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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*); Final Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2008–0006; 92210–1117–0000–B4]

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: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are designating final revised critical habitat for the Quino checkerspot butterfly (*Euphydryas editha quino*) under the Endangered Species Act of 1973, as amended (Act). Approximately 62,125 acres (ac) (25,141 hectares (ha)) of habitat in San Diego and Riverside Counties, California, are being designated as critical habitat for the Quino checkerspot butterfly. This final revised designation constitutes a reduction of approximately 109,479 ac (44,299 ha) from the 2002 designation of critical habitat for the Quino checkerspot butterfly.

DATES: This rule becomes effective on July 17, 2009.

ADDRESSES: The final rule, final economic analysis, and map of critical habitat will be available on the Internet at *http://www.regulations.gov* at Docket No. FWS–R8–ES–2008–0006 and *http://www.fws.gov/carlsbad/*. Supporting documentation we used in preparing this final rule will be available for public inspection, by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011; telephone 760–431–9440; facsimile 760–431–5901.

FOR FURTHER INFORMATION CONTACT: Field Supervisor, U.S. Fish and Wildlife Service, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section). If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Background

We intend to discuss only those topics directly relevant to the designation of critical habitat for the Quino checkerspot butterfly under the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*), in this final revised critical habitat designation. For more information on the taxonomy, biology, and ecology of the Quino checkerspot butterfly, refer to the final listing rule published in the **Federal Register** on January 16, 1997 (62 FR 2313), the original final critical habitat rule published in the **Federal Register** on April 15, 2002 (67 FR 18356); the Recovery Plan for the Quino Checkerspot Butterfly (*Euphydryas editha quino*) (Service 2003a); and the proposed revised critical habitat designation published in the **Federal Register** on January 17, 2008 (73 FR 3328).

New Information on Subspecies' Description, Life History, Ecology, Habitat, and Range

We received little new information pertaining to the description, life history, distribution, ecology, or habitat of the Quino checkerspot butterfly following the 2008 proposed rule to revise critical habitat for this subspecies. The following paragraphs discuss the new information that we received, including recent information about another host plant species brought to our attention, and clarification regarding the subspecies' likely expanded range and larval diapause. Please refer to the final listing rule published in the **Federal Register** on January 16, 1997 (62 FR 2313), and the proposed revised critical habitat designation published in the **Federal Register** on January 17, 2008 (72 FR 3328), for an in-depth discussion of the subspecies' biology.

In 2008, oviposition and larval development of the Quino checkerspot butterfly were recorded for the first time on a native host plant, *Collinsia concolor* (Chinese houses). The Quino checkerspot butterfly was observed using numerous individual *C. concolor* plants at multiple locations in Riverside County (Pratt 2008a, p. 1; 2008b, p. 1; 2008c, p. 1; 2008e, p. 1). Although *C. concolor* commonly occurs in habitats with *Plantago erecta* (erect plantain), *P. patagonica* (Patagonian plantain), and *Anterrhinum coulterianum* (Coulter's snapdragon) (Pratt 2001, pp. 42–43; Anderson 2008, pp. 2, 3), this plant is typically found on north-facing slopes in cooler and moister microclimates than where the other host plant species occur (Pratt 2001, p. 40: Pratt 2008b, p. 1). Quino checkerspot butterflies readily oviposit on *C. concolor* in captivity (Pratt 2001, p. 40). Relatively heavy but previously undocumented use of *C. concolor* at multiple high-elevation locations suggests that this host plant may become increasingly important for maintaining the Quino checkerspot butterfly population resilience as habitat conditions become warmer and drier (see below and the ''Summary of Comments and Recommendations'' section for additional discussion regarding climate change). If *C. concolor* is a novel host plant important for maintaining the resilience of established populations, it should also facilitate the subspecies' adaptation to environmental change that may result from climate change, including range shift (Pimm *et al.* 2001, p. 531; Thomas *et al.* 2001, pp. 577–581; Parmesan 2006, pp. 644, 645, 647). For example, increased preference for a novel host plant allowed the brown argus butterfly (*Aricia agestis*) to use habitats that were too cool for the host plants it already used, thus permitting the butterfly species to cross previously large geographic gaps in its distribution that lacked its formerly preferred host plant (Pimm *et al.* 2001, p. 531; Thomas *et al.* 2001, pp. 577–581).

Next, we did not discuss repeated diapause (the low-metabolic rate resting stage of the life cycle) in our January 17, 2008 (72 FR 3328) proposed revision to critical habitat. One peer reviewer suggested this was an important aspect of the subspecies' biology (see comment 9 below); therefore, we are adding discussion here. Diapause occurs during the larval stage, primarily during summer and fall (Service 2003a, pp. 7–8). Captive rearing and observation of Quino checkerspot butterfly larvae indicate repeated diapause is relatively common (over 50 percent likelihood for the first year; Pratt 2006, p. 10) and larvae can re-enter diapause up to three times (four diapause periods), but more than three diapause periods during an individual's life span is unusual (Pratt 2007a, pp. 10–13).

Finally, the discussion of Edith's checkerspot butterfly (*Euphydryas editha*; the Quino checkerspot butterfly is a subspecies of Edith's checkerspot) range shift in our January 17, 2008 (72 FR 33808), proposed revision to critical habitat requires clarification. Although locally adapted subspecies may shift their distribution within the middle of a greater species distribution (which appears to be occurring with the Quino checkerspot butterfly's elevation range), the northward latitudinal range expansion of subspecies of Edith's checkerspot butterfly implied by Parmesan's (1996) study does not apply to the Quino checkerspot butterfly. Because the subspecies' current northern range edge is approximately 26 miles (mi) (42 kilometers (km)) south of the historical range edge, any northward expansion of the Quino checkerspot butterfly's current range would

constitute recolonization within the subspecies' historical latitudinal range (San Bernardino and Ventura counties; see Service 2003a, pp. 1–3).

Behavior and Population Structure

The best available scientific data indicate that most Quino checkerspot butterfly populations have some degree of metapopulation structure (Service 2003a, p. 22) and display metapopulation dynamics characterized by highly variable habitat occupancy patterns and detectability, 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 the 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, the probability of a subpopulation existing at a given time is 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).

Rare high-density events and dispersal behavior are thought to be key elements of Edith's checkerspot butterfly population dynamics that structure populations. Harrison (1989, p. 1241) found that although dispersal direction from habitat patches seemed to be random in the bay checkerspot butterfly (*Euphydryas editha bayensis*), dispersing butterflies were most likely to move into habitat patches when they passed within approximately 163 feet (ft) (50 meters (m)) of those habitat patches. Dispersing bay checkerspot butterflies tended to remain in habitat patches where existing 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 persistent ''source'' subpopulations. Harrison (1989, p. 1239) found bay checkerspot butterfly habitat within 0.6 mi (1 km) of a source subpopulation is 100 percent likely to be colonized by immigrants from the source subpopulation. Harrison (1989, p. 1239) also recaptured a significant number of individuals in habitat 0.6 mi (1 km) from their release point. Over a 5–day period, 5 percent of butterflies released at a single location were recaptured in an isolated ''target habitat patch'' 0.6 mi (1 km) away (Harrison 1989, p. 1239). Assuming mostly random initial movement direction from the release location at such a great release distance from the recapture site (Harrison 1989, p. 1241), many individuals likely traveled similar or further distances outside the study area.

High habitat colonization rates probably only occur during rare outbreak years, when relatively 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 the subspecies' survival (Murphy and White 1984, p. 353; Ehrlich and Murphy 1987, p. 127). Therefore, protection and management of source subpopulations likely to provide immigrants to unoccupied habitat are required for conservation of the Quino checkerspot butterfly (Service 2003a, pp. 22, 25–26, 35, 94).

Long-distance dispersal has been documented in the Edith's checkerspot butterfly, and dispersal propensity is affected by local environmental conditions and subspecies' adaptation. White and Levin (1981, pp. 348–357) conducted the only mark-recapture movement study that included the Quino checkerspot butterfly. White and Levin (1981, pp. 348–357) studied within-habitat patch movement of the Quino and bay checkerspot butterfly subspecies in southern San Diego County (male bay checkerspots were released into Quino checkerspot butterfly habitat late in the flight season when offspring survival was not considered possible). They concluded that patterns of dispersal changed ''dramatically'' from year to year (White and Levin 1981, p. 348), and the Quino checkerspot butterfly was less sedentary than the more heavily studied bay checkerspot butterfly (White and Levin 1981, p. 105). 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), movement records were limited to 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.'' Long-distance movement in the bay checkerspot butterfly has been documented as far as 4 mi (6.4 km) (Murphy and Ehrlich 1980, p. 319) and 3.5 mi (5.6 km) (Harrison 1989, p. 1239).

The above information indicates that, although Edith's checkerspot butterflies appear to be capable of long-distance dispersal, their movement propensity is variable and driven by external environmental factors. By extension, contiguous habitat between two butterflies observed 1.2 mi (2 km) from each other is within reasonable flight distance of both individuals and should be considered part of a shared home range. Therefore, based on typical long-distance recapture records, we conclude that Quino checkerspot butterflies observed within approximately 1.2 mi (2 km) of each other in contiguous habitat belong to the same population, and contiguous habitat within at least 1.2 mi (2 km) of an observed Quino checkerspot butterfly is part of that individual's population distribution.

Delineating Population Distributions

The best scientific data available to us for use in delineating Quino checkerspot butterfly population distributions consist of geographic information system (GIS)-based habitat information, subspecies observation locations, and subspecies movement data from mark-release-recapture studies. Population-scale occupancy (a population distribution) is defined as all areas used by adults during the persistence time of a population (years to decades; Service 2003a, p. 24). Focused distribution studies over multiple years are required to quantify Quino checkerspot butterfly population distributions. Therefore, the Recovery Plan described Quino checkerspot butterfly population locations in terms of ''occurrence complexes'' (Service 2003a, p. 35), which were simple non-habitat-based estimators of population distributions (well-mixed or metapopulation structure) and population membership of observed butterflies. Occurrence complexes are mapped in the Recovery Plan using a 0.6-mi (1-km) movement radius from each butterfly observation and may be based on the observation of a single individual. Occurrence locations within at least 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).

Occurrence complexes may expand due to new butterfly observations, or contract due to habitat loss (for example, mapped occurrence complexes were limited by development, see Service 2003a p. 78). 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 (see above discussion and Service 2003a, p. 35).

Some occurrence complexes were identified in the Recovery Plan (Service 2003a, p. 35) as ''core.'' Core occurrence complexes are those that appear to be centers of population density based on geographic size, number of reported individuals, repeated observations, and evidence of reproduction. Such population density centers are likely to contain ''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; Service 2003a pp. 25–26), 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, 25–26). A source subpopulation is one in which the emigration rate typically exceeds the immigration rate, and is thus a source of colonists for unoccupied habitat patches (Service 2003a, p. 166). Therefore, for the purposes of critical habitat designation, we defined a core occurrence complex as an area where at least two of the following criteria apply: (1) Surveyors reported 50 or more adults during a single survey at least once; (2) immature life stages were recorded; or (3) the geographic area within the occurrence complex (within 0.6 mi (1 km) of subspecies occurrences) is greater than 1,290 ac (522 ha; the size of the smallest Core Occurrence Complex where reproduction has been documented on multiple occasions and there are historical collection records indicating long-term resilience).

Status and Local Distribution of Populations in Riverside County

Occurrence data collected in Riverside County since publication of the Recovery Plan in 2003 resulted in expansion of all core occurrence complexes and merging of some core occurrence complexes with non-core occurrence complexes (see discussion below). In particular, occurrence data collections in Riverside County since listing (62 FR 2313; January 16, 1997) have continued almost annually to expand the known elevation limit of the subspecies' range (Pratt *et al.* 2001, pp. 169–171; Service 2003a, p. 44; Goldberg 2005, pp. 8, 9; Pratt and Pierce 2005, pp. 4–5, 11–12; Pratt 2005, p. 1; San Bernardino National Forest (SBNF) GIS database). The Bautista Road Occurrence Complex (described as non-core in the Recovery Plan) is in a relatively high-elevation valley east of Temecula and north of the community of Anza, California. Multiple new observations have occurred within and around the Bautista Road Occurrence Complex (AMEC 2004, p. 6; Mooney Jones and Stokes 2005, p. 10). Consistent with criteria outlined in the Recovery Plan (Service 2003a, p. 35) and above, we now consider the Bautista Road Occurrence Complex to be a Core Occurrence Complex.

From 2004 to 2006, multiple new occurrence locations were also reported in the community of Anza, and north and northwest of the Bautista Road Core Occurrence Complex, Pine Grove Non-core Occurrence Complex, and Lookout Mountain Non-core Occurrence Complex. These new Non-core Occurrence Complexes are: (1) Cave Rocks within the community of Anza, just north of the intersection of Bautista Road and State Route (SR) 371 (AMEC 2004, p. 9); (2) Quinn Flat located between Fobes Ranch Road and Morris Ranch Road northeast of Quinn Flat and SR 74 (Pratt and Pierce 2005, pp. 4–5, 11–12; Pratt 2005, p. 1; SBNF GIS database); (3) Horse Creek adjacent to Bautista Road, southeast of Bautista Spring (AMEC 2004, p. 6; Malisch 2006, p. 1); and (4) North Rouse Ridge located on Rouse Ridge in the hills east of Bautista Canyon, near where Bautista Road exits the foothills (Goldberg 2005, pp. 8, 9; SBNF GIS database). None of these new observation locations met two or more of the criteria needed to categorize them as a core occurrence complex. However, these new Non-core Occurrence Complexes resulted in: (1) An increased number of known occupied areas near the community of Anza; (2) an expansion of the subspecies' known geographic range at its northeastern extreme (where it had not been previously recorded, but within historical latitudinal limits of the subspecies' distribution); and (3) an increase in the subspecies' known elevation range (Service Geographic Information Systems (GIS) database).

Recent monitoring information indicates 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 distribution supporting periodic density increases, similar to historical outbreak events (Service 2003a, p. 29), such as the 1977 outbreak in San Diego County reported by Murphy and White (1984, p. 351) (see also Ehrlich and Murphy 1987, p. 127; 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). Such reports of hundreds of adults in the Tule Peak Core Occurrence Complex were unprecedented since the 1970s, 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 2007, p. 1; CFWO 2004; Pratt 2004, pp. 16, 17). Additionally, more than 30 new occurrence locations with high adult densities were reported in 2004 in the vicinity of Tule Peak Road (92 to more than 100 observations in a single day) south of the Cahuilla Band of Mission Indians of the Cahuilla Reservation, California (Cahuilla Band of Indians), and the community of Anza (Osborne 2004, pp. 1–6, 8–10; Anderson 2007, p. 5; CFWO 2004; Osborne 2007, pp. 13–16). Based on these new observations, it is appropriate 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. This population contains higher densities and likely produces more emigrants than any other population within the subspecies' range.

The best available scientific data (including recent outbreaks in the closest core occurrence complex) suggest the new Bautista Road Core Occurrence Complex supports ongoing range shift for the Quino checkerspot butterfly upslope in elevation, and other non-core occurrence complexes north of the community of Anza may be the result of recent colonization events.

Parmesan (1996, pp. 765–766) concluded that the average (not actual) position of known Edith's checkerspot butterfly populations had shifted north and up in elevation, likely due to a warming, drying climate (conclusion supported by the technical recovery team, Service 2003a, pp. 64, 65). Parmesan (1996, pp. 765–766) compared the distribution of the 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 a rangewide pattern of local Edith's checkerspot butterfly extirpations and noted that 80 percent of historically recorded populations in the southern part of the range were extinct at the time of the re-census in the mid-1990s (with the majority being Quino checkerspot butterfly populations). In contrast, historically recorded Edith's checkerspot butterfly populations in the mid-latitude part of the species' range experienced only 40 percent extirpations, and the extirpation rate in the northern part was as low as 20 percent (Parmesan 1996, pp. 765–766). Fewer than 15 percent of the Edith's checkerspot butterfly extirpations occurred in the highest elevation band (above 7,874 ft (2,400 m)) (Parmesan 1996, pp. 765–766).

