 3708314; 499967, 3708361; 499995, 3708461; 500067, 3708529; 500150, 3708576; 500214, 3708624; 500306, 3708676; 500389, 3708732; 500441, 3708783; 500528, 3708947; 500624, 3709034; 500692, 3709062; 500759, 3709090; 500779, 3709126; thence returning to 500789, 3709170. Continuing to 501902, 3703471; 501902, 3703531; 501860, 3703579; 501777, 3703649; 501697, 3703704; 501659, 3703767; 501621, 3703822; 501600, 3703874; 501572,

3703952; 501659, 3704087; 501871, 3704191; 501890, 3704266; 501849, 3704482; 501961, 3704512; 502147, 3704371; 502170, 3704389; 502349, 3704774; 502457, 3704994; 502532, 3705195; 502535, 3705289; 502517, 3705468; 502662, 3705415; 502621, 3705322; 502617, 3705102; 502670, 3704915; 502759, 3704747; 502845, 3704706; 503188, 3704635; 503263, 3704490; 503323, 3704378; 503491, 3704307; 503625, 3704195; 503703, 3703997; 503744, 3703736; 503871, 3703579; 504021, 3703464; 504511, 3703677; 504575, 3703662; 504635, 3703673; 504691, 3703659; 504753, 3703604; 504874, 3703515; 504990, 3703411; 505060, 3703351; 505141, 3703328; 505208, 3703302; 505284, 3703300; 505384, 3703258; 505442, 3703244; 505498, 3703253; 505611, 3703260; 505765, 3703223; 505869, 3703226; 505936, 3703172; 505992, 3703133; 506068, 3703137; 506126, 3703103; 506187, 3703045; 506240, 3702984; 506300, 3702915; 506296, 3702868; 506293, 3702810; 506261, 3702769; 506252, 3702757; 506316, 3702690; 506347, 3702632; 506414, 3702599; 506483, 3702613; 506548, 3702609; 506641, 3702551; 506750, 3702439; 506855, 3702312; 506950, 3702184; 507049, 3702105; 507084, 3702034; 507200, 3701927; 507281, 3701931; 507367, 3701971; 507423, 3702031; 507478, 3702089; 507520, 3702129; 507566, 3702156; 507568, 3702156; 507670, 3702092; 507681, 3701932; 507655, 3701862; 507662, 3701799; 507662, 3701769; 507634, 3701746; 507615, 3701716; 507615, 3701662; 507615, 3701595; 507618, 3701551; 507569, 3701386; 507550, 3701348; 507431, 3701273; 507430, 3701273; 507430, 3701271; 507351, 3701238; 507297, 3701252; 507235, 3701220; 507209, 3701175; 507193, 3701108; 507151, 3701066; 507073, 3701043; 506996, 3701039; 506945, 3701039; 506885, 3701048; 506783, 3701004; 506648, 3700939; 506574, 3700867; 506479, 3700851; 506344, 3700858; 506326, 3700865; 505913, 3700872; 505803, 3700862; 505793, 3700856; 505495, 3700856; 505093, 3700856; 504736, 3701094; 504393, 3701452; 504065, 3702003; 503916, 3702584; 503574, 3702777; 503350, 3702881; 503157, 3703149; 502844, 3703194; 502546, 3703239; 502233, 3703284; thence returning to 501902, 3703471. Continuing to 505858,

3705060; 505867, 3704981; 506121, 3704713; 506121, 3704713; 506245, 3704470; 506410, 3704328; 506585, 3704229; 506717, 3704229; 506949, 3704177; 507029, 3704102; 507218, 3704050; 507455, 3704040; 507625, 3703924; 507938, 3703611; 507938, 3703343; 507804, 3703135; 507536, 3703105; 507371, 3702882; 507322, 3702907; 507081, 3702902; 506958, 3702869; 506892, 3702840; 506774, 3702925; 506642, 3702940; 506524, 3703015; 506439, 3703053; 506401, 3703062; 506352, 3703160; 506362, 3703223; 506301, 3703317; 506314, 3703364; 506333, 3703405; 506308, 3703499; 506274, 3703588; 506211, 3703750; 506145, 3703809; 506108, 3703871; 506119, 3703903; 506065, 3703873; 506046, 3703831; 506039, 3703798; 506072, 3703755; 506035, 3703701; 506030, 3703678; 505983, 3703684; 505926, 3703715; 505877, 3703720; 505816, 3703727; 505762, 3703762; 505729, 3703762; 505574, 3703739; 505522, 3703577; 505507, 3703557; 505409, 3703591; 505313, 3703604; 505173, 3703602; 504976, 3703638; 504955, 3703706; 504929, 3703762; 504865, 3703765; 504802, 3703762; 504762, 3703795; 504715, 3703817; 504673, 3703817; 504635, 3703804; 504550, 3703793; 504484, 3703771; 504442, 3703762; 504388, 3703776; 504327, 3703776; 504275, 3703846; 504230, 3704039; 504254, 3704180; 504190, 3704229; 504278, 3704403; 504351, 3704475; 504520, 3704632; 504774, 3704802; 504938, 3704887; 505107, 3704941; 505362, 3705014; 505670, 3705056; 505834, 3705062; thence returning to 505858, 3705060.