Parmesan (1996, pp. 765–766) concluded that this pattern of extirpation indicates contraction of the southern boundary of the Quino checkerspot butterfly's overall distribution by almost 100 mi (160 km) and a shift in the average location of an Edith's checkerspot butterfly occurrence northward by 57 mi (92 km). A parallel elevation gradient in extirpations shifted the mean location of Edith's checkerspot butterfly populations upward by 407 ft (124 m). A breakpoint in the pattern of extirpations occurred at approximately 7,874 ft (2,400 m), with about 40 percent of all populations below the breakpoint recorded as extirpated in suitable habitats, while less than 15 percent were extirpated above the breakpoint. This pattern matched trends in snowpack dynamics in the Sierra Nevada (where the high-elevation populations are found) over the same period as the butterfly study, with significant trends toward lighter snowpack and earlier melt date below 7,874 ft (2400 m), and heavier snowpack and a (non-significant) trend toward later melt date above 7,874 ft (2400 m) (Johnson *et al.* 1999, pp. 63–70). This range shift closely matched shifts in mean yearly temperature (Parmesan 1996, pp. 765–766; Karl *et al.* 1996, pp. 279–292). Parmesan's study found extirpations to be most common at lower elevations and latitudes, and the Quino checkerspot butterfly's range includes both the lower elevation and lower latitude range extremes for Edith's checkerspot butterfly. Therefore, the Quino checkerspot butterfly may be the subspecies of Edith's checkerspot experiencing the greatest effects associated with changes in climate.

Studies have demonstrated a correlation of population distribution and phenology changes with climate change 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, pp. 251–254; Thomas *et al.* 2004, pp. 146–147; 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 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). Most recently, Preston *et al.* (2008, p. 2506) incorporated biotic interactions into niche models to predict suitable habitat for species under the range of climate conditions predicted for southern California in recent climate change models (see also Hayhoe *et al.* 2004, pp. 12422–12427; IPCC 2007, p. 9).

Preston *et al.* (2008, p. 2508) found that Quino checkerspot butterfly habitat decreased and became fragmented under altered climate conditions based on the climate-only model. For increasing temperatures and 110 percent precipitation, there was a shift in habitat to the eastern portion of the currently occupied range corresponding with an upslope movement of the species to higher elevations in adjacent mountains (Preston *et al.* 2008, p. 2508). The abiotic–biotic model (better-performing model) predicted 98 to 100 percent loss of suitable Quino checkerspot butterfly habitat when the temperature increased 1.7 and 2.8 °C (1.5 and 2.5 °F) and when the precipitation was 50 percent or 150 percent of current levels (Preston *et al.* 2008, p. 2508). An increase of less than 1 °C (1.1 °F) with no change in current precipitation resulted in no predicted habitat shift, although there was an eastward (upslope) shift within the current distributional footprint at 110 percent precipitation (Preston *et al.* 2008, p. 2508). Similar climate response patterns in modeled habitat and related and co-occurring insect species further support the validity of Parmesan's (1996, pp. 765–766) Quino checkerspot butterfly observations and conclusions (Preston *et al.* 2008, pp. 2511, 2512). Therefore, the hypothesis of range shift driven by changing climate and precipitation patterns occurring in the foothills north of the community of Anza is well supported by the best available scientific information.

Documented environmental 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; Breshears *et al.* 2005, p. 15144), future drought predictions for the state (such as Field *et al.* 1999, pp. 8–10; Brunell and Anderson 2003, p. 21; Lenihen *et al.* 2003, p. 1667; Hayhoe *et al.* 2004, p. 12422; Breshears *et al.* 2005, p. 15144; Seager *et al.* 2007, p. 1181) and North America (IPCC 2007, p. 9), and extirpation of Edith's checkerspot butterfly populations following extreme climatic events (Ehrlich *et al.* 1980, pp. 101–105; Singer and Ehrlich 1979, pp. 53–60; Singer and Thomas 1996, pp. 9–39) model and predict that prolonged drought and other environmental changes related to changing climate patterns will continue into the near future, and these changes may affect Quino checkerspot butterfly populations. Thomas *et al.* (2004, p. 147) estimated that 29 percent of species in scrublands (habitat for the 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). During drought conditions in 2007, surveyors noted that, 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). Therefore, recent subspecies field evidence corresponds with the hypothesis that changing environmental conditions throughout the subspecies' range is resulting in reduced densities at lower elevations.

Maintenance of the Tule Peak/Silverado and Bautista Road core occurrence complexes and habitat connectivity to higher elevation non-core occurrence complexes is needed to prevent an increase in the subspecies' extinction probability and support range shift resulting from environmental changes due to changing climate patterns (Service 2003a, pp. 46, 47; Osborne 2007, pp. 9–10). The Anza/Mount San Jacinto foothills area (in and adjacent to the Bautista Road Core Occurrence Complex) is proximal to what is likely the highest density

population that produces the most emigrants within the subspecies' range (Tule Peak/Silverado Core Occurrence Complex) and supports the greatest elevation gradient within the extant range of the Quino checkerspot butterfly. Regardless of range-shift dynamics, this area likely supports the most resilient populations within the subspecies' current range (see above discussion of recent observations in this area). As discussed above, evidence of range shift resulting from environmental changes due to changing climate patterns includes the following: (1) Parmesan's (1996) subspecies-specific study; (2) Preston *et al.*'s (2008, pp. 2501–2505) subspecies-specific habitat model predictions; (3) recent documented Quino checkerspot butterfly outbreak events (discussed above); (4) the complete lack of Quino checkerspot butterfly observations in Riverside County during 2007 monitoring; (5) documented drought conditions and the likelihood that recurrent drought conditions will persist into the near future (see above discussion); and (6) the discovery of new non-core occurrence complexes in the most northern, highest elevation habitat areas (see above discussion of recent observations in this area). Parmesan's (1996, pp. 765–766) range-shift statistics and Preston *et al.*'s habitat models (2008, pp. 2501–2505) predict the following Quino checkerspot butterfly population changes: (1) Declines in, and loss of, the southernmost and lowest elevation populations (lowest elevation range edge already retracted likely due to a combination of development and the 1980s drought), especially in drier areas where rainfall is most variable (such as southwest Riverside County; Anderson 2000, pp. 3, 6); (2) increases in the density in the highest elevation populations, especially in wetter areas (such as the Anza area; Service 2003a, p. 44); and (3) establishment of new populations higher in elevation where range shift is least impeded by habitat loss due to land-use changes (such as the Mount San Jacinto foothills; Service GIS database and satellite imagery).

The highest elevation core occurrence complexes (Tule Peak/Silverado and Bautista Road) also support the highest (co-occurring) diversity of host plant species (*Plantago patagonica*, *Antirrhinum coulterianum*, *Collinsia concolor*, *Cordylanthus rigidus* (rigid bird's beak), and *Castilleja exserta* (purple owl's-clover)) within the range of the Quino checkerspot butterfly, a factor known to increase population resilience (Service 2003a, p. 17) and mitigate the effects of climate extremes on Edith's checkerspot butterfly populations (Hellman 2002, p. 925). Therefore, prudent design of reserves and other managed habitats near the community of Anza, where the subspecies' range is likely expanding upslope in elevation, should include landscape connectivity to other habitat patches and ecological connectivity (habitat patches linked by dispersal areas; Service 2003a, p. 162) to accommodate such range shift (Service 2003a, p. 64).

Status and Local Distribution of Populations in San Diego County

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 was anticipated in the Recovery Plan, as authors noted that occupied habitat in the vicinity of Otay Lakes and Rancho Jamul appeared to be an area of key landscape connectivity for all subpopulations in southwest San Diego County (Service 2003a, pp. 53, 54).

Several widely distributed new observation locations have been reported since 2002 in central San Diego County (Dudek 2005, p. 1; Faulkner 2005, p. 1; Tierra Environmental Services 2005, p. 4), and between Interstate 8 and State Route 94 (TRC 2008, pp. 33–38) resulting in four new San Diego County non-core occurrence complexes (Fanita Ranch, Sycamore Canyon, and Mission Trails Park, and Barrett Lake). The proximity of these occurrence complexes to historical collection locations (compare above-cited documents to Service 2003a, p. 3) indicates recent detections may reflect short-term increases in population densities; however, it is not likely that increasing densities will persist, given observed and predicted environmental shifts associated with changing climate patterns (see above discussion), increasing nonnative plant invasion, and the relative isolation of these non-core occurrence complexes from core occurrence complexes. Therefore, the best available data indicate that these new observation locations may be the result of surveys in areas not previously searched and likely represent residual, relatively low-density populations experiencing a long-term trend of decreasing 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 2005a, pp. 1–2; b, p. 1; PSBS 2005a, p. 18; 2005b, p. 26; O'Conner 2006, pp. 2–4). This cluster of occurrence complexes near Campo is over 7 mi (11 km) from the closest previously identified core occurrence complex near the community of 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). We believe the Quino checkerspot butterfly distribution east of the community of Campo is under-documented because of: (1) The small number of surveys conducted in this area (Service survey report files); (2) the existence of contiguous habitat between observation locations (Service GIS vegetation database and satellite imagery); and (3) the presence of relatively high densities of *Antirrhinum coulterianum* and *Collinsia cocolor* host plants in occupied habitat (Bureau of Indian Affairs 1992, p. c–5; Allen and Kurnow 2005, pp. 10, 13–16; Dicus 2005a, pp. 1–2; b, p. 1; PSBS 2005a, p. 18; 2005b, p. 26; O'Conner 2006, pp. 1–4, Science Applications International Corporation 2006, pp. 33, 34, 37).

Methods used in the Recovery Plan (Service 2003a, p. 35) to determine membership of occurrence locations in an occurrence complex using the sparse available occurrence data would likely underestimate the population distribution associated with this obviously independent population near the communities of La Posta and Campo. Therefore, although not quite proximal enough to be considered a single occurrence complex based on overlapping 0.6-mi (1-km) movement distances (Service 2003a, p. 35), we consider this cluster of new observations near Campo to belong to a single new La Posta/Campo Core Occurrence Complex.

Quino checkerspot butterflies were recently observed in a new location in southeast San Diego County that resulted in expansion of the Jacumba Occurrence Complex (Essex and Osborne 2005, p. 82). Additionally, data collected from the Jacumba Occurrence Complex since publication of the Recovery Plan 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.

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). An estimated 50 individuals were observed in a single day near Jacumba Peak (Pratt 2007b, p. 1). Furthermore, reproduction was documented in the Jacumba Occurrence Complex in 1998 and again in 2004 (Pratt 2007c, p. 1). Therefore, given ongoing documentation of occupancy (Service 2004, 2005, 2008), documented reproduction over multiple years (Pratt 2007c, p. 1), reported observations of large numbers of individuals (50; Pratt 2007b, p. 1), and an increased occurrence complex area (approximately 522 ac (1,290 ha)), we now consider the Jacumba Occurrence Complex to be a core occurrence complex associated with what appears to be a relatively resilient population.

The prediction that drought conditions are likely to continue into the near 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 complex habitats are warmer and drier than the Otay Mountain Core Occurrence Complex and differ substantially in other habitat characteristics (Service 2003a, pp. 36–54; O'Conner 2006, p. 4). Therefore, maintenance of these core occurrence complexes is essential for recovery and survival of the Quino checkerspot butterfly in San Diego County. These new core occurrence complexes were also the only complexes in the subspecies' southern range not affected by the 2003 and 2005 fires. Therefore, new information indicates the La Posta/Campo and Jacumba Core Occurrence Complexes contribute significantly to reducing the subspecies' extinction probability.

Previous Federal Actions

The Homebuilders Association of Northern California, *et al.*, filed suit against the Service in March 2005 challenging the merits of the final critical habitat designations for several taxonomic entities, including the Quino checkerspot butterfly. A settlement was reached in March 2006 that required the Service to re-evaluate five final critical habitat designations, including the Quino checkerspot butterfly. The settlement stipulated that proposed revisions to the Quino checkerspot butterfly designation would be submitted for publication to the **Federal Register** by December 7, 2007, and final revisions would be submitted by December 7, 2008. In accordance with a court-approved amendment to the settlement agreement, dated December 5, 2007, the proposed revisions were published in the **Federal Register** on January 17, 2008 (73 FR 3328). Subsequently, a court-approved amendment to the settlement agreement dated November 6, 2008, stipulated the Service deliver the final revised critical habitat designation to the **Federal Register** by June 6, 2009. For more information on previous Federal actions concerning the Quino checkerspot butterfly, refer to the proposed revisions to critical habitat published in the **Federal Register** on January 17, 2008 (73 FR 3328).

Summary of Comments and Recommendations

We requested written comments from the public on the proposed rule to revise critical habitat for the Quino checkerspot butterfly during two comment periods. The first comment period opened with the publication of the proposed rule in the **Federal Register** on January 17, 2008 (73 FR 3328), and closed on March 17, 2008. The second comment period opened with the publication of the notice of availability of the Draft Economic Analysis (DEA) in the **Federal Register** on December 19, 2008 (73 FR 77568) and closed on January 20, 2009. During both public comment periods, we contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the proposed rule to revise critical habitat for this subspecies and the associated DEA. During the comment periods, we requested all interested parties submit comments or information related to the proposed revisions to critical habitat, including (but not limited to) the following: unit boundaries; species occurrence information and distribution; land use designations that may affect critical habitat; potential economic effects of the proposed designation; benefits associated with critical habitat designation; areas proposed for designation and associated rationale for the non-inclusion or considered exclusion of these areas; and methods used to designate critical habitat.

During the first comment period, we received 17 comment letters (15 letters addressing the proposed revision of critical habitat, and 2 letters from a single commenter that were not related to proposed revisions to critical habitat): two from peer reviewers, three from Federal agencies, six from representatives of five Native American tribes, and six from public organizations or individuals. During the second comment period, we received nine comments addressing the proposed critical habitat designation and the DEA. Of these latter comments, two were from peer reviewers, two from Federal agencies, two from Native American tribes, and three from public organizations or individuals. We did not receive any requests for a public hearing.

Peer Review

In accordance with our Policy for Peer Review in Endangered Species Act Activities, published on July 1, 1994 (59 FR 34270), we solicited expert opinions from 10 knowledgeable individuals with scientific expertise that included familiarity with the subspecies, the geographic region in which it occurs, and conservation biology principles. Four peer reviewers submitted responses. They provided additional information, clarifications, and suggestions that we incorporated into the rule to improve the final revised critical habitat rule.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding the designation of critical habitat for the Quino checkerspot butterfly. All comments are addressed in the following summary and incorporated into the final rule as appropriate.

Peer Reviewer Comments

Comment 1: One peer reviewer stated they had recently communicated with residents in and around the community of Anza and concluded that residents moved to this area based on an appreciation of nature and the outdoors. The peer reviewer suggested the Service should inform residents on how to improve Quino checkerspot butterfly habitat. The peer reviewer also asserted that residents of Anza are suspicious of government intervention and value their personal freedom more than endangered species preservation. The peer reviewer expressed willingness to help organize a meeting that would provide private landowners from Anza with information on how to preserve the subspecies. The peer reviewer concluded that, because of their appreciation for nature, Anza residents would be willing to improve Quino checkerspot butterfly habitat on their lands, but that willingness would be decreased by critical habitat designation; therefore, we should exclude any lands in the vicinity of Anza from our revised critical habitat designation.

Our Response: We agree that species conservation benefits provided by landowner partnerships to conserve federally listed species may minimize the conservation benefits of designating privately owned lands as critical habitat, and we appreciate the peer reviewer's interest in participating in such an endeavor. We encourage the peer reviewer to continue to communicate and work with residents of Anza (Units 6 and 7) to conserve the Quino checkerspot butterfly, within and outside of areas that meet the definition of critical habitat. Should residents of Anza or surrounding areas be interested in developing a partnership to conserve the Quino checkerspot butterfly, Service biologists are available to participate and provide information on such partnership programs as Safe Harbor Agreements for private landowners. Safe Harbor Agreements provide assurances to landowners under the Act that no additional future regulatory restrictions will be imposed if conservation practices on their land attract or perpetuate federally listed species. At this time, there is no formal partnership between the peer reviewer, residents of Anza, or the Service to conserve the Quino checkerspot butterfly or its habitat, other than the Western Riverside County Multiple Species Habitat Conservation Plan (Western Riverside County MSHCP; Dudek and Associates, Inc. 2003), under which some areas south of the community of Anza are already excluded (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Comment 2: One peer reviewer observed Quino checkerspot butterflies ''by the 100s'' near the community of Anza during a subspecies ''outbreak.'' The peer reviewer observed several unique behaviors in the Anza area in 2004 (they stated 2006 but our records indicate 2004), including a female deep within a stand of *Adenostoma sparsifolium* (redshank), likely searching for sites to deposit eggs. Despite extensive survey efforts prior to this 2004 observation, the peer reviewer had never observed Quino checkerspot butterflies in dense *A. sparsifolium*, and previously assumed the subspecies never went into such areas.