(ii) Note: Map of Unit 5 is provided at paragraph (8)(ii) of this entry.

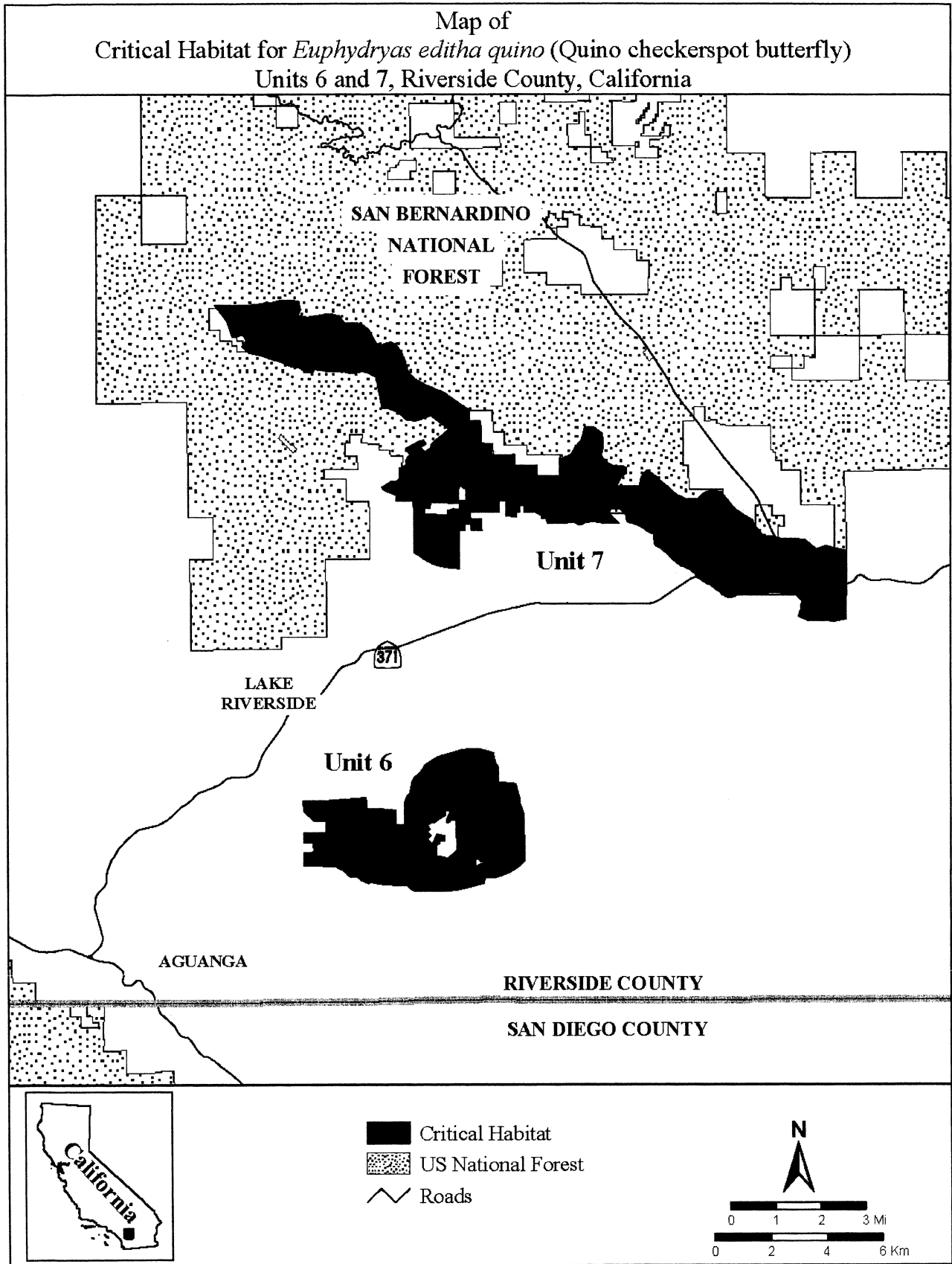
(11) Unit 6: Tule Peak Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Aguanga, Beauty Mountain, and Anza. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 527475, 3707014; 527579, 3706810; 527586, 3706637; 527579, 3706302; 528047, 3706281; 528201, 3706248; 528280, 3705950; 528350, 3705712; 528358, 3705554; 528494, 3705157; 528522, 3703481; 528424, 3703391; 528288, 3703275; 528131, 3703168; 527953, 3703067; 527817, 3703001; 527655, 3702945; 527497, 3702905; 527320,

3702875; 527092, 3702864; 527082, 3702804; 527062, 3702692; 527055, 3702673; 526075, 3702431; 525632, 3702382; 524598, 3702387; 524388, 3702482; 524303, 3702597; 523674, 3702616; 523369, 3702644; 523159, 3702687; 522964, 3702716; 522910, 3702657; 522905, 3702673; 522726, 3702741; 522621, 3702788; 522553, 3702837; 522481, 3702917; 522361, 3702917; 522243, 3702917; 522163, 3702951; 522092, 3703026; 522045, 3703078; 521949, 3703153; 521853, 3703202; 521782, 3703224; 521720, 3703279; 521194, 3703298; 520529, 3703293; 520529, 3703789; 520920, 3703803; 520892, 3704117; 520529, 3704145; 520529, 3704501; 521346, 3704501; 521353, 3704892; 520962, 3704892; 520543, 3705248; 520515, 3705646; 521325, 3705647; 522829, 3705768; 522872, 3705362; 523284, 3705362; 523894, 3705312; 523894, 3704790; 524209, 3704783; 524197, 3705579; 524242, 3705714; 524298, 3705827; 524381, 3705883; 524406, 3706038; 524466, 3706309; 524566, 3706507; 524669, 3706567; 524787, 3706707; 524864, 3706784; 524913, 3706881; 524969, 3706944; 525080, 3707007; 525192, 3707084; 525367, 3707189; 525527, 3707265; 525695, 3707307; 525862, 3707349; 526065, 3707398; 526260, 3707461; 526490, 3707496; 526965, 3707482; 527405, 3707342; thence returning to 527475, 3707014. Excluding land bounded by 526752, 3703318; 526769, 3703312; 526825, 3703312; 526886, 3703374; 527076, 3703418; 527076, 3703452; 526931, 3703457; 526870, 3703530; 526747, 3703530; land bounded by 525025, 3704734; 525028, 3704729; 525114, 3704617; 525019, 3704511; 525147, 3704394; 525013, 3704260; 525197, 3704087; 525365, 3704450; 525638, 3704383; 525632, 3704182; 525476, 3704193; 525476, 3704126; 525365, 3704043; 525365, 3703664; 525760, 3703586; 526056, 3703842; 526056, 3704249; 526050, 3704929; 525838, 3704923; 525838, 3704873; 525710, 3704840; 525699, 3704973; 525771, 3705096; 525833, 3705263; 525677, 3705258; 525666, 3705090; 525526, 3705035; 525242, 3704834; 525181, 3704868; 525025, 3704745.

(ii) Note: Map of Units 6 and 7 (Tule Peak Unit and Bautista Unit) follows:

BILLING CODE 4310-55-P



(12) Unit 7: Bautista Unit, Riverside County, California.

(i) From USGS 1:24,000 quadrangles Anza, Butterfly Peak, Blackburn Canyon, and Idyllwild. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum

of 1927 (NAD27) coordinates (E, N):