The peer reviewer asserted that Quino checkerspot butterflies move many more miles during periods of high subspecies density than observed during average density years. The peer reviewer hypothesized that, under certain environmental conditions, hormonal changes could be responsible for the behavioral changes he observed. The peer reviewer also noted that, during historical ''outbreaks,'' Quino checkerspot butterflies were observed in downtown San Diego. The peer reviewer hypothesized this movement behavior may be unique to the Quino checkerspot butterfly among Edith's checkerspot subspecies, and movement between populations may be important for replacing extirpated populations and maintaining gene flow between extant populations. Finally, the peer reviewer stated a lack of conserved ''intermediate habitat'' between populations may cause extirpation of populations and, eventually, subspecies extinction.

Our Response: We were aware of the peer reviewers' observations and had incorporated those observations into our analysis (for example, inclusion of closed-woody canopy areas in Primary Constituent Element (PCE) 2; see ''Primary Constituent Elements'' section below). We appreciate the peer reviewers' insights and contributions to our knowledge of the subspecies' biology.

Although we are not aware of any recorded long-distance movements for the Quino checkerspot butterfly, the one within-habitat patch movement study completed at Otay Lakes (White and Levin 1981, pp. 350, 355) concluded that Quino checkerspot butterflies were ''less sedentary'' than bay checkerspot butterflies and may disperse greater distances. Plasticity and variability of movement behavior is typical among *Euphydryas* spp. (Service 2003a, pp. 10–13), as demonstrated by the historical observations of Quino checkerspot butterflies in downtown San Diego that were cited by the peer reviewer. These observations indicate that, when many individuals were dispersing during at least one unusually high-density historical event, developed areas did not prevent such movement. Therefore, because the best available scientific information supports the need for within-population movement areas, but does not support the necessity or identification of ''intermediate habitat'' for dispersal between populations, we included only movement areas within habitat-based population distributions in our critical habitat designation (see ''Criteria Used To Identify Critical Habitat'' section below).

Comment 3: Based on personal experience maintaining captive populations, the peer reviewer asserted that Quino checkerspot butterfly populations are more susceptible to inbreeding depression than most other butterfly species. The peer reviewer stated that, when closely related Quino checkerspot butterfly individuals are bred ''for some time'' without out-crossing, they observe greater egg and larval mortality than generally observed in butterfly species in the family Lycaenidae (coppers and blues). The peer reviewer concluded the Service should consider assisting genetic exchange between populations that appear to be losing genetic variability, such as the small population in Unit 1 (Warm Springs Creek Core Occurrence Complex). The peer reviewer stated they suspected low genetic diversity was a primary cause of the Gavilan Hills/Lake Mathews population extirpation.

Our Response: We recognize that the increased mortality observed during captive rearing could be indicative of inbreeding depression; however, we have no basis upon which to determine whether or not populations of the Quino checkerspot butterfly outside of a laboratory setting experience inbreeding depression. We agree with the commenter's recommendation that an evaluation of the population genetics of this butterfly could assist its recovery, and we discussed the possible effects of genetic drift and inbreeding depression in the listing rule for the Quino checkerspot butterfly (Service 1997, pp. 2319–2320). We appreciate this information; however, we do not believe it is relevant to our final revised critical habitat designation.

Comment 4: One peer reviewer stated that populations in Units 6 and 7 near the community of Anza are ''continuous and not actually separate.'' The peer reviewer indicated that extensive suitable habitat exists between these two units (especially in Terwilliger Valley), which is probably occupied by the Quino checkerspot butterfly. Additionally, the peer reviewer noted there are multiple public land parcels in the area and some have extensive stands of the food plant *Antirrhinum coulterianum*.

Our Response: While landscape connectivity does exist between Units 6 and 7 in the Anza area, and some occupied habitat exists in the area that was not included in our proposed revised critical habitat units (Cave Rocks and Cahuilla Creek non-core occurrence complexes), habitat within the community of Anza is fragmented, and large areas of landscape connectivity occur outside our mapped habitat-based population distributions (that is, not occupied). Our habitat-based population distributions are the best estimate of population occupancy based on the best available scientific data. Because the habitat-based population distributions are not continuous, we must assume the Bautista Road and Tule Peak/Silverado core occurrence complexes and the Cave Rocks and Cahuilla Creek non-core

occurrence complexes are not part of a single population. We determined that habitat captured by the core occurrence complex habitat-based population distributions in Units 6 and 7 provide the PCEs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies. Our criteria used to identify critical habitat focused on core occurrence complex habitat-based population distributions designed to capture all habitats likely to support resilient metapopulations, including those likely to support local source or mainland populations (also called subpopulations) and movement areas between habitat patches required for metapopulation resilience (see Service 2003a pp. 163, 165–166 for term definitions). Finally, Terwilliger Valley is not located between Units 6 and 7, it is located east of Unit 6 (Unit 7 is north). Please see ''Criteria Used To Identify Critical Habitat'' section below for further discussion.

Comment 5: Two peer reviewers stated the Bautista Road Core Occurrence Complex was probably occupied at the time of listing, but occupancy was not documented because that area was not adequately surveyed at that time. The second peer reviewer asserted that, prior to 1998, butterfly experts did not know much about habitats near the community of Anza, and all high-elevation observations were thought to be dispersing individuals because the only known primary host plant, *Plantago erecta,* did not occur above 3,000 ft (914 m) in elevation. The second peer reviewer noted that Dr. John Emmel observed a Quino checkerspot butterfly [near the community of Anza] along Bautista Road in the 1970s. The second peer reviewer also suggested that surveys be conducted in higher elevation areas where the Quino checkerspot butterfly may eventually colonize to determine if the subspecies is absent and to document possible establishment of new populations in the future. Finally, the second peer reviewer asserted that movement of this subspecies into new areas will not be easy because of inbreeding depression (see Comment 3 above), and suggested the subspecies may move by local and gradual movements and eventually expand into higher elevation sites.

Our Response: We agree that it is possible that the Bautista Road Core Occurrence Complex was occupied at the time of listing; however, we have insufficient documentation to support that assertion. We received subsequent confirmation of Dr. Emmel's historical Quino checkerspot butterfly observation referenced by the peer reviewer. Dr. Emmel (2008, p. 1) stated that, on March 26, 1988, he observed what appeared to be a single female Quino checkerspot butterfly at the intersection of Bautista Road and Tripp Flats Road at 3,840 ft (1,170 m) elevation. Dr. Emmel (2008, p. 1) further stated that this historical observation within the Bautista Road Core Occurrence Complex may have been of a dispersing individual from a more southern population, and the subspecies may have almost exclusively used *Plantago* spp. in the 1970s and 1980s. Therefore, we are uncertain when the Bautista Road Core Occurrence Complex was initially colonized; however (as stated above in the ''**Background**'' section), we believe it currently provides colonists to higher elevations and, through this mechanism, likely facilitates range shift resulting from environmental changes that degrade suitable habitat conditions.

Inbreeding depression may slow colonization of new areas. However, when gene flow is restricted (for example, by mountainous terrain; Service 2003a, p. 13), local adaptation can occur quickly because peripheral populations are not swamped by genes adapted to environmental conditions specific to the range core (Zakharov and Hellman 2008, p. 199). Higher rates of local adaptation at a species' range edge may counteract any negative effects of inbreeding depression on colonization rate. Therefore, we did not base any of our conclusions on the hypothesis that inbreeding depression slows colonization of new areas in this subspecies.

Comment 6: One peer reviewer asserted the use of host plant species other than *Plantago* spp. and *Antirrhinum coulterianum* in Riverside County should be investigated before assuming they are not used. The peer reviewer stated that the western San Diego County populations may also use many undocumented host plants, including *Castilleja affinis* (coast Indian paintbrush), *Castilleja foliolosa* (woolly paintbrush), *Collinsia heterophylla*, and *Antirrhinum nuttallianum* (Nuttall's snapdragon).

Finally, the peer reviewer expressed the opinion that *Penstemon centranthifolius* (scarlet bugler) may also be an important Quino checkerspot host plant near the community of Anza. The peer reviewer stated that they observed Quino checkerspot butterflies in early spring near the community of Anza and that subspecies' presence appears to be positively correlated with relatively heavy feeding damage on *P. centranthifolius* by an as-yet-undetected herbivore. The peer reviewer hypothesized the feeding damage on *P. centranthifolius* could be caused by late-instar Quino checkerspot butterfly larvae because they had difficulty detecting Quino checkerspot butterfly larvae on host plants other than *Plantago* spp. The peer reviewer concluded that *P. centranthifolius* might be important for post-diapause larval feeding because it is the only potential host plant species available for adult egg deposition and post-diapause larval feeding during periods of drought. Therefore, the peer reviewer believes *P. centranthifolius* may be an important food source for the Quino checkerspot butterfly larvae in high-elevation sites during drought.

Our Response: We agree the Quino checkerspot butterfly may use different host plant species across its range. We provided a list of all host plant species where egg deposition has been documented in our ''Primary Constituent Elements'' section below, including *Collinsia concolor*, documented in 2008 to be used in the field by the Quino checkerspot. We appreciate information on potential use of *Penstemon centranthifolius* as a host plant; however, Quino checkerspot butterfly use of this potential hostplant species has not been documented, and any related changes to this final revised critical habitat designation would not be appropriate.

Comment 7: One peer reviewer noted that, based on his experience, *Eriodictyon* spp. (yerba santa), *Chaenactis glabriuscula* (pinchusion flower), and *Ericameria linearifolia* (narrowleaf goldenbush) are important nectar sources for Quino checkerspot butterfly survival. The peer reviewer stated some of the nectar sources on page 3335 of the proposed revised critical habitat rule (73 FR 3328; January 17, 2008) are not important because they are rarely visited by females and, therefore, do not contribute to increased production of eggs or subspecies survival.

Our Response: We appreciate this information based on the peer reviewer's experience and have revised our list of nectar source examples in the PCEs to include the species named by the peer reviewer. The peer reviewer did not specify which nectar sources on the existing PCE list they did not believe were important. Our list of nectar sources is not exhaustive, and nectar source importance can be site specific. Therefore, we believe our current PCE nectar source list is appropriate (see ''Primary Constituent Elements'' section below).

Comment 8: One peer reviewer stated that overcollection did not play a role in

the loss of Quino checkerspot butterfly populations.

Our Response: The listing rule (62 FR 2313; January 16, 1997) identified over-collection as a threat to the Quino checkerspot butterfly. The Service has initiated a 5–year review on this subspecies and is re-evaluating the magnitude and extent of all threats. We appreciate this information; however, we do not believe it is relevant to our final revised critical habitat designation.

Comment 9: One peer reviewer stated that they believe all areas containing low shrubs should be included in the PCEs because diapause constitutes the majority of the Quino checkerspot butterfly's annual life cycle, and larvae diapause in low shrubs such as *Eriogonum fasciculatum* (California buckwheat).

Our Response: This critical habitat designation includes all habitat-based population distributions associated with core occurrence complexes (see ''Criteria Used To Identify Critical Habitat'' section below), and the PCEs include all vegetation with an open woody canopy, including shrublands (see ''Primary Constituent Elements'' section below). Therefore, habitat containing low shrubs essential to the conservation of the subspecies, such as *Eriogonum fasciculatum*, is included in this final revised critical habitat designation.

Comment 10: One peer reviewer maintained that the availability of prominent hilltops should be ''weighed carefully in any decision relating to the possible exclusion of critical habitat and associated conservation plans'' because the loss of such courtship areas could result in the loss of populations even if other PCEs are present in designated critical habitat.

Our Response: This peer reviewer is apparently concerned that exclusion of areas from critical habitat will result in the loss of the excluded habitat, especially habitat containing hilltops. Section 4(b)(2) of the Act authorizes the Secretary to designate critical habitat after taking into consideration the economic impacts, national security impacts, and any other relevant impacts of specifying any particular area as critical habitat. An area may be excluded from critical habitat if it is determined that the benefits of exclusion outweigh the benefits of designating a particular area as critical habitat, unless the failure to designate will result in the extinction of the species. We believe the exclusions made in this final revised rule are legally supported under section 4(b)(2) of the Act and scientifically justified. The peer reviewer specifically commented on exclusions where conservation plans are in place. Areas excluded under section 4(b)(2) based on completed habitat conservation plans (HCPs) or other Service-approved management plans receive long-term protection and conservation; therefore, areas excluded from critical habitat designation should not result in the loss of the excluded habitat,. As discussed below, we fully considered and weighed the benefits to the conservation of the subspecies from including the specific areas we determined contain the physical and biological features essential to the conservation of the Quino checkerspot butterfly (including prominent hilltops used for mating) within the habitat conservation plan areas, in light of our determination that these areas will be adequately protected on lands covered by the Western Riverside County MSHCP and the San Diego County Multiple Species Conservation Program (MSCP), City of Chula Vista Subarea Plan (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Comment 11: One peer reviewer stated, ''Although annual surveys for the presence of [Quino checkerspot] butterfly adults are important * * * a population can be represented for several consecutive bad years by diapausing larval clusters that have been shown to survive for at least 4 years.'' The peer reviewer added that other butterfly and moth species have adapted to drought conditions in the western United States and are capable of diapausing for up to 30 years.

Our Response: We are aware Quino checkerspot butterflies can diapause for multiple years (Service 2003a, pp. 8–9), and under extreme drought conditions, no larvae in a surveyed area may have metamorphosed into adults. We are also aware that captive rearing and observations of the Quino checkerspot butterfly larvae indicate that repeated diapause is relatively common (over 50 percent likelihood for the first year; Pratt 2006, p. 10). Larvae can re-enter diapause up to three times (four diapause periods), but more than three diapause periods during an individual's lifespan is unusual (Pratt 2007a, pp. 10–13). Captive-rearing and field data indicate that larvae typically undergo extended diapause when environmental conditions are not favorable for growth (Pratt 2007a, pp. 10–13). Negative surveys are not considered credible if unfavorable weather, such as drought, limits Quino checkerspot butterfly detectability (Service 2002, p. 6). Therefore, we have confidence in the quality of surveys conducted by individuals with recovery permits under section 10 (a)(1)(A) of the Act and the relative rarity of spurious results. We did not base any of our criteria on negative surveys, and included contiguous habitat within 1.2 mi (2 km) of all documented observations within a core occurrence complex (see ''Criteria Used To Identify Critical Habitat'' section below), therefore we believe the apparent concerns of this peer reviewer have been adequately addressed in this rule.

Comment 12: One peer reviewer suggested the analysis of Quino checkerspot butterfly nectar resources in the proposed revisions to critical habitat was not sufficient. The peer reviewer maintained that nectar plant availability can vary to a large degree among occupied areas, and the relative importance of nectar plant species will change over the flight period of the butterfly and from year-to-year. The peer reviewer emphasized that it is important to consider the contribution of nectar to increased female longevity and egg production.

Our Response: We agree that a more detailed nectar-resource-needs analysis would be desirable. However, we are not aware of any quantitative nectar-use data specific to the Quino checkerspot butterfly that would further inform our analysis. Consequently, we determined that the peer-reviewed scientific publications that characterize Quino checkerspot butterfly nectar resources are the best scientific and commercial information available. Furthermore, variability in nectar source availability is not relevant to this final revised critical habitat designation because the PCE description relevant to nectar resources is not dependent on temporal variability (for example, many herbaceous plants are not detectable or identifiable during the fall or winter seasons).