524560, 3714498; 524562, 3714972;
524557, 3715902; 524557, 3715902;
524540, 3716322; 524106, 3716328;
523941, 3716325; 523934, 3716544;
523712, 3716630; 523510, 3716706;
523421, 3716838; 523620, 3716961;
523745, 3717030; 523855, 3717037;
523954, 3717044; 524017, 3717110;
524050, 3717173; 524040, 3717534;
524146, 3717524; 524148, 3717529;
524286, 3717629; 524357, 3717728;
524338, 3717785; 524338, 3717903;
524404, 3717946; 524428, 3718012;
524328, 3718111; 524276, 3718215;
524305, 3718234; 524711, 3718447;
524811, 3718499; 524924, 3718518;
524981, 3718447; 524986, 3718372;
524943, 3718329; 524877, 3718286;
524820, 3718272; 524887, 3718178;
524953, 3718116; 525005, 3718107;
525062, 3718154; 525137, 3718201;
525161, 3718209; 525211, 3718357;
525300, 3718476; 525548, 3718655;
525825, 3718902; 525191, 3719388;
524646, 3719180; 524319, 3719229;
523992, 3719517; 523694, 3719626;
523447, 3719626; 523269, 3720531;
523262, 3720550; 523268, 3720585;
523232, 3720633; 523222, 3720769;
522979, 3720895; 522824, 3720934;
522658, 3720934; 522474, 3720905;
522280, 3720895; 522047, 3720953;
521813, 3720943; 521590, 3720963;
521444, 3720953; 521269, 3721002;
521007, 3721041; 520929, 3720905;
520706, 3720924; 520454, 3721079;
520269, 3721109; 520075, 3721147;
519871, 3721264; 519653, 3721339;
519559, 3721358; 519178, 3721499;
518641, 3721626; 518585, 3721682;
518373, 3721852; 518556, 3722064;
518415, 3722247; 518048, 3722163;
517836, 3722756; 517681, 3722968;
517412, 3723307; 517998, 3723314;
518309, 3723314; 518606, 3723314;
518888, 3723342; 519199, 3723384;
519425, 3723384; 519792, 3723483;
520230, 3723483; 520442, 3723427;
520498, 3723158; 520414, 3722961;
520752, 3722890; 521353, 3722996;
521649, 3722996; 521904, 3722939;
522073, 3722699; 522398, 3722685;
522525, 3722685; 522779, 3722600;
523005, 3722403; 523118, 3722177;
523259, 3721951; 523471, 3721923;
523754, 3722007; 523937, 3721937;
524149, 3721640; 524290, 3721315;
524389, 3720962; 524567, 3720749;
524595, 3720732; 525025, 3720482;
525689, 3720214; 526409, 3719705;

526571, 3719628; 526570, 3719609;
526560, 3719217; 526588, 3719217;
526962, 3719210; 526964, 3719152;
526970, 3719000; 526992, 3718398;
527089, 3718396; 527377, 3718391;
527395, 3717988; 527395, 3717988;
527395, 3717988; 528190, 3718008;
528196, 3717606; 528995, 3717610;
528995, 3717569; 528992, 3717253;
529007, 3717252; 529799, 3717232;
529796, 3717575; 529793, 3717876;
529919, 3717876; 530215, 3718003;
530342, 3718215; 530582, 3718498;
530653, 3718695; 530724, 3718992;
531048, 3718992; 531373, 3718738;
531402, 3718484; 531402, 3718243;
531331, 3717947; 531571, 3717693;
531797, 3717580; 532079, 3717594;
532235, 3717523; 532221, 3717325;
532037, 3717170; 531896, 3716888;
532079, 3716859; 532291, 3716873;
532673, 3716873; 532743, 3717198;
532941, 3717453; 533223, 3717255;
533421, 3717043; 533746, 3716803;
534000, 3716563; 534353, 3716407;
534763, 3716436; 534961, 3716619;
535229, 3716732; 535596, 3716662;
535780, 3716422; 536062, 3716068;
536345, 3715871; 536684, 3715673;
536811, 3715419; 537107, 3715080;
537418, 3715080; 537715, 3714995;
538096, 3714995; 538562, 3714967;
538972, 3714628; 539325, 3714741;
539974, 3714586; 539974, 3714581;
540024, 3714555; 540028, 3712948;
540029, 3712117; 539604, 3712033;
539447, 3712043; 539113, 3712043;
538689, 3712057; 538322, 3712213;
538407, 3712439; 538449, 3712778;
538223, 3712990; 537701, 3713046;
537164, 3713046; 537079, 3713013;
536792, 3713011; 536165, 3713018;
536073, 3712926; 535924, 3712913;
535833, 3712893; 535657, 3712971;
535423, 3713166; 535170, 3713342;
534884, 3713511; 534773, 3713576;
534630, 3713738; 534455, 3713888;
534253, 3713992; 534136, 3714018;
533986, 3714148; 533804, 3714291;
533603, 3714486; 533427, 3714642;
533271, 3714713; 533193, 3714791;
533154, 3715149; 532940, 3715253;
532751, 3715389; 532465, 3715519;
532309, 3715545; 532229, 3715601;
532185, 3715850; 531988, 3716047;
531668, 3716056; 531605, 3715879;
531957, 3715541; 531401, 3715534;
531027, 3715590; 530759, 3715562;
530534, 3715464; 530336, 3715569;
529899, 3715534; 529688, 3715518;
529384, 3715532; 529306, 3715688;
529144, 3715695; 529150, 3715812;
528949, 3715916; 528526, 3715916;
528513, 3716156; 528383, 3716156;
528377, 3715942; 528279, 3715935;
528273, 3715766; 527850, 3715799;
527850, 3716329; 527638, 3716339;
527641, 3715916; 527640, 3715929;

527232, 3715929; 526619, 3715928;
526629, 3715715; 527011, 3715705;
527026, 3715280; 526630, 3715288;
526622, 3715493; 526423, 3715493;
526420, 3715278; 526217, 3715266;
526218, 3714731; 526218, 3714716;
526219, 3714221; 526203, 3714221;
526205, 3713916; 526132, 3713919;
526116, 3713921; 526097, 3713922;
526069, 3713926; 526052, 3713928;
526041, 3713929; 526013, 3713933;
525985, 3713938; 525958, 3713942;
525936, 3713943; 525908, 3713944;
525880, 3713946; 525871, 3713946;
525852, 3713948; 525824, 3713950;
525795, 3713953; 525767, 3713956;
525750, 3713958; 525739, 3713960;
525711, 3713964; 525683, 3713968;
525655, 3713973; 525629, 3713978;
525627, 3713978; 525600, 3713984;
525572, 3713990; 525544, 3713996;
525517, 3714003; 525490, 3714010;
525483, 3714012; 525462, 3714017;
525435, 3714025; 525408, 3714033;
525381, 3714042; 525366, 3714047;
525354, 3714051; 525328, 3714061;
525301, 3714070; 525275, 3714081;
525252, 3714090; 525248, 3714091;
525222, 3714102; 525196, 3714113;
525171, 3714125; 525145, 3714137;
525119, 3714149; 525115, 3714152;
525094, 3714162; 525069, 3714175;
525044, 3714189; 525020, 3714203;
525007, 3714209; 524995, 3714217;
524971, 3714231; 524947, 3714246;
524923, 3714261; 524903, 3714274;
524899, 3714277; 524876, 3714293;
524852, 3714309; 524829, 3714325;
524807, 3714342; 524784, 3714359;
524781, 3714361; 524767, 3714373;
524758, 3714377; 524734, 3714390;
524709, 3714404; 524697, 3714411;
524684, 3714418; 524660, 3714433;
524636, 3714448; 524612, 3714463;
524593, 3714475; 524588, 3714478;
524565, 3714494; thence returning to
524560, 3714498. Excluding land
bounded by 526263, 3716885; 526204,
3716836; 526184, 3716257; 525369,
3716278; 525195, 3716278; 525195,
3716182; 525156, 3716182; 525163,
3716083; 524954, 3716090; 524954,
3715886; 525794, 3715852; 525783,
3716005; 526006, 3716058; 526215,
3716037; 526215, 3716352; 526446,
3716363; 526466, 3716796; 526358,
3716790.

(ii) Note: Map of Unit 7 is provided at paragraph (11)(ii) of this entry.

(13) Unit 8: Otay Unit, San Diego County, California.

(i) From USGS 1:24,000 quadrangles Jamul Mountains, Dulzura, Otay Mesa, Otay Mountain, and Tecate. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 509542, 3613586; 509659, 3613642; 509894, 3613531;