Comment 13: One peer reviewer (A) asserted that, although climate change may affect insect distributions globally, the hypothesis that it is affecting the Quino checkerspot butterfly is not supported by ''sound'' biological evidence. Peer reviewer A recommended removing the climate change discussion to save taxpayer dollars, suggesting that this modification would not affect the proposed or final revised critical habitat designation. Peer reviewer A further asserted that our suggestion that the newly identified colonies of Quino checkerspot butterflies (unspecified location, presumed north of the community of Anza) are a result of climate change is speculative. Peer reviewer A noted that Parmesan's (1996)

study did not find new northern or higher elevation populations. Additionally, the peer reviewer claimed Parmesan's (1996) range shift results were a ''statistical artifact'' of the apparent loss of low-lying southern populations, and that her negative occupancy data might have been the result of surveys conducted during ''bad'' years when all individuals were diapausing larvae.

Conversely, two other peer reviewers (B and C) expressed support for use of evidence and predictions of range shift resulting from environmental changes due to changing climate patterns to determine what lands meet the definition of critical habitat. Peer reviewer B noted that Quino checkerspot butterfly populations show dramatic changes in abundance from year to year, including responses to yearly patterns of precipitation and temperature. Peer reviewers B and C noted that, because the Edith's checkerspot species is known to respond strongly to climate, the species would also be expected to respond to climate change. Peer reviewer B further stated there is no reason to expect the Quino checkerspot butterfly to respond to ongoing climate change differently from other insects, and every reason to expect it to respond similarly to other climate-sensitive species. Peer reviewer C stated specifically, ''The summary of likely impacts of climate change for the near and long-term future of the Quino checkerspot butterfly (largely on page 3332 [of the proposed revised rule]) is well thought out. I fully agree with the recommendations outlined for revision and expansion of protected areas. The recommendations represent a rational adaptation plan to allow the Quino checkerspot butterfly to persist in the face of on-going climate change which is affecting habitat suitability in the region.'' Peer reviewer C further stated that shifts upslope in elevation are more probable than latitudinal shifts because the Quino checkerspot butterfly's historical range was bounded on the northern and eastern sides by desert habitat, and elevation shifts require less adaptation than latitudinal shifts.

Peer reviewer C described two possible drivers of the Quino checkerspot butterfly's upslope range shift: (1) The main host plant species may shift upslope; or (2) the subspecies could switch to other host plant species occurring higher in elevation as that habitat becomes more suitable with climate change. They noted that rapid evolution toward use of novel hosts was documented for several subspecies of Edith's checkerspot. Both peer reviewers argued that new scientific information (citing several sources) has further supported Parmesan's (1996) conclusion that the range of Edith's checkerspot butterfly has retracted at lower elevations and more southern latitudes, and is likely expanding at higher elevations and more northern latitudes.

Our Response: As detailed below, we agree with the opinions of peer reviewers B and C. We agree with peer reviewer A that removing the issue of climate change would not affect the proposed or final revised critical habitat designation; however, we do not agree it is not a relevant criterion for inclusion in critical habitat (see ''Criteria Used To Identify Critical Habitat'' section below). Unit 7 is designed to capture the habitat occupied by the Quino checkerspot butterfly population that is likely one of the two most resilient in existence, and also most likely to provide colonists to higher elevation habitat in the process of range shift resulting from environmental changes due to changing climate patterns (See ''**Background**'' section above and ''Criteria Used To Identify Critical Habitat'' section below).

Furthermore, in response to Peer Reviewer A's concerns, we acknowledge that inherent uncertainty exists in all conclusions drawn exclusively from correlative ecological field studies and qualitative observations (Peet 1991, p. 605). Nonetheless, case studies in complex natural systems are a foundation of ecological science, and conclusions should be drawn from generalizations based on comparison of other systems and as much specific local information as possible (Peet 1991, p. 605). Within the context of this critical habitat designation, we considered all available data concerning the likelihood of elevation range shift in the Quino checkerspot butterfly including: (1) Well-documented loss of lower-elevation populations occurring in this species (Edith's checkerspot) rangewide, and upslope elevation range-shifts (including new higher-elevation populations) in related butterfly species around the world (Parmesan *et al.* 1999 pp. 579–583; Parmesan and Yohe 2003, pp. 37–42; Parmesan 2006, pp. 648–649); (2) significantly earlier butterfly species emergence times (Parmesan 2007, p. 1860, 1864); (3) widening phenological asynchrony between butterfly maturation and host plant availability (Parmesan 2007; pp. 1860, 1864, 1868, 1870); and (4) habitat-based model predictions of pronounced future upslope subspecies range shift resulting from environmental changes due to changing climate patterns (Preston *et al.* 2008, p. 2508). The best available scientific data indicate that the Quino checkerspot butterfly is undergoing range shift and inclusion of unoccupied habitat and non-core occurrence complexes in Unit 7 encompasses habitat that is essential for the conservation of the species in light of this documented range shift regardless of causation or correlation. However, our interpretation of the data documenting and supporting apparent range shift in the Quino checkerspot butterfly is associated with environmental changes due to changing climate patterns.

We acknowledge that Parmesan's (1996, pp. 765–766) study was restricted to known historical occupancy locations and, as a result, did not document any new higher elevation populations. However, we are not aware of any peer-reviewed or other data contradicting Parmesan's (1996) upslope range shift conclusions, and the conclusions are supported by the findings of Preston *et al.* (2008, p. 2512). The peer-reviewed scientific publications and original data we relied on in this critical habitat designation for the Quino checkerspot butterfly constitute the best available scientific or commercial data.

Recent qualitative field observations of the Quino checkerspot butterfly further support the reality of range shift associated with environmental changes due to changing climate patterns. These observations include: (1) Multiple habitat-occupancy documentations at new elevation records; (2) new early emergence records indicating an extended breeding period at higher elevations; (3) higher abundance in populations on the edge of the subspecies' upper elevational range relative to lower elevations; and (4) use of a likely novel host plant species, *Collinsia concolor,* growing in cooler, wetter micro-habitats than known preferred host plant species (see ''**Background**'' section above). Although new occupancy sites have also been reported at intermediate elevations, these areas were more likely to have been extirpated by the 1980s drought (and subsequently recolonized) than habitats above the subspecies' known elevation range where higher average precipitation and cooler temperatures would have made habitat more suitable. Intermediate elevation sites were also already within the subspecies' known range and, therefore, more likely to have been occupied in the past. Lepidopterists have been searching for Quino checkerspot butterflies where *C. concolor* occurs for as long as they have been collecting butterflies. *C. concolor* is common in most habitats occupied by the butterfly (see ''**Background**'' section above); however, no lepidopterists had

documented use of this plant by the butterfly prior to 2008. Furthermore, Dr. Gordon Pratt has been personally searching for Quino checkerspot butterfly larvae on *C. concolor* at the microhabitat scale for approximately 10 years, since 1999 or earlier (Pratt 2001; pp. 34–43, 60–61), but 2008 was the first time he was able to document use by the subspecies; therefore, it is likely this host plant was not used historically.

In summary, while acknowledging some inherent uncertainty, we believe our conclusion—that newly identified high-elevation occurrence complexes (such as Quinn Flats Non-core Occurrence Complex) are likely a result of range shift associated with environmental changes due to changing climate patterns—is based on sound scientific information. We agree with the opinion of peer reviewers B and C that our use of evidence and predictions of climate change-driven range shift in determining what lands meet the definition of critical habitat is valid. The data documenting and supporting apparent range shift in the Quino checkerspot butterfly support our inclusion of unoccupied habitat adjacent to known occupied habitat and non-core occurrence complexes in Unit 7 as essential for the conservation of this subspecies.

Comment 14: One peer reviewer stated that our conclusion that observations in central San Diego County represent residual low-density populations with decreasing abundance is speculative. The peer reviewer maintained that the importance of these populations cannot be assessed without knowing the status of possible diapausing larval clusters in the area.

Our Response: We did not conclude in the proposed revised rule that Quino checkerspot butterfly observations in central San Diego County represent residual low-density populations with decreasing abundance; we stated, ''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.'' We then specified the most likely status is residual, low-density populations decreasing in abundance. These statements do not address apparent short-term abundance or presence trends attributable to diapausing larvae that cannot be detected. Therefore, we edited the ''**Background**'' section of this final rule to specify that observations in central San Diego County likely represent a long-term (not short-term) decreasing abundance trend.

Assessment of populations using direct detection of diapausing larvae is not possible. Although a preliminary study of diapause site preference was recently undertaken (Pratt 2006, pp. 1–11), field surveys for diapausing larvae are not feasible given the current biological knowledge of the subspecies.

Comment 15: One peer reviewer (A) expressed concern that heavy use of metapopulation terminology in the proposed rule may be confusing to members of the public. Additionally, the peer reviewer said that it would be valuable to think of Quino checkerspot butterfly populations as actual populations with mostly diapausing larval clusters waiting for a good year, rather than what the peer reviewer interprets the Service describing as a hypothetical [meta]population model involving periodic extirpation of local populations. Conversely, two other peer reviewers (B and C) expressed support for the use of metapopulation ecology as a basis for determining what lands meet the definition of critical habitat. Peer reviewer A pointed out that relatively isolated habitat patches have a much lower conservation value because natural extinctions there are not likely to be ''rescued'' by natural recolonization. Peer reviewer A stated metapopulation ecology applies to the subfamily to which the Quino checkerspot butterfly belongs (Melitaeine butterflies) and to the subspecies, citing numerous peer-reviewed, published studies of related species. Peer reviewer A emphasized that, in the absence of direct studies of population structure in this subspecies, it would be unwise to assume metapopulation ecology does not apply to the Quino checkerspot butterfly. Peer reviewer C agreed that scientific evidence supports the conclusions that the structure of Quino checkerspot butterfly habitat is inherently patchy, and the Quino checkerspot butterfly has a slightly higher typical dispersal distance than its close relative, the bay checkerspot (*Euphydryas editha bayensis*); both are indicators of metapopulation structure.

Our Response: We appreciate the peer reviewer's concern that use of scientific terminology associated with complex population models can be confusing. As a result, we tried to minimize the use of scientific terminology and simplified our explanations of metapopulation theory in this final revised critical habitat rule, and referred simply to ''populations'' wherever metapopulation structure was irrelevant (the language applied to any population structure). We did not receive any additional comments indicating that our use of metapopulation terminology was confusing or that a reader could not understand the basic model concepts.

We agree with the peer reviewers who supported the use of metapopulation dynamics in our population structure analysis. Our critical habitat units are core occurrence complex habitat-based population distributions designed to capture networks of habitat patches occupied by metapopulations. These units would also protect the next most-likely type of Quino checkerspot butterfly population—diffuse but well-mixed populations that may also have shifting densities and population ''footprints'' (see ''**Background**'' section above). Because at least some elements of metapopulation dynamics models apply to Quino checkerspot butterfly populations, the technical recovery team authors of the Recovery Plan agreed that metapopulation models should be a foundation of the recovery strategy (Service 2003a, pp. 21–31). Nevertheless, the concepts of shifting population distributions and the need to protect areas of temporarily unoccupied habitat that apply to metapopulations also apply to any large population and, therefore, also support critical habitat units based on habitat-based population distributions regardless of specific population dynamics (see ''Criteria Used To Identify Critical Habitat'' section below). The best available scientific data (Service 2003a, pp. 21–31) indicate that local populations within a metapopulation or similar geographically defined sections of Quino checkerspot butterfly populations are periodically extirpated, and these habitats within population distributions are generally recolonized at some future time. Therefore, our consideration of metapopulation dynamics in this critical habitat revision is appropriate.

Peer reviewer A seems to conclude that very few Quino checkerspot butterfly individuals in a population mature to adulthood during any given ''flight season.'' Available captive-rearing data on the Quino checkerspot butterfly's repeated diapause indicate that, in a typical year, approximately 50 percent of a given population does not return to diapause (Pratt 2006, p. 10). The best available scientific data (laboratory observations) indicate that, in a presumably a typical or average growth year, approximately half the post-diapause larvae in a Quino checkerspot butterfly population will mature to adulthood. We are not aware of any other data that contradict our conclusions regarding Quino checkerspot butterfly population dynamics.

Comment 16: One peer reviewer stated that fritillaries (various butterflies of the family Nymphalidae, especially of the genera *Speyeria* and *Boloria,* having brownish wings marked with black or silvery spots on the underside) are no longer included in the subfamily Melitaeinae and that most recent publications place fritillaries in the subfamily Heliconiinae.

Our Response: In the proposed revised critical habitat rule, we mentioned that fritillaries were one type of butterfly belonging to the same subfamily as the Quino checkerspot butterfly. While the information provided by the peer reviewer is appreciated, such a taxonomic change does not affect Quino checkerspot butterfly taxonomy and, therefore, does not need to be addressed in this final rule.

Comment 17: One peer reviewer offered several technical editorial suggestions with regard to our discussion of Parmesan's (1996) study and climate change-driven range shift. The peer reviewer stated that the methods used by Parmesan (1996) were slightly different than described in the proposed revised critical habitat rule and suggested the following specific corrections. The first year of the field census was actually 1992, not 1994 as stated in the proposed revised rule. The historical records ranged from 1860 to 1982, with most dating from 1930-1975. The re-census of these records began in mid-season 1992 and continued through the April field season of 1996 (thus 1996 included the southern populations, but not those in the high-latitude and high-elevation sites in the Sierra Nevada and Canada that don't fly until July and August). The peer reviewer stated that none of Parmesan's (1996) re-censusing included wet El Niño or drought years; therefore, the skewed patterns of extirpations are not attributable to climatic or geographic bias across census years.

The peer reviewer stated that the phrase ''experienced 80 percent of all recorded local extirpations'' on page 3331 of the proposed revised rule is not accurate. The peer reviewer suggested replacing this phrase with: ''* * * and noted that 80 percent of historically recorded populations in the southern part of the range were currently extinct at the time of the re-census in the mid-1990s, while other areas of Edith's checkerspot butterfly further north experienced only 40 percent in the mid-latitudes to as low as 20 percent extirpations along the northern range boundary, and with fewer than 15 percent extirpations in the highest elevation band (above 2,400 m).''

The peer reviewer recommended adding the documentation of upward elevational shift in Edith's checkerspot butterfly from Parmesan (1996) to the description of the northward shift in population distributions on page 3331 of the proposed revised rule. The peer reviewer suggested the following text to be inserted after the statement, ''This shift in range closely matched shifts in mean yearly temperature (Parmesan 1996, pp. 765–766): A parallel elevational gradient in extirpations shifted the mean location of Edith's checkerspot butterfly populations upward by 407 ft (124 m). A breakpoint in the pattern of extirpations occurred at 7,874 ft (2,400 m), with about 40 percent of all populations below 7,874 ft (2,400 m) recorded as extirpated in otherwise suitable habitats, while less than 15 percent were extirpated above 7,874 ft (2,400 m; up to the highest known population at 11,319 ft (3,450 m)). This pattern matched trends in snowpack dynamics in the Sierra Nevada (where the high-elevation populations are found) over the same time period as the butterfly study, with significant trends toward lighter snowpack and earlier melt date below 7,874 ft (2,400 m), and heavier snowpack and a (non-significant) trend toward later melt date above 7,874 ft (2,400 m; Johnson *et al.* 1999).'' Furthermore, the peer reviewer stated that Karl *et al.* 1996 should be added to the latter statement as a citation for the temperature shift over the 20th century across the Edith's checkerspot butterfly's range.

The peer reviewer suggested we add Ehrlich *et al.* 1980; Singer and Ehrlich 1979; and Singer and Thomas 1996 to the list of citations on page 3332 supporting the statement ''Documentation of climate-related changes that have already occurred in California'' as examples of Edith's checkerspot butterfly population extirpations following extreme climatic events.

The peer reviewer stated that, on page 3331 of the proposed revised rule, ''Thomas, *et al.* 2006, pp. 146–147'' should be the year 2004, and this paper is properly cited as discussing projected population extinctions and species range shifts, not observed shifts as all the other cited papers.

Our Response: We edited the above ''**Background**'' section to reflect these technical corrections.

Comment 18: One peer reviewer noted the statement ''The hundreds of adults observed during surveys in the Tule Peak Core Occurrence Complex in 2001 were unprecedented'' (p. 3331 of the proposed revised rule) is not accurate and cited historical precedents.