510177, 3613445; 510695, 3613556;
511053, 3613346; 511546, 3613001;
511990, 3612878; 512224, 3613211;
512360, 3613704; 512656, 3614037;
512668, 3614493; 512582, 3614949;
512458, 3614962; 512668, 3615245;
513026, 3615603; 513285, 3615702;
513482, 3615480; 513846, 3615424;
513971, 3615424; 514238, 3615643;
514271, 3615798; 514295, 3615993;
514380, 3616160; 514269, 3616222;
514127, 3616321; 513607, 3616927;
513310, 3617292; 513539, 3617490;
513867, 3617533; 514009, 3617608;
514980, 3617589; 515710, 3617663;
515692, 3617911; 515519, 3617911;
515692, 3618641; 515673, 3619018;
515531, 3619340; 515760, 3619457;
516174, 3619476; 516434, 3619167;
516744, 3619148; 517127, 3619154;
517418, 3619216; 517399, 3618764;
517651, 3618738; 518062, 3618744;
518080, 3618728; 518080, 3618679;
518125, 3618641; 518170, 3618620;
518202, 3618555; 518249, 3618523;
518314, 3618542; 518332, 3618575;
518387, 3618555; 518531, 3618464;
518544, 3618273; 518311, 3617955;
518267, 3617933; 518184, 3617746;
518310, 3617651; 518310, 3617570;
518384, 3617249; 518532, 3617163;
518766, 3616904; 518741, 3616596;
518741, 3616386; 518914, 3616164;
519210, 3616028; 519506, 3615880;
519691, 3615893; 520122, 3616115;
520297, 3616102; 520317, 3616093;
520394, 3615991; 520445, 3615946;
520503, 3615831; 520618, 3615716;
520637, 3615626; 520637, 3615472;
520643, 3615293; 520727, 3615210;
520746, 3615127; 520707, 3615076;
520624, 3615025; 520541, 3614916;
520439, 3614884; 520349, 3614788;
520247, 3614692; 520164, 3614538;
520061, 3614423; 519972, 3614347;
519901, 3614321; 519754, 3614327;
519690, 3614289; 519703, 3614206;
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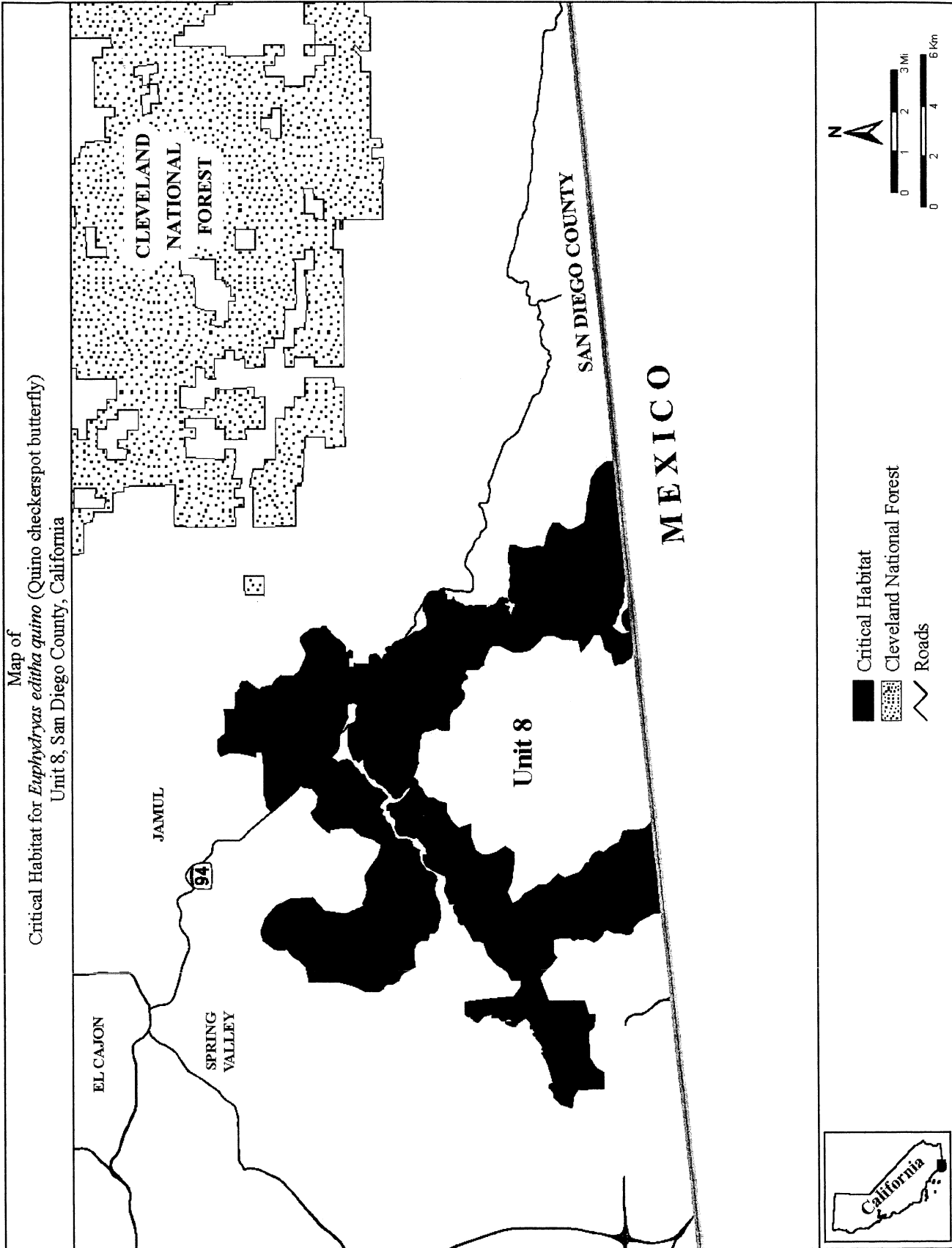
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(ii) Note: Map of Unit 8 (Otay Unit) follows:

BILLING CODE 4310-55-P



(14) Unit 9: La Posta/Campo Unit, San Diego County.

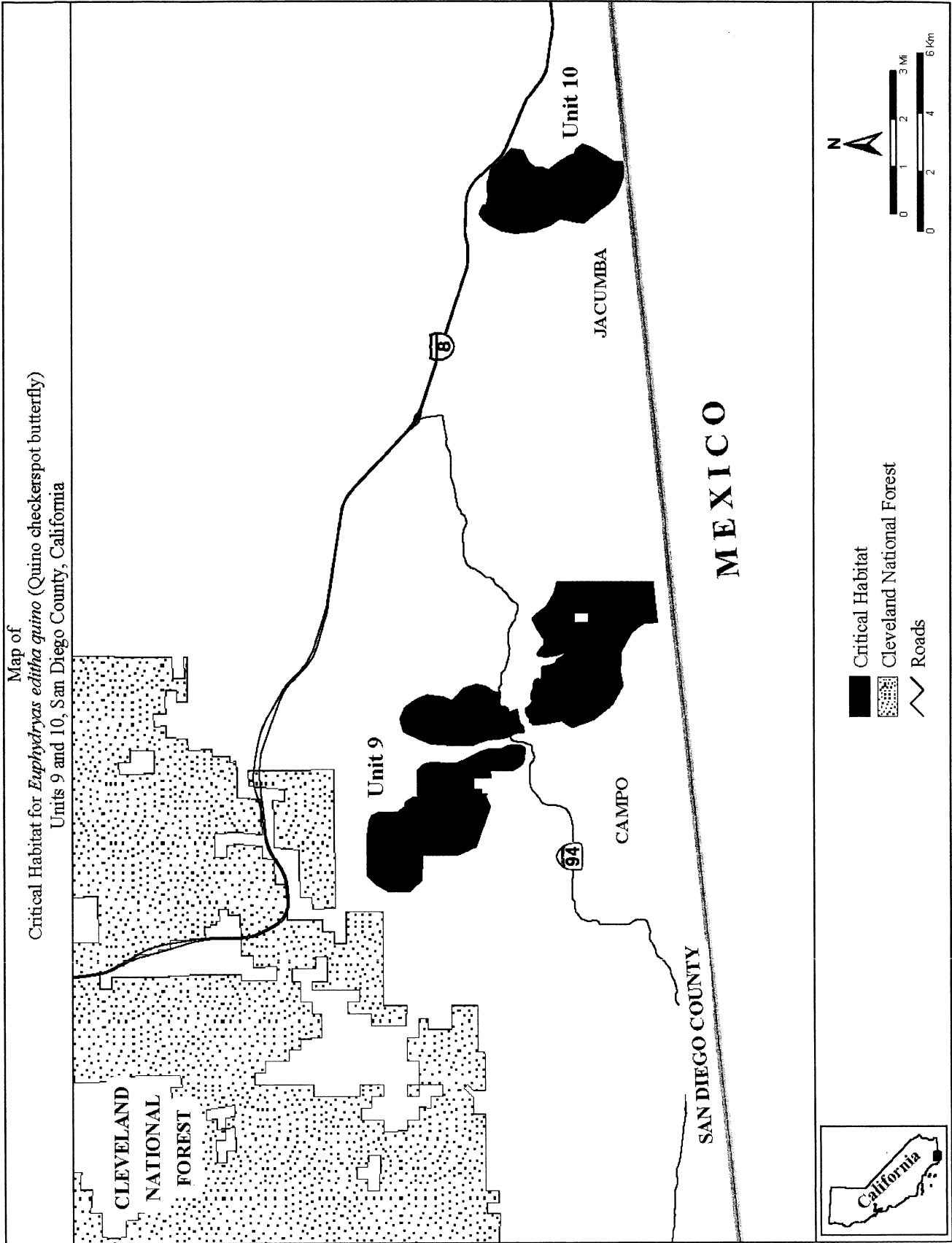
(i) From USGS 1:24,000 quadrangles Cameron Corners, Live Oak Springs, Campo, Tierra Del Sol. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 553429, 3615941; 553609, 3615663; 553609, 3615510; 554522, 3615534; 554724, 3615307; 554786, 3615045; 554774, 3614749; 554744, 3614441; 554750, 3614200; 554876, 3613915; 555139, 3613378; 555248, 3613049; 555254, 3612912; 555237, 3612693; 555270, 3612600; 555347, 3612446; 555363, 3612342; 555380, 3612151; 555380, 3612008; 555336, 3611920; 555248, 3611844; 555073, 3611855; 554854, 3611882; 554725, 3611939; 554601, 3612101; 554488, 3612253; 554514, 3613022; 554256, 3613000; 554256, 3613575; 553862, 3613597; 553856, 3613340; 553697, 3613340; 553697, 3613148; 553630, 3613180; 553275, 3613026; 551888, 3613504; 551601, 3614187; 551609, 3615340; 550765, 3615372; 550362, 3615816; 550362, 3616494; 550624, 3616972; 550932, 3617249; 551148, 3617249; 551687, 3617249; 552258, 3617249; 552751, 3617188; 552982, 3617080; 553090, 3616849; 553090, 3616509; 553090, 3616201; 553275, 3615970; thence returning to 553429, 3615941. Continuing to 555361, 3613606; 555341,