Our Response: We agree this statement was in error. We are aware of greater magnitude historical Quino checkerspot butterfly ''outbreaks'' than those observed in the Tule Peak Core Occurrence Complex (see ''**Background**'' section above). We meant that such outbreaks were unprecedented since the 1970s, starting with the 1980s drought and subsequent subspecies decline. The paper we intended to cite was Thomas, *et al.* 2006, pp. 146–147 (not 2004). We have edited the above ''**Background**'' section to accurately characterize this information.

Public Comments

Comments Related To Primary Constituent Elements and Criteria Used To Identify Critical Habitat

Comment 19: One commenter requested that we designate Wright's Field in the community of Alpine as revised critical habitat because: (1) Adult Quino checkerspot butterflies were observed for 3 years at a site within approximately 3 km (1.9 mi) of Wright's Field; (2) habitat at Wright's field appears to be ''ideal;'' (3) Wright's Field provides ''connectivity'' for core Quino checkerspot butterfly populations to the south (populations not otherwise identified by commenter); (4) designation of Wright's Field would facilitate recovery; and (5) the Quino checkerspot butterfly (not currently known from this location) could be discovered at Wright's Field.

Our Response: We acknowledge that some areas not included in this final revised critical habitat designation may contain suitable habitat and be proximal to occupied areas. We also acknowledge that management of some habitat areas not designated or proposed as revisions to critical habitat would likely contribute to the conservation (recovery) of this subspecies. However, the Act defines critical habitat as: (1) The specific areas within the geographical area occupied by the species at the time it is listed on which are found those physical and 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 the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species. Not all areas that may contribute to a species' recovery are necessarily essential for conservation of the species. The best available data (including the information provided by the commenter) do not demonstrate that

the Wright's Field area is essential for the conservation of the subspecies.

We delineated proposed revised critical habitat using criteria based on the conservation and biological needs of the subspecies according to the best available science. Areas proposed as critical habitat are: (1) Currently occupied, core occurrence complex habitat-based population distributions (contiguous habitat within 1.2 mi (2 km) of Quino checkerspot butterfly occurrence records); (2) consistent with recommendations in the Recovery Plan (Service 2003a, pp. 35, 165); and (3) designed to include additional habitat contiguous with the Bautista Road Core Occurrence Complex habitat-based population distribution needed to support core occurrence complex resiliency and range shift resulting from environmental changes due to changing climate patterns. These criteria determine the physical or biological features essential to the conservation of this subspecies, as identified by the PCEs in the appropriate quantity and spatial arrangement, and capture the areas outside the geographical area occupied by the Quino checkerspot butterfly at the time of listing that are essential for the conservation of the subspecies (see the ''Criteria Used To Identify Critical Habitat'' section below). Therefore, we believe our proposed designation and this final designation accurately describe all specific areas meeting the definition of critical habitat for the Quino checkerspot butterfly, and we did not propose Wright's Field for designation as revised critical habitat.

Comment 20: One commenter requested increasing the extent of the proposed critical habitat designation to include all recovery units, all occurrence complexes outside of recovery units, and sufficient habitat for dispersal (Service 2003a, pp. 31, 34, 35, 71, 73–76).

Our Response: The Recovery Plan (Service 2003a, p. 75) states ''Recovery units include lands both essential and not essential to the long-term conservation of the butterfly, and comprise a variety of habitat types.'' Therefore, designation of all land within all recovery units, and all occurrence complexes as revised critical habitat is not appropriate. Moreover, critical habitat designations do not signal that habitat outside of the designation is unimportant or may not contribute to recovery (see response to Comment 19 above). Occupied habitat outside the final revised critical habitat designation will continue to be subject to conservation actions implemented under section 7(a)(1) of the Act, and regulatory protections afforded by the section 7(a)(2) jeopardy standard and the prohibitions of section 9 of the Act.

According to 50 CFR 424.12(e), the Secretary shall designate as critical habitat areas outside the geographical area presently occupied by a species only when a designation limited to its present range would be inadequate to ensure conservation of the species. Accordingly, when the best scientific and commercial data available indicate that limiting designation of critical habitat to areas within the geographical area presently occupied by the species is adequate to ensure the conservation of the species, we will not designate critical habitat outside those areas. In this designation, we did include habitat in Unit 7 that is outside the geographical area currently known to be occupied by the Quino checkerspot butterfly because available data support a determination that this habitat is essential for the conservation of the subspecies. However, we are not aware of any data supporting the commenter's request to include all recovery units, all occurrence complexes outside of recovery units, and unoccupied habitat as critical habitat. For discussions of areas for movement and dispersal that meet the definition of critical habitat, see responses to comments 2 and 4 above.

Comment 21: One commenter stated that the proposed revised rule did not consider inclusion of the higher-elevation habitat needed to accommodate the subspecies ability to respond to a changing climate in any units except Unit 7, and requested expansion of the critical habitat designation to include all ''stepping stone'' habitat patches that would facilitate dispersal into unoccupied habitat patches at higher elevations (cited Service 2003a, p. 65).

Our Response: We believe our criteria capture all areas that meet the definition of critical habitat. Vegetation and host plant distribution data and new distribution information (see response to Comment 20 above) indicate the Bautista Road Core Occurrence complex is part of a greater population distribution, which also shows evidence of supporting range expansion to areas outside of this unit resulting from environmental changes due to changing climate patterns in this area. Hence, we are designating areas between occurrence complexes in Unit 7 where occupancy is expected but has not been documented, but not as stepping-stone habitat patches to facilitate dispersal into unoccupied habitat patches at higher elevations.

We are not aware of any specific data supporting the commenter's request to expand critical habitat to include all possible ''stepping stone'' habitat patches that would facilitate dispersal into unoccupied habitat patches at higher elevations. The recovery plan describes ''stepping stone'' movement areas in reference to landscape connectivity between local habitat patches within a metapopulation distribution (Service 2003a, pp. 13, 162); these movement areas were captured by proposed revised critical habitat units (see also the discussion of movement and dispersal areas in response to comments 2 and 4 above).

Comment 22: One commenter asserted the specificity of PCEs were over-restrictive. The commenter maintained having host plant species as required PCEs creates the risk that critical habitat will not be identified when plants do not germinate under dry environmental conditions.

Our Response: The PCEs include known nutritional and physiological requirements and sites for breeding, reproduction, and rearing of offspring. Presence of a host plant is an appropriate PCE because the Quino checkerspot butterfly requires host plants for reproduction and rearing of offspring. We list all known host plants within PCE 1(B) and 1(C). Designation of critical habitat is a regulatory process that results in hard-line boundaries, so the only lands ''excluded'' by text are small, developed areas such as roads and single-family homes. Regardless of regulatory implications, large numbers of host plants (usually more than one species) are required during most years to support continued occupancy. Therefore, some host plants should always be detectible in habitat supporting a core occurrence complex, even in drought years when a majority of seeds fail to germinate and most larvae return to diapause. Furthermore, areas can be determined to support PCE 1 by the presence of nectar sources alone within open woody canopy vegetation (see ''Primary Constituent Elements for the Quino Checkerspot Butterfly'' section below). Therefore, suitable habitat within critical habitat units should be identifiable, no matter how low densities of germinating host plants are.

Comment 23: One commenter requested that we amend PCE 2 to include areas beyond 656 ft (200 m) of a habitat patch to facilitate movement within and among habitat patches in a metapopulation distribution. The commenter asserted that PCE 2 describes features that only allow for within-habitat patch movement of Quino checkerspot butterflies, not among-patch movement. In support of

their request, the commenter cited White and Levin's (1981, pp. 350–351) findings that adult Quino checkerspot butterfly within-patch movement often exceeded 656 ft (200 m).

Our Response: The term ''habitat patch'' within the context of Quino checkerspot butterfly population dynamics and movement refers to a set of host plant ''micro-patches'' within the typical flight range of adult butterflies (about 160 to 660 ft (50 to 200 m)) (Service 2003a, p. 22), and all nectar sources within the same distance of these host plant ''micro-patches'' (Service 2003a, p. 19) in areas of contiguous, open woody canopy vegetation (Service 2003a, pp. 10–11). A habitat patch defines either the entire distribution of a ''well-mixed'' (non-metapopulation or typical) population, or the distribution of a subpopulation (also called a local population) within a metapopulation (Service 2003a, p. 27). We did not map habitat patches because no such detailed measurements were conducted for the Quino checkerspot butterfly. The critical habitat units in this designation were designed using the best available scientific or commercial data to capture population-scale distributions for either a metapopulation or a well-mixed population.

Areas between habitat patches occupied by subpopulations of a metapopulation within a critical habitat unit should be connected to other habitat patches by open-woody canopy areas with at least one PCE. Movement areas within population distributions are already captured by PCEs 1, 2 and 3; therefore, PCE 2 need not be amended to capture movement within habitat patches or between habitat patches occupied by subpopulations of a metapopulation (see also the discussion of movement and dispersal areas in response to comments 2 and 4 above).

The purpose of PCE 2 is to capture closed-woody canopy vegetation on the periphery of a habitat patch that is used by adults and is also likely to deter adult dispersal out of the habitat patch under typical environmental conditions (Service 2003a, p. 10). All movements recorded during White and Levin's (1981, p. 349) study occurred in contiguous, open-woody canopy areas containing host plants and nectar sources already captured by PCE 1. Therefore, areas where movement distances greater than 656 ft (200 m) were recorded by White and Levin (1981, p. 349) near Otay Lakes occurred at locations that do not need to be captured by PCE 2. Furthermore, although White and Levin (1981, pp. 350–352) did record a number of Quino checkerspot butterfly within-habitat patch movement distances greater than 656 ft (200 m), it is not appropriate to apply a study of within-habitat movement to a determination of areas required for between-patch movement.

Comment 24: A commenter owns 10,000 ac (4,047 ha) of land near Vail Lake in Riverside County (much of which falls within proposed revised critical habitat). The commenter asserted that the proposed revisions are not valid based on a study conducted by Helix Environmental Planning that the commenter claimed showed no evidence of Quino occupancy on the commenter's land.

Our Response: We did not receive a copy of the cited study from the commenter. However, we have a survey report in our files submitted by Helix Environmental Planning, Inc. in 2003 documenting the occurrence of adult Quino checkerspot butterfly on the commenter's Vail Lake property. Surveyors made only three visits (a protocol-level survey requires at least 5) to areas distributed over a 7,500 ac (3,035 ha) area completely surrounding Vail Lake (Helix Environmental Planning 2003, p. 1). Surveyors reported over 145 adult Quino checkerspot butterfly observations from 16 sites broadly distributed across the property (Helix Environmental Planning 2003, pp. 1–2). Surveyors also described large populations of host plants and abundant nectar sources (Helix Environmental Planning 2003, pp. 1–2). Furthermore, all areas proposed as revised critical habitat within Unit 5 (Vail Lake/Oak Mountain) are also within our core occurrence complex habitat-based population distribution (see ''Criteria Used To Identify Critical Habitat'' section below). Therefore, we believe the inclusion of the property in question in the proposed revised critical habitat unit is valid.

Comments Related To Habitat Conservation Plan (HCP) Exclusions

Comment 25: One commenter stated that the designation of critical habitat on lands within the Western Riverside County MSHCP is inappropriate because these lands do not require special management considerations or protection; management and protection are already provided by the regional HCP. A second commenter asserted that all lands within the Western Riverside County MSHCP area boundary should be excluded because this regional HCP adequately conserves the Quino checkerspot butterfly. Conversely, a third commenter claimed that lands within the Western Riverside County MSHCP should not be excluded from critical habitat because habitat within the HCP boundaries meets the definition of critical habitat per *Center for Biological Diversity et al.* v. *Norton* (CV 01–409, District of Arizona, January 13, 2002), where Judge David C. Bury stated, ''The fact that a habitat is already under some sort of management for its conservation is absolute proof that habitat is 'critical.'''

Our Response: Section 3(5)(A) provides requirements for identifying (defining) critical habitat, in part, as areas that require special management considerations or protection, while section 4(b)(2) directs the Secretary to consider the impacts of designating such areas as critical habitat and provides the Secretary with discretion to exclude particular areas if the benefits of exclusion outweigh the benefits of inclusion. In this rule, we do not state that areas do not meet the definition of critical habitat under section 3(5)(A) of the Act because they are being adequately managed. Rather, we considered the management of particular areas that do meet the definition of critical habitat in our exclusion analyses under section 4(b)(2) of the Act.

Section 4(b)(2) of the Act states that the Secretary shall designate critical habitat, and make revisions thereto, under subsection (a)(3) on the basis of the best scientific data available and after taking into consideration the economic impact, the impact to national security, and any other relevant impact, of specifying any particular area as critical habitat. In accordance with 50 CFR 424.19, in conducting an impact analysis of critical habitat, the Secretary shall identify any significant activities that would either affect an area considered for designation as critical habitat or be likely to be affected by the designation, and shall, after proposing designation of such an area, consider the probable economic and other impacts of the designation on proposed or ongoing activities. The Secretary may exclude any area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific and commercial data available, that the failure to designate such area as critical habitat will result in the extinction of the species concerned. Therefore, consistent with the Act and our implementing regulations, we must consider the relevant impacts of designating areas that meet the definition of critical habitat prior to finalizing a critical habitat designation.

After determining which areas met the definition of critical habitat for the Quino checkerspot butterfly under section 3(5)(A) of the Act, we took into consideration the economic impact, the impact on national security, and other relevant impacts of specifying any particular area as critical habitat for the Quino checkerspot butterfly. In this final designation, we recognize that designating critical habitat in areas where we have partnerships with landowners that have led to conservation or management of listed species on non-Federal lands has a relevant, perceived impact to landowners and a relevant impact to future partnerships and conservation efforts on non-Federal lands. These impacts are described in detail in the ''Conservation Partnerships on Non-Federal Lands'' section below. Based on these impacts, we evaluated the benefits of designating areas as critical habitat against the benefits of excluding these areas from the critical habitat designation. Please see the ''**Exclusions under Section 4(b)(2) of the Act**'' section of this final rule for a detailed discussion of the benefits of excluding lands covered by management plans versus the benefits of including these areas in a critical habitat designation. Upon weighing the benefits of inclusion against benefits of exclusion, we determined the benefits of excluding all lands owned by or under the jurisdiction of permittees of the Western Riverside County MSHCP in Units 1 through 6 outweigh the benefits of including these areas in the final revised critical habitat designation. Further, we determined exclusion of these areas will not result in extinction of the Quino checkerspot butterfly. Therefore, we excluded all lands owned by or under the jurisdiction of the permittees of the HCP in Units 1 through 6 from this final revised critical habitat designation (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

At the time the Western Riverside County MSHCP permit was issued, Units 1 through 6 were known to contain core occurrence complexes, and over 90 percent of the total area of these units was already designated critical habitat; therefore, the Quino checkerspot butterfly populations within these units are addressed by this regional HCP. However, the new information regarding Quino checkerspot butterfly distribution in Unit 7 was not known at the time the HCP was developed and the permit was issued; therefore, we agree the importance of habitat in this area to the conservation of the Quino checkerspot butterfly is not addressed by the Western Riverside County MSHCP. This area was not designated as critical habitat in 2002. We now have much additional distribution information in this area and determined that designation of Unit 7 is warranted to: (1) Maintain core population resilience, (2) support subspecies range shift to higher elevation habitats due to changing climate patterns that affect the environment, and (3) educate the public about this new distributional data. Therefore, land within the Western Riverside County MSHCP plan area in Unit 7 is included in our final revised designation of critical habitat because the conservation benefits to the subspecies of inclusion of this unique unit outweigh the conservation partnership-related benefits of exclusion (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below for more information).

Comment 26: One commenter expressed concern that Federal lands within the Western Riverside County MSHCP plan area were not being considered for exclusion. The commenter further stated that any designation of critical habitat within the Western Riverside County MSHCP boundary would be a violation of the plan's associated Implementing Agreement (IA), citing language in section 6.9 of the Western Riverside County MSHCP (Dudek and Associated Inc. 2003) and section 14.10 of the IA.

Our Response: Contrary to the commenter's assertion, section 14.10 of the IA does not preclude critical habitat designation within the plan area (Dudek and Associated Inc. 2003). Consistent with our commitment under the IA, and after public review and comment on the proposed revision to critical habitat for the Quino checkerspot butterfly, we determined through our analysis under section 4(b)(2) of the Act that the maximum extent of allowable exclusions under the Western Riverside County MSHCP was limited to the exclusion of lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6.

With regard to the Federal lands within the Western Riverside County MSHCP plan area, we determined that National Forest lands contain the physical and biological features essential to the conservation of the Quino checkerspot butterfly, and therefore, meet the definition of critical habitat (see ''Criteria Used To Identify Critical Habitat'' section below). We acknowledge that the San Bernardino National Forest (Forest Service) has a Land Resource Management Plan (LRMP) that will benefit the Quino checkerspot butterfly and its habitat. The LRMP contains general provisions for species conservation and suggests specific management and conservation actions that will benefit this species and the physical and biological features essential to its conservation. Implementation of the LRMP should address known threats to this species on Forest Service lands. We appreciate and commend the efforts of the Forest Service to conserve federally listed species on its lands.

We considered the request from the commenter that we exclude Forest Service lands from the designation because it would unnecessarily add work in the future to determine the effect regarding critical habitat for actions on its lands and the fact that it had already completed consultation under section 7(a)(2) of the Act on an LRMP. Based on the record before us, we decided not to exclude these lands and are designating National Forest lands that meet the definition of critical habitat for the Quino checkerspot butterfly. We will continue to consider on a case-by-case basis in future critical habitat rules whether to exclude particular Federal lands from such designation when we determine that the benefits of such exclusion outweigh the benefits of their inclusion.

Comment 27: One commenter claimed that lands within the Western Riverside County MSHCP should not be excluded from critical habitat because this regional HCP does not adequately protect the subspecies and, therefore, the benefits of inclusion outweigh the benefits of exclusion. The commenter provided specific examples of how they believe the Western Riverside County MSHCP does not adequately protect the subspecies, including: (1) Approximately 10 percent of critical habitat in the proposed revised critical habitat rule falls entirely outside any targeted reserve system (outside criteria cells); (2) conservation is not likely (''only optional'') for the 14 percent of proposed revised critical habitat that is within criteria cells but not the conceptual reserve design; (3) the Western Riverside County MSHCP is not being properly implemented; (4) the Western Riverside County MSHCP does not have adequate funding for implementation; and (5) effects of global warming on covered species was never reviewed or addressed by the Western Riverside County MSHCP.

Our Response: When we issued the permit for the Western Riverside County MSHCP, we determined that it provides

adequate protection for the Quino checkerspot butterfly and its habitat within the plan area boundary. We are monitoring the Western Riverside County MSHCP implementation and the subspecies' status and have not altered this determination. Additionally, we have not determined the Western Riverside County MSHCP to be improperly implemented or inadequately funded. We will evaluate the information submitted by the commenter and consider it in our ongoing assessments of the Western Riverside County MSHCP, and continue to work with permittees to make sure the HCP is adequately funded. If during our ongoing assessments of the Western Riverside County MSHCP we determine the HCP does not adequately protect the subspecies, is not being properly implemented, or does not have adequate funding based on all available information, we will take appropriate action with regard to the HCP permit, and may again revise designated critical habitat, subject to available funding and other conservation priorities.

Given specific Western Riverside County MSHCP conservation actions (for example, conservation of habitat in a reserve system, maintenance of core populations, enhancement of habitat), avoidance and minimization measures, and management for the Quino checkerspot butterfly and its habitat, the additional conservation value that may be afforded through a critical habitat designation in Units 1 through 6 is minimal. Furthermore, as demonstrated by comments received from Western Riverside County MSHCP partners, designation of critical habitat would negatively impact our existing working relationships and partnerships that we have developed. The information provided by the commenter does not change our determination that the benefits of excluding lands owned by or under the jurisdiction of permittees of the Western Riverside County MSHCP in Units 1 through 6 from revised critical habitat outweigh the minimal benefits of including these lands (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below for a complete discussion of this exclusion).

It is true that approximately 15 percent of critical habitat in the proposed revised critical habitat rule owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP occurs entirely outside of land targeted for reserve assembly (4,020 ac (1,627 ha), only 4 percent of entire area proposed), and effects of climate change on covered species were not specifically reviewed or addressed by the HCP. The majority of proposed revised critical habitat that is outside of criteria cells occurs in large contiguous areas within Unit 7 (approximately 3,701 ac (1,498 ha)), the remainder is in small land parcels on the periphery of Unit 2 (approximately 319 ac (129 ha)). The inclusion of Unit 7 in revised critical habitat is in part to protect habitat needed to support range shift resulting from environmental changes due to changing climate patterns. In areas outside lands targeted for reserve assembly by the Western Riverside County MSHCP, the additional conservation benefits of critical habitat designation are not minimized by the HCP in Unit 7, so the benefits of inclusion are greater than those in Units 1 through 6. Therefore, we determined the benefits of exclusion do not outweigh the benefits of inclusion in Unit 7 and did not exclude lands owned by or under the jurisdiction of permittees of the Western Riverside County MSHCP in that unit from this revised critical habitat designation (see additional discussion in the ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Comment 28: One commenter requested that lands within the Western Riverside County MSHCP not be excluded from critical habitat based on conservation benefits. The commenter stated the Western Riverside County MSHCP permittees opposition to the designation of critical habitat suggests they believe the designation would result in a greater conservation burden on them, and therefore would result in a higher level of conservation for the subspecies than will occur under the Western Riverside County MSHCP.

Our Response: We acknowledge that stakeholder and permittee comment letters indicate opposition to designation of lands covered by the Western Riverside County MSHCP; however, these opinions are based on perception, and as such should not be the basis for determining the conservation value of critical habitat designation (benefits of inclusion). Our analysis of the benefits of inclusion and exclusion provides a more informed measure of the benefits of critical habitat designation than permittee and stakeholder opposition. Conversely, comments received from Western Riverside County MSHCP partners do indicate designation of critical habitat would negatively affect our existing positive working relationships and partnerships, thereby discouraging future HCP participation. See response to Comment 27 above for a discussion of the benefits of inclusion of lands within the Western Riverside County MSHCP plan area in the revised critical habitat designation (see additional discussion in the ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section).

Comment 29: One commenter believes that we should not exclude lands covered by HCPs because HCPs do not provide as much protection as critical habitat. The commenter cited Taylor *et al.* (2005) as having found that species with critical habitat are less likely to decline, and over twice as likely to recover as those without critical habitat. The commenter also cited Kareiva *et al.* (1999) as finding that most HCPs fail to adequately protect species.

Our Response: We disagree with the commenter that HCPs provide less protection than critical habitat designation. The Western Riverside County MSHCP and Chula Vista Subarea Plan incorporate on-going management and protection for the Quino checkerspot butterfly that will benefit the long-term conservation of the subspecies. The protection and long-term management provided by these HCPs to Quino checkerspot butterfly habitat extend to private lands that otherwise lack a Federal nexus under which consultation could be triggered. These two regional HCPs provide for proactive monitoring and management of conserved lands important to the survival and recovery of the Quino checkerspot butterfly. Such conservation needs are typically not addressed through application of the statutory prohibition on destruction or adverse modification of critical habitat.

We also note that exclusions are not based on the difference between protection measures provided by critical habitat designation or HCPs in isolation, but how the redundancy of protections provided by an HCP with those provided by critical habitat designation minimizes the overall conservation value of designation, and how the remaining benefits of designation are negated by the benefits of exclusion (maintaining partnerships and fostering future HCPs). Conservation benefits provided by existing HCPs are not considered a benefit of exclusion because they would remain in place regardless of critical habitat designation; however, they do minimize the benefits of inclusion to the extent they are redundant with protection measures that would be provided by critical habitat designation.

The primary benefit of a critical habitat designation is the requirement that Federal agencies do not fund,

authorize, or carry out actions on designated lands that adversely modify or destroy critical habitat. Therefore, where there is a Federal nexus, Federal agencies consult with the Service under section 7(a)(2) of the Act. Based on the conservation benefits provided by the Western Riverside County MSHCP (in proposed Units 1 through 6) and the Chula Vista Subarea Plan, we believe the additional protection provided to Quino checkerspot butterfly habitat by critical habitat designation would be minimal. Therefore, we are excluding most lands within the plan areas of these HCPs based on the benefits of maintaining our conservation partnerships.

We also disagree with the commenter that the cited studies are applicable to the exclusion of lands under the Western Riverside County MSHCP and Chula Vista Subarea Plan under the MSCP regarding Quino checkerspot butterfly conservation. The results of Taylor *et al.* (2005, pp. 360–367) do indicate a significant conservation benefit of critical habitat designation; however, that study did not analyze or discuss the effects of HCP-based exclusions. The benefits of exclusion for any particular HCP must be analyzed independently and balanced against the benefits of inclusion because HCPs: (1) Are variable in scope; (2) contain variable conservation and management planning efforts; and (3) document effects of conservation measures on species abundance trends that may not be apparent for many years. Many HCPs analyzed by Kareiva *et al.* (1999, pp. 10, 21, 22, 89) were not geographically comparable to the large, regional multi-species plans such as Western Riverside County MSHCP and the Chula Vista Subarea Plan under the MSCP, and only 4 percent were habitat-based like these large regional HCPs (Kareiva *et al.* 1999, pp. 21, 22). Also, the stated purpose of Kareiva *et al.*'s (1999, p. 9) study was to evaluate the extent to which scientific data and methods were used in development and justification of HCP agreements, not to evaluate what effects plans have on biological systems or species. Kareiva *et al.* (1999, p. 9) stated, ''Because the vast majority of HCPs have been initiated since 1994, it is simply too early to evaluate whether the plans are working.'' Therefore, general conclusions in the literature cited by the commenter do not justify including lands covered by these HCPs.

Comments Related To Legal and Procedural Issues

Comment 30: One commenter stated designation of critical habitat on lands within the Western Riverside County MSHCP is arbitrary and capricious under the Administrative Procedure Act (5 U.S.C. Section 701 *et seq.*), given the Service frequently excludes MSHCP lands from critical habitat designations, and the County of Riverside Regional Conservation Authority has demonstrated good faith in assembling Quino checkerspot butterfly habitat by purchasing the Winchester 700 property ''for a very high price,'' and by purchasing other Quino checkerspot butterfly habitat parcels in Riverside County.

Our Response: We agree that the Service frequently excludes MSHCP lands from critical habitat designations and the County of Riverside Regional Conservation Authority has demonstrated good faith in assembling Quino checkerspot butterfly habitat by purchasing the ''Winchester 700'' property and other habitat parcels in Riverside County. We do not agree that designating critical habitat on lands in Unit 7 is arbitrary and capricious under the Administrative Procedure Act because we had a reasoned basis for our decision (see comment 25 and associated response above for further discussion).

Comment 31: One commenter believes that final revised critical habitat boundaries should not include any additional lands that were not specifically described in the 2008 proposed revised rule (73 FR 3328; January 17, 2008), unless these changes are first noticed to the public and there is opportunity for public comment.

Our Response: No additional lands are included within the boundaries of this final revised critical habitat designation that were not described in the proposed revised critical habitat rule published in the **Federal Register** on January 17, 2008 (73 FR 3328). We did remove some lands from our revised critical habitat proposal, and this change was described in the notice of availability of the DEA, which published in the **Federal Register** on December 19, 2008 (73 FR 77568).

Tribal Comments

Comment 32: One representative of the Ramona Band of Cahuilla Mission Indians of California (Ramona Band of Cahuilla Indians) supported exclusion of all lands within the Western Riverside County MSHCP area boundary because they believe the Western Riverside County MSHCP adequately conserves the Quino checkerspot butterfly. This commenter further stated that designation of critical habitat within the Western Riverside County MSHCP boundary would be a violation of the IA, stating they believe language in section 6.9 of the Western Riverside County MSHCP (Dudek and Associates 2003) and section 14.10 of the IA means no critical habitat for the Quino checkerspot butterfly should be designated in the Western Riverside County MSHCP Plan Area.

Our Response: Please see our responses to comments 25 and 26 above, and see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below for more information regarding the exclusion process and why we did not exclude lands in Unit 7 that are owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP.

Comment 33: The Campo Band of Diegueno Mission Indians of the Campo Reservation, California (Campo Band of Kumeyaay Indians), requested that the Service clearly state which subsection of section 3(5)(A) of the Act is being relied upon for each unit meeting the definition of critical habitat. If land is defined as critical habitat under subsection 3(5)(A)(ii) because it was not occupied at the time of listing, the tribe suggests including an explanation for why those lands are considered essential. The Campo Band of Kumeyaay Indians specifically requested that if tribal lands are included in Unit 9, the Service should explain why this habitat that was ''not occupied at the time of listing'' is in need of special management and essential to the subspecies' conservation.

Our Response: Table 1 of the proposed revised critical habitat rule identifies which critical habitat units were occupied at the time of listing, and, therefore, what subsection of section 3(5)(A) of the Act applies to lands in each unit. Units 7 (Bautista) and 9 (La Posta/Campo) are designated under subsection 3(5)(A)(ii) and are outside of the geographical area occupied by the Quino checkerspot butterfly at the time it was listed.

We made a determination that lands in Unit 9 are essential for the conservation of the subspecies because it is contains unique habitat, is distant from other units (indicating occupancy by a unique and independent population), and because ensuring persistence of populations associated with core occurrence complexes is essential for conservation of the Quino checkerspot butterfly. In identifying areas that meet the definition of critical habitat, we recognize the importance of including all lands necessary to support resilient core populations. We are not aware of any data that contradict our determination that tribal lands included

in proposed revised critical habitat are essential for the conservation of the subspecies. With regard to special management, section 3(5)(A)(i) of the Act only requires a determination that the physical or biological features essential to the conservation of the species that are found in areas within the geographical area occupied by the species at the time of listing may require special management considerations or protection. Therefore, because lands in Unit 9 are outside the geographical area occupied by the species at the time of listing, we did not provide a determination of special management needs for Unit 9 in the proposed revised rule or this final revised rule.

Comment 34: The Campo Band of Kumeyaay Indians believes the benefits of critical habitat designation are minimal for La Posta/Campo Unit 9, given the likelihood habitat is occupied and consultation would be required regardless of critical habitat designation. They support exclusion of the entire unit based on insufficient conservation benefits.

Our Response: Section 4(b)(2) of the Act directs the Secretary to designate critical habitat on the basis of the best scientific data available and after taking into consideration the economic impacts, national security impacts, and any other relevant impacts of specifying any particular area as critical habitat. Although we do not agree with the tribe's assertion that all lands within the La Posta/Campo Unit 9 should be excluded based on ''insufficient'' conservation benefits, our analyses revealed that tribally owned portions of the unit should be excluded based on impacts to national security, government-to-government relations, and economics. We excluded all tribally owned lands because we determined that the impacts to government-to-government relationships and economics outweighed the benefits of including those areas as critical habitat, and that the exclusion would not result in the extinction of the Quino checkerspot butterfly. We also excluded lands owned or controlled by the Navy in Unit 9 due to impacts to national security. No private lands in Unit 9 are covered by an HCP or other management plan that addresses subspecies conservation (see response to comments 10 and 25–29 above, and the ''**Application of Section 4(b)(2)—Impacts To Government-To-Government Relationships With Tribes And Economics,'' and ''Application of Section 4(b)(2)—Impacts to National Security**'' sections below for more details on our exclusion analyses).

Comment 35: The Campo Band of Kumeyaay Indians stated that the proposed rule does not explain any progress toward understanding subspecies population dynamics, habitat requirements, and population distributions made since the Recovery Plan was published in 2003. They requested detailed documentation of any new information and how it supports the proposed revisions to critical habitat.

Our Response: The Service received significantly more survey data documenting population distributions (which inform our understanding of population dynamics) than were available at the time the Recovery Plan published. The ''Status and Local Distribution of Populations'' sections (for Riverside and San Diego counties) of the proposed revised critical habitat rule (73 FR 3328; January 17, 2008) provided detailed documentation of new distribution information. Several relatively isolated occurrences were recently discovered despite previously negative survey results prior to publication of the Recovery Plan (such as Mission Trails Park, Sycamore Canyon Open Space Preserve). Discovery of new non-core and core occurrence complexes (including La Posta/Campo) indicate Quino checkerspot butterfly core populations may have larger distributions and are more resilient than believed at the time the Recovery Plan published. Therefore, the new non-core occurrence complexes, and new occurrences that expanded existing occurrence complexes, support our focus on designating population distributions associated with core occurrence complexes (see ''Criteria Used to Designate Critical Habitat'' section below).

We have also acquired considerable additional information regarding the types of habitat used by the Quino checkerspot butterfly since the Recovery Plan published in 2003. Knowledge regarding the physical and biological features essential to conservation of the species is required for habitat delineation and descriptions (PCEs). New habitat information acquired since Recovery Plan publication includes: (1) Subspecies use of unique redshank chaparral habitat, where no species of *Plantago* host plant occur (La Posta/Campo Unit 9, the new high-elevation Quinn Flat Occurrence Complex in Riverside County); (2) heavy use of *Antirrhinum coulterianum* host plants that can occur following fire at lower elevations adjacent to where *Plantago erecta* occurs (Skinner/Johnson Unit 2; CFWO 2004); (3) *A. coulterianum* and possibly *Collinsia concolor* supports occupancy in habitat patches where *Plantago* host plant species are absent (La Posta/Campo Unit 9); and (4) Quino checkerspot butterflies inhabit areas above 5,000 ft (1,524 m) in elevation (Pratt and Pierce 2005, pp. 4–5, 11–12; Pratt 2005, p.1; SBNF GIS database). Since publication of the proposed revised critical habitat rule, we also learned another species of host plant previously suspected of supporting reproduction is used and important to conservation of the subspecies near the community of Anza (see ''*Summary of Changes From the 2008 Proposed Rule To Revise Critical Habitat*'' section below). Therefore, our conclusion that proposed revised units meet the definition of critical habitat is supported by geographically specific habitat information, and the new host plant information supports the addition of a new biological feature to our list of PCEs.

Comment 36: The Campo Band of Kumeyaay Indians requested we clarify the criteria for designating critical habitat by defining the term ''occupied habitat,'' and define the geographic size and number of adults (or adults and larvae) required for an occurrence complex to qualify as ''core.'' The tribe specifically expressed concern that the proposed rule described core occurrence complexes as likely to contain source subpopulations for a metapopulation without providing sufficient data to support this conclusion.

Our Response: Occupancy within a critical habitat unit is defined by the habitat-based population distribution of an occurrence complex. A habitat-based population distribution includes all contiguous habitat within 1.2 mi (2 km) of a Quino checkerspot butterfly occurrence (see ''Criteria Used to Designate Critical Habitat'' section below). Habitat-based population distributions are used to define population-scale occupancy because observation locations are one-dimensional and static, and expanded areas based solely on recorded movement distances of a species may include non-habitat. The proposed revised critical habitat units are the habitat-based population distributions associated with core occurrence complexes. Therefore, the term ''occupied habitat'' in this rule refers to areas at the spatial and temporal scales of a population distribution described using the best available scientific data.

We define core occurrence complexes using several criteria. Population attributes such as subspecies abundance, total area occupied, and evidence of reproduction are all

indicators of population resilience. To clarify, a ''core occurrence complex'' is defined as an area where at least two of the following criteria apply: (1) 50 or more adults were ever observed during a single survey; (2) immature life stages have been recorded; and (3) the geographic area of an occurrence complex (within 0.6 mi (1 km) of subspecies occurrences) is greater than 1,290 ac (522 ha) (see ''**Background**'' section above). Therefore, all proposed revised critical habitat units contain occurrence complexes that qualify as ''core.''

We based our conclusion that core occurrence complexes are likely to contain source populations on sound scientific theory and information. Quino checkerspot butterfly populations are likely to be metapopulations (Service 2003a, pp. 21–31), and core occurrence complex habitat-based population distributions are large enough to capture most of a metapopulation distribution (Service 2003a, p. 24; see also Comment 15 and associated response above). The size of proposed revised critical habitat units are proportional to documented Edith's checkerspot butterfly population distributions that have longer predicted persistence times (Service 2003a, p. 24). Therefore, the final revised critical habitat units are likely to contain source subpopulations.

Comment 37: The Campo Band of Kumeyaay Indians requested the Service explain how it can ''violate'' its own methods for determining occurrence complex boundaries by including geographic areas beyond the habitat-based population distribution within Unit 9.

Our Response: Although occurrence complexes are geographically defined in part by overlapping 0.6 mi (1 km) movement distances, we did not map occurrence complex ''boundaries'' as described in the comment. Our methods for determining occurrence complex status did not include geographic boundary determination for the La Posta/Campo Core Occurrence Complex. The only boundaries associated with occurrence complexes we established in the proposed revised critical habitat rule are habitat-based population distributions used to map proposed revised critical habitat units (see response to comment 36 above and ''Criteria Used to Designate Critical Habitat'' section below). Unit 9 was limited to lands within the habitat-based population distribution of the La Posta/Campo Core Occurrence Complex, and did not include any areas outside that geographic delineation. We revised our discussion in the ''Criteria Used To Identify Critical Habitat'' section below to clarify our methods.

Comment 38: The Campo Band of Kumeyaay Indians; two representatives of the Ramona Band of Cahuilla Indians; the Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California (Barona Band of Mission Indians); the Pauma Band of Luiseno Mission Indians of the Pauma and Yuima Reservation, California (Pauma Band of Mission Indians); and the Pala Band of Luiseno Mission Indians of the Pala Reservation, California (Pala Band of Mission Indians), all believe there is insufficient evidence that tribal lands included in proposed revisions to critical habitat are essential to conservation of the subspecies. These tribal representatives also stated that designation of tribal lands as critical habitat will constitute a significant burden to the affected tribes, and per Secretarial Order 3206, the Service should demonstrate that conservation needs of the subspecies cannot be met by limiting critical habitat designation to nontribal lands. The Campo Band of Kumeyaay Indians specifically requested its lands be excluded from critical habitat designation for economic reasons based on the findings of the DEA.

Our Response: We believe our proposed revisions to critical habitat were supported by sufficient scientific data. Section 4(b) of the Act requires 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 our decisions are based on the best scientific data available. We used primary and original sources of information as the basis for our recommendations to designate revised critical habitat.

Ensuring persistence of populations associated with core occurrence complexes is critical to the conservation of the Quino checkerspot butterfly. In identifying areas that meet the definition of critical habitat, we recognize the importance of including all lands necessary to support resilient core populations. The best available scientific data indicate management of those portions of tribally owned lands (see response to comment 37 above for more information) that were proposed as revised critical habitat is essential to conserving the affected core populations. We utilized GIS data to limit the proposed designation to only those lands necessary for the conservation of the identified core populations. Therefore, we believe our proposed revisions to critical habitat are well supported by the best available scientific data.

During our process of identifying lands that meet the definition of critical habitat, we identified several tribes whose reservations include portions of Quino checkerspot butterfly habitat-based population distributions associated with populations needed for conservation of the subspecies, including the Campo Band of Kumeyaay Indians, the Ramona Band of Cahuilla Indians, the Santa Rosa Band of Cahuilla Indians (California), and the Cahuilla Band of Indians. Section 3(B)(4) of the Appendix to Secretarial Order 3206 states, ''In designating critical habitat, the Services shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands,'' indicating proposed critical habitat should be limited to nontribal lands if conservation needs can still be met by doing so. We determined that, without Ramona Band of Cahuilla Indians' land and Santa Rosa Band of Cahuilla Indians' land, the remaining habitat in Unit 7 still contained sufficient PCEs in the appropriate quantity and spatial arrangement for the subspecies' conservation needs. Therefore, we did not propose as revised critical habitat any tribal reservation lands in Unit 7.

In our exclusion analyses, we evaluated the burden of critical habitat designation on affected tribes. Section 3(B)(3) of the Appendix to Secretarial Order 3206 states, ''[the Service shall] * * * Recognize the [conservation] contribution to be made by affected Indian tribes * * * and evaluate economic impacts of such proposals with implications for tribal trust resources or the exercise of tribal rights.'' Sections 3(B)(3) and 3(B)(4) (see above quote) of the Appendix to Secretarial Order 3206 indicate tribal lands should be excluded from critical habitat designation if the burden is significant and the ability to meet species' conservation needs are not precluded by exclusion. The final economic analysis (FEA), and new land ownership information indicating that Ramona Band of Cahuilla Indians tribal fee-lands outside the reservation lands were included in proposed revised critical habitat in Unit 7, indicated the proposed designation may impose a

significant economic burden on the Campo Band of Kumeyaay Indians, the Ramona Band of Cahuilla Indians, and the Cahuilla Band of Indians. Based on the economic impact and Federal policies, including Secretarial Order 3206, that mandate maintenance of good working relationships with tribes and deference to tribal management authority, we determined the benefits of exclusion outweigh the benefits of inclusion for Campo Band of Kumeyaay Indians', Ramona Band of Cahuilla Indians', and Cahuilla Band of Indians' lands, and determined the exclusions of lands in Units 6, 7, and 9 will not lead to the extinction of the subspecies. Therefore, we excluded all tribal lands proposed for revised designation from critical habitat under 4(b)(2) of the Act. Please see the ''Application of Section 4(b)(2) – Economic Impact'' section below for a discussion of these tribal exclusions.

Comment 39: One representative of the Ramona Band of Cahuilla Indians believes that, according to Secretarial Order 3206, Principle 3(C), the proposed revised critical habitat designation on property adjacent to or near Ramona Band of Cahuilla Indians lands should have triggered consultation and written notice of proposed conservation restrictions. The Ramona Band of Cahuilla Indians also stated that land proposed as revised critical habitat is adjacent to the only road that allows access to and from the Ramona Band of Cahuilla Indians' Reservation. The road is critical to the health and safety of the Ramona Band of Cahuilla Indians and designating critical habitat adjacent to the tribes only access to and from the Ramona Indian Reservation could potentially affect a proposed project to pave the existing dirt road, which would make it more usable for tribal members and health and safety service responders (Riverside County Sherriff and local and regional fire departments). The tribe stated that a delay in the project or denial of permits to pave the road as a result of designating lands adjacent to the road as revised critical habitat could cost the tribe more than $1 million already allocated to this project. The tribe believes it would have to spend hundreds of thousands more dollars to maintain the existing unpaved road.

Our Response: We considered the Ramona Band of Cahuilla Indians' assertion described above. Section 5, Principle 3(C) of Secretarial Order 3206 states, ''At the earliest indication that the need for Federal conservation restrictions is being considered for any species, the Departments, acting in their trustee capacities, shall promptly notify all potentially affected tribes, and provide such technical, financial, or other assistance as may be appropriate, thereby assisting Indian tribes in identifying and implementing tribal conservation and other measures necessary to protect such species. In the event that the Departments determine that conservation restrictions are necessary in order to protect listed species, the Departments, in keeping with the trust responsibility and government-to-government relationships, shall consult with affected tribes and provide written notice to them of the intended restriction as far in advance as practicable.'' Section 3(B)(4) of the Appendix to Secretarial Order 3206 specifically states ''In keeping with the trust responsibility, [the Service] shall consult with the affected Indian Tribe(s) when considering the designation of critical habitat in an area that may impact Tribal trust resources, tribally-owned fee lands, or the exercise of Tribal rights.''

We do not anticipate any additional burden to the Ramona Band of Cahuilla Indians due to the designation of Forest Service lands adjacent to tribal lands. All referenced Forest Service lands are occupied, and we were engaged in active Section 7 consultation with the Forest Service on the road widening and paving project prior to proposing revisions to critical habitat (73 FR 3328; January 17, 2008). Identifiable potential economic impacts in occupied Quino checkerspot butterfly habitat that may result solely from the designation of critical habitat are likely limited to administrative costs. Therefore, we do not expect any additional regulatory actions or measures will be required solely due to designation of the referenced U.S. Forest Service lands as critical habitat and we did not initiate consultation under the Secretarial Order with the Ramona Band of Cahuilla Indians with regard to these lands based on proposed revisions to critical habitat.

Following receipt of the Ramona Band of Cahuilla Indians' first comment letter, we met with the tribe on October 16, 2008, to consult regarding any economic and social impacts the proposed revised designation of critical habitat would have on the tribe. After publication of the proposed revised critical habitat rule, we learned that Ramona Band of Cahuilla Indians tribal fee lands had been included in the proposal. These particular lands are surrounded by nontribal lands that meet the definition of critical habitat and were properly proposed as critical habitat. We evaluated these tribal lands for exclusion and determined the benefits of exclusion outweigh the benefits of inclusion for Ramona Band of Cahuilla Indians' tribal fee lands. Therefore, we excluded these lands from critical habitat under 4(b)(2) of the Act. See the ''**Application of Section 4(b)(2) of the Act – Impacts to Government-To-Government Relationships With Tribes and Economics**'' section below and for further discussion of this exclusion. We will continue to work cooperatively with the Ramona Band of Cahuilla Indians to conserve federally listed species on its lands.

Comment 40: The Campo Band of Kumeyaay Indians requested its land be excluded unless the Service demonstrates the benefits of inclusion outweigh the benefits of ''repairing the Service's working relationship with them.'' Specifically, the Campo Band of Kumeyaay Indians cited *Center for Biological Diversity* v. *Norton* (240 Supp. 2d 1090, 1105; D. Ariz. 2003) where the Service's decision to exclude tribal lands was upheld by the court because ''the benefit of maintaining a good working relationship with the Tribe outweighed the benefit * * * [of designating tribal lands] as [critical habitat].''

Our Response: We evaluated the benefits of exclusion of all tribal lands from this revised critical habitat designation. Maintaining and fostering partnerships and good working relationships are benefits of exclusion and are mandated by Secretarial Order 3206. Consistent with Secretarial Order 3206 and Executive Order 13175, we also believe tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Consistent with the Act and Secretarial Order 3206, we also evaluated the economic impact of critical habitat designation on tribes. The final economic analysis (FEA) indicated the proposed designation may impose a significant economic burden on the Campo Band of Kumeyaay Indians, the Ramona Band of Cahuilla Indians, and the Cahuilla Band of Indians. We determined the benefits of exclusion outweigh the benefits of inclusion for Campo Band of Kumeyaay Indians', Ramona Band of Cahuilla Indians', and Cahuilla Band of Indians' lands, and determined the exclusions will not lead to the extinction of the subspecies (see response to Comment 38 above and ''**Application of Section 4(b)(2)—Impacts to Government-To-Government Relationships With Tribes and Economics**'' section of this rule). Therefore, we excluded all tribal lands proposed for revised designation from critical habitat under 4(b)(2) of the Act.

We recognize and value our good working relationship with the Campo Band of Kumeyaay Indians and will continue to work cooperatively with the tribe to conserve federally listed species on its lands.

Comment 41: The Campo Band of Kumeyaay Indians stated they believe the Service did not fulfill the mandate of Secretarial Order 3206 by initiating consultation with them the moment it considered taking action that would affect tribal trust resources (critical habitat designation). The Campo Band of Kumeyaay Indians stated that the Service only informed them it was considering inclusion of its land at a meeting in November 2007, requested by the Service, and that the Service's position at that meeting was that it was ''considering'' inclusion of tribal lands, not intending to do so.

Our Response: We believe we have fulfilled our responsibilities to the Campo Band of Kumeyaay Indians under Secretarial Order 3206. As mandated by Section 5, and Principle 3(C) of Secretarial Order 3206, as well as Section 3(B)(4) of the Appendix to Secretarial Order 3206 (see response to Comment 39 above), we initiated tribal coordination regarding possible proposed revised critical habitat on Campo Band of Kumeyaay Indians' lands through the Bureau of Indian Affairs, Regional Endangered Species Coordinator in August of 2007. We initiated direct contact with the Campo Band of Kumeyaay Indians in a letter dated September 11, 2007, requesting the opportunity to discuss our findings prior to publication of proposed revisions to critical habitat. At a meeting on November 7, 2007, we explained why we believed some tribal lands met the definition of critical habitat and requested they submit any data we had not considered. At this meeting we mentioned that no agency decision had yet been made and explained that any final recommendation on the proposal we submitted for signature and publication in the **Federal Register** would address any data submitted by the tribe. We continued to meet and correspond with the Campo Band of Kumeyaay Indians regularly during the decision-making process. Therefore, we believe we fulfilled the mandate of Secretarial Order 3206 with regard to the proposal of revised critical habitat and this final designation of revised critical habitat.

Comment 42: The Campo Band of Kumeyaay Indians stated they believe the Service did not fulfill its duty to assist them in pursuing its own efforts to protect the subspecies, including assisting in crafting a tribal management plan.

Our Response: Principle 3(A) of Secretarial Order 3206 states, ''The Departments shall offer and provide such scientific and technical assistance and information as may be available for the development of tribal conservation and management plans to promote the maintenance, restoration, enhancement and health of the ecosystems upon which [listed] species * * * depend, including the cooperative identification of appropriate management measures to address concerns for such species and their habitats.'' Furthermore, Principle 3(D) of Secretarial Order 3206 states, ''In their roles as trustees, the Services shall offer and provide technical assistance and information for the development of tribal conservation and management plans to promote the maintenance, restoration, and enhancement of the ecosystems on which [listed] species * * * depend.'' We provided the Campo Band of Kumeyaay Indians with a draft Quino checkerspot butterfly management plan specific to its lands, as well as example management plans for other species on other tribal lands, prior to our meeting November 7, 2007 (see response to Comment 41 above). At that meeting, we discussed these documents and management options for the Quino checkerspot butterfly on tribal lands and offered to assist with further management planning. We continued to correspond and meet with the Campo Band of Kumeyaay Indians and provide training and technical assistance to tribal staff during development of the proposed revised critical habitat proposal, the DEA, and this final revised rule. Therefore, we believe we fulfilled our responsibility as trustees by assisting the Campo Band of Kumeyaay Indians to the full extent possible.

Comment 43: The Campo Band of Kumeyaay Indians requested exclusion of its lands from any final revised critical habitat designation because the educational benefits associated with a Quino checkerspot butterfly critical habitat designation are less than those already provided by its conservation program, and the tribe believes it already provides adequate conservation of the Quino checkerspot butterfly through a long-established environmental protection program (the Campo Environmental Protection Agency). The tribe believes the program demonstrates the Campo Environmental Protection Agency's ability to manage its own land base by providing knowledgeable, trained personnel and engaging in conservation activities. The tribe cited the successful completion of riparian habitat restoration projects in degraded watersheds on the Campo Reservation as an example of tribal habitat management.

Our Response: In our exclusion analysis, we considered how the educational benefits associated with a Quino checkerspot butterfly revised critical habitat designation may already have been provided by Campo Band of Kumeyaay Indians' conservation program. Educational benefits are a benefit of inclusion, and a determination that the benefits of exclusion outweigh the benefits of inclusion, along with a determination that exclusion would not result in the extinction of the subspecies, must be made before we can exclude lands that meet the definition of critical habitat from a final revised critical habitat designation. In our analysis, we did find that the educational benefits of revised critical habitat designation may have already been realized by the revised critical habitat proposal process and Campo Band of Kumeyaay Indians' conservation program.

In our exclusion analysis, we evaluated the conservation measures provided by Campo Environmental Protection Agency activities. Existing conservation measures minimize the benefits of inclusion, but, as stated above, the benefits of exclusion must outweigh the benefits of inclusion, and a determination that exclusion would not result in the extinction of the subspecies must be made before we can exclude lands from a final revised critical habitat designation. Per Secretarial Order 3206 and other published policies on Native American natural resource management, we are aware of our mandate to minimize intrusion on its sovereign abilities to manage natural resources in accordance with its own policies, customs and laws. We agree that the Campo Environmental Protection Agency has demonstrated an ability to manage its own land base by providing knowledgeable, trained personnel and engaging in conservation activities. Per the FEA, we also acknowledge that critical habitat designation may result in use of tribal resources for administrative (consultation) purposes that might otherwise be used for conservation. Therefore, we found the benefits of inclusion due to conservation achieved through section 7 consultation associated with designated critical habitat were minimized by existing tribal conservation activities. However, we did not exclude Campo Band of Kumeyaay Indians' land from revised critical habitat designation based solely

on the Campo Environmental Protection Agency conservation activities.

We appreciate information on the education and conservation program provided by the Campo Band of Kumeyaay Indians. Per Secretarial Order 3206 and other published policies on Native American natural resource management, we considered all benefits of exclusion including: (1) The need to minimize economic impacts projected in the DEA; (2) the need to minimizing intrusion on the Campo Band of Kumeyaay Indians' sovereign abilities to manage natural resources in accordance with its own policies, customs and laws; and (3) the need to maintain our good working relationships with the Campo Band of Kumeyaay Indians. We further determined the benefits of excluding Campo Band of Kumeyaay Indians' lands outweigh the benefits of designating these lands, and these exclusions will not result in the extinction of the Quino checkerspot butterfly (see ''**Application of Section 4(b)(2) – Impacts to Government-To-Government Relationships With Tribes and Economics**'' section below for more information). Therefore, we excluded all Campo Band of Kumeyaay Indians' lands from this final revised critical habitat designation. We value our good working relationship with the Campo Band of Kumeyaay Indians and will continue to work cooperatively with the tribe to conserve federally listed species on its lands.

Comment 44: The Campo Band of Kumeyaay Indians commented that the draft economic analysis does not reflect the potential exclusion of its lands from critical habitat designation, which is highlighted in the **Federal Register** notice re-opening the public comment period published on December 19, 2008.

Our Response: The economic analysis has been revised to reflect this potential exclusion. Throughout the analysis, costs associated with areas explicitly identified by the Service as under consideration for exclusion are presented and discussed separately from areas that were not explicitly identified as being considered for exclusion.

Comment 45: Campo Band of Kumeyaay Indians' suggested several editorial changes for the FEA based on its review of the DEA: (1) There should be a discussion of the role of Secretarial Order No. 3206 in regards to tribal lands proposed for critical habitat designation; (2) an exhibit presenting cost information for a proposed landfill project on its lands should be included in Chapter 6; (3) the Bureau of Indian Affairs (BIA) should be included under the discussion of government agencies overseeing habitat management activities in Chapter 7, titled ''Potential Impacts to Habitat Management;'' and (4) several exhibits mislabeling Unit 9, La Posta—Campo as ''Campo–La Posta'' should be corrected.

Our Response: The following corrections were made to the FEA: (1) Explanatory text regarding Secretarial Order No. 3206 and its role in the decision-making process of the Service has been integrated into Chapter 3; (2) Exhibit 6–5 presenting the potential costs to the tribe for the proposed landfill project has been added; and (3) we corrected the labeling of Unit 9 throughout. We are unaware of habitat management activities for the subspecies undertaken or planned by BIA. The FEA authors contacted a representative of BIA, and he was also unaware of any such activity by BIA. Furthermore, our efforts to contact parties who submitted public comments on behalf of the BIA were unsuccessful. Consequently, the FEA was not modified to include BIA in the discussion of government agencies overseeing habitat management activities in Chapter 7.

Comments From Other Federal Agencies

Comment 46: BIA believes that there is insufficient evidence that tribal lands included in the proposed revisions to critical habitat are essential to conservation of the subspecies. BIA also stated that, per Secretarial Order 3206, the designation of portions of the Campo Band of Kumeyaay Indians' and Cahuilla Band of Indians' reservations would constitute a significant burden to those tribes. The BIA also requested that the Service: (1) Withdraw all tribal lands from those identified for the proposed revised designation of critical habitat; (2) consult with the Ramona Band of Cahuilla Indians and other tribal nations to address the economic and social impacts the proposed designation of critical habitat would have on tribal lands, tribal infrastructure, tribal health and safety, and proposed projects that would further the tribe's health, welfare, and self-reliance; (3) consult with potentially affected tribal nations per Secretarial Order 3206; and (4) issue a revised proposal based on mandated government-to-government consultation with affected tribes and tribal nations.

Our Response: We used the best available scientific data to determine whether certain tribal lands are essential to the conservation of the subspecies (see also responses to comments 35 and 36 above), and we are not aware of any data that contradict our determination. Therefore, we included some tribal lands in the proposed revision to critical habitat. See the ''Criteria Used to Designate Critical Habitat'' section below for further discussion.

We believe we fulfilled our responsibilities to the tribes under Secretarial Order 3206 throughout the designation process. Please see our responses to comments 39–42 above regarding our consultations with the Campo Band of Kumeyaay Indians and the Ramona Band of Cahuilla Indians. Additionally, we met informally with the Cahuilla Band of Mission Indians' Environmental Officer to discuss our proposed designation and answer any questions the tribe had regarding our proposed revised designation of critical habitat.

We evaluated tribal lands for exclusion and determined the benefits of exclusion outweigh the benefits of inclusion for Campo Band of Kumeyaay Indians', Cahuilla Band of Indians', and Ramona Band of Cahuilla Indians' lands. Therefore, we excluded these lands from critical habitat under section 4(b)(2) of the Act. See responses to tribal comments above and the ''**Application of Section 4(b)(2) – Impacts to Government-To-Government Relationships With Tribes and Economics**'' section below for further discussion of these exclusions.

Comment 47: The BIA stated that land proposed as revised critical habitat is adjacent to the only road that allows access to and from the Ramona Band of Cahuilla Indians' Reservation. The road is critical to the health and safety of the Ramona Band of Cahuilla Indians and designating critical habitat adjacent to the tribe's only access to and from the Ramona Indian Reservation could potentially affect a proposed project to pave the existing dirt road, thus making it more usable for tribal members and health and safety service responders (such as Riverside County Sheriff and local and regional fire departments). They stated a delay in the project or denial of permits to build the project as a result of designating lands adjacent to the road as revised critical habitat could cost the tribe more than $1 million already allocated to build the project. Over the life of the road, the tribe believes they would have to spend hundreds of thousands more dollars to maintain the road if it is not paved.

Our Response: We do not anticipate any additional burden to the Ramona Band of Cahuilla Indians due to the designation of Forest Service lands adjacent to tribal lands (see response to comment 39 above).

Comment 48: With regard to the Ramona Band of Cahuilla Indians, the BIA specifically stated that designating lands adjacent to or near Ramona and

Cahuilla tribal lands within the Western Riverside County MSHCP plan area would violate the MSHCP because the HCP has already delineated critical habitat for the Quino checkerspot butterfly and adequately provides for the survival and recovery of the subspecies. The BIA believes that language in section 6.9 of the Western Riverside County MSHCP (Dudek and Associates 2003) and section 14.10 of the IA means no critical habitat for the Quino checkerspot butterfly should be designated in the Western Riverside County MSHCP plan area.

Our Response: The delineation of critical habitat is outside the scope of the section 10(a)(1)(B) permitting process under the Act, and the Western Riverside County MSHCP did not delineate critical habitat for the Quino checkerspot butterfly. In addition, contrary to BIA's assertion, the IA does not preclude the designation of critical habitat within the Western Riverside County MSHCP plan area. In our section 4(b)(2) exclusion analysis for lands within the Western Riverside County MSHCP plan area, we fully considered the conservation benefits provided by the Western Riverside County MSHCP to the Quino checkerspot butterfly, and we excluded all the lands in Units 1 through 6 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP from this critical habitat designation (see response to comment 26 above for further discussion).

Comment 49: The Department of the Navy (Navy) believes that designation of critical habitat at the La Posta Mountain Warfare Training Facility (La Posta Facility) would result in unacceptable delays in construction of facilities needed to support mission critical training and other missions related to national security. The Navy requested exclusion of 2,573 ac (1,041 ha) of land associated with the La Posta Facility under the Act based on the impact to national security should these lands be designated (''FY04 NDAA Section 318, National Security Exclusion from Critical Habitat Designation'').

Our Response: We evaluated the impacts of revised critical habitat designation to national security. As explained in our response to comment 25 above, 50 CFR 424.19 states the Secretary may exclude any portion of such an area from the critical habitat if the benefits of such exclusion outweigh the benefits of specifying the area as part of the critical habitat. The Secretary shall not exclude any such area if, based on the best scientific and commercial data available, he determines that the failure to designate that area as critical habitat will result in the extinction of the species concerned. We determined the benefits of excluding the La Posta Facility lands outweigh the benefits of including these lands in this final revised critical habitat designation. Further, we determined this exclusion will not result in extinction of the Quino checkerspot butterfly. See the ''**Application of Section 4(b)(2) – Impacts to National Security**'' section below for a more detailed discussion.

Comment 50: The Navy stated it was opposed to critical habitat designation at the La Posta Facility because the Navy is actively conserving the Quino checkerspot butterfly to fulfill its obligations under section 7(a)(1) of the Act, 16 U.S.C. 1536. Resource conservation efforts include the recently revised and updated Naval Base Coronado Integrated Natural Resources Management Plan (INRMP), developing a comprehensive Habitat Enhancement Plan, and purchasing land that conserves contiguous Quino checkerspot butterfly habitat (including approximately 138 ac (55.8 ha) of proposed revised critical habitat).

Our Response: In our exclusion analysis, we evaluated the conservation measures provided by the Navy. Existing conservation measures minimize the benefits of inclusion, but the benefits of exclusion must outweigh the benefits of inclusion, and a determination that exclusion would not result in the extinction of the subspecies must be made before we can exclude lands from a final revised critical habitat designation. Although the Navy is implementing conservation measures for the Quino checkerspot butterfly, and the updated INRMP is finalized (Navy 2008, pp. 1–2), the Service has not yet approved the updated INRMP. However, as stated above in response to comment 49, we excluded all lands associated with the La Posta Facility from this final revised critical habitat designation based on impacts to national security (see ''**Application of Section 4(b)(2)—Impacts to National Security**'' section below). We appreciate all of the Navy's efforts to conserve the Quino checkerspot butterfly and its habitat on Navy lands and will continue to work cooperatively with the Navy for resource conservation.

Comment 51: The Department of the Air Force (Air Force) requested the San Diego Air Force Space Surveillance Station (Surveillance Station) be excluded from critical habitat for three reasons. First, the Air Force believes that conservation of the Quino checkerspot butterfly will be assured because an INRMP is currently being prepared in coordination with the Service and the California Department of Fish and Game (CDFG). The Air Force stated that it must implement the INRMP in accordance with the Sikes Act 16 USC 670(a), and must comply with the Act to minimize modification of potentially suitable habitat. Second, the Air Force requested the Surveillance Station be excluded from critical habitat because the station is within currently designated critical habitat, and the Service has already consulted with the Air Force regarding all current and foreseen activities, including issuance of a biological opinion concluding that the Air Force is not likely to destroy or adversely modify critical habitat. Finally, the Air Force believes critical habitat designation would limit the amount of natural infrastructure available for ongoing and future mission execution and training needed for national security. The Air Force stated that short-notice mission-critical activities not previously analyzed may be delayed in order to conduct consultations under section 7(a)(2) of the Act.

Our Response: In our exclusion analysis, we evaluated the conservation measures provided by the Air Force. Existing conservation measures can minimize the benefits of inclusion, but the benefits of exclusion must outweigh the benefits of inclusion and a determination that exclusion would not result in the extinction of the subspecies must be made before we can exclude lands from a final critical habitat designation.

Although conservation measures are being implemented for Quino checkerspot butterfly, the Surveillance Station INRMP is not yet finalized, and implementation of the identified conservation measures does not significantly minimize the conservation benefits of including these lands in the critical habitat designation. However, we excluded all lands associated with the Surveillance Station from this final revised critical habitat designation based on impacts to national security (see ''**Application of Section 4(b)(2)—Impacts to National Security**'' section below). We appreciate all of the Air Force's efforts to conserve the Quino checkerspot butterfly and its habitat on its lands and will continue to work cooperatively with them in the future for resource conservation.

Summary of Changes From Previously Designated and Proposed Revised Critical Habitat

We designated approximately 171,605 ac (69,440 ha) of critical habitat for the Quino checkerspot butterfly in 4 units on April 15, 2002 (67 FR 18356). We

proposed to revise this designation to approximately 98,487 ac (39,857 ha) in 10 units on January 17, 2008 (73 FR 3328). This final revised critical habitat designation includes approximately 62,125 ac (25,141 ha) in 10 units, after excluding Unit 1 and portions of Units 2 through 9 (approximately 36,270 ac (14,678 ha)) based on consideration of economic, national security, and other relevant impacts. All land designated as critical habitat in this final revised rule was proposed in the 2008 proposed revised rule. Changes between this designation and the 2002 designation, as well as from the 2008 proposed revisions, are