3613858; 555356, 3614305; 555387, 3614752; 555418, 3615091; 555587, 3615477; 555834, 3616001; 556265, 3616124; 556651, 3615955; 556928, 3615569; 557098, 3615168; 557021, 3614660; 556897, 3614321; 557314, 3613935; 557452, 3613504; 557406, 3613211; 557190, 3612872; 557190, 3612717; 557161, 3612704; 557084, 3612704; 557013, 3612709; 556925, 3612731; 556821, 3612715; 556717, 3612671; 556700, 3612507; 556596, 3612430; 556497, 3612381; 556602, 3612118; 556481, 3612079; 556267, 3612052; 556202, 3612046; 556103, 3611997; 556048, 3611915; 555829, 3611871; 555791, 3611893; 555785, 3612074; 555741, 3612227; 555665, 3612348; 555626, 3612507; 555588, 3612704; 555539, 3613098; 555456, 3613411; thence returning to 555361, 3613606. Continuing to 558984, 3611182; 559112, 3611283; 559388, 3611457; 559681, 3611604; 559857, 3611454; 560104, 3611114; 560535, 3610852; 560952, 3610739; 560957, 3609611; 560959, 3609185; 560966, 3607429; 559559, 3607279; 559518, 3607770; 559210, 3608170; 558593, 3608509; 557869, 3608556; 557406, 3608463; 556743, 3608833; 556235, 3609465; 555957, 3610220; 556188, 3610575; 556096, 3611114; 556050, 3611573; 556118, 3611624; 556118, 3611688; 556182, 3611705; 556295, 3611709; 556320, 3611741; 556394,

3611797; 556521, 3611847; 556592, 3611857; 556659, 3611772; 556694, 3611716; 556765, 3611645; 556839, 3611610; 556896, 3611610; 556913, 3611610; 556934, 3611638; 557002, 3611663; 557076, 3611652; 557150, 3611638; 557210, 3611613; 557270, 3611582; 557334, 3611574; 557408, 3611574; 557447, 3611564; 557503, 3611553; 557567, 3611525; 557595, 3611497; 557627, 3611454; 557627, 3611387; 557620, 3611327; 557655, 3611281; 557726, 3611281; 557836, 3611281; 557920, 3611281; 558005, 3611267; 558058, 3611218; 558069, 3611168; 558087, 3611059; 558090, 3610995; 558125, 3610945; 558125, 3610878; 558178, 3610801; 558238, 3610762; 558295, 3610755; 558352, 3610670; 558380, 3610599; 558451, 3610511; 558521, 3610497; 558454, 3610677; 558405, 3610942; 558380, 3611094; 558373, 3611189; 558408, 3611288; 558383, 3611370; 558488, 3611448; 558672, 3611319; 558810, 3611191; thence returning to 558984, 3611182. Excluding land bounded by 559557, 3610151; 559548, 3609664; 559887, 3609661; 559880, 3610135; 559559, 3610152; 559557, 3610153.

(ii) Note: Map of Units 9 and 10 (La Posta/Campo Unit and Jacumba Unit) follows:

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(15) Unit 10: Jacumba Unit, San Diego County, California.

(i) From USGS 1:24,000 quadrangles Jacumba, and Jacumba OE S. Land bounded by the following Universal Transverse Mercator (UTM) North American Datum of 1927 (NAD27) coordinates (E, N): 573190, 3609782; 573230, 3610057; 573340, 3610623; 573120, 3610926; 572913, 3611491; 572844, 3612155; 572941, 3612625; 573130, 3613009; 573319, 3613244; 573514, 3613370; 573749, 3613284;

573812, 3613244; 573818, 3613141; 573944, 3613101; 574105, 3613078; 574242, 3613089; 574477, 3613107; 574592, 3613107; 574720, 3613049; 575037, 3612980; 575354, 3612621; 575737, 3612289; 575668, 3611884; 575326, 3611707; 575212, 3611619; 575099, 3611442; 575099, 3611208; 575016, 3610986; 575288, 3610607; 575510, 3610265; 575535, 3610114; 575718, 3610057; 575883, 3609829; 575778, 3609508; 575286, 3608729; 575285, 3608362; 574872, 3608390;

574472, 3608514; 574100, 3608693; 573852, 3608927; 573493, 3609424; thence returning to 573190, 3609782.

(ii) Note: Map of Unit 10 is provided at paragraph (14)(ii) of this entry.

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Dated: January 8, 2008.

Lyle Laverty,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 08-105 Filed 1-16-08; 8:45 am]

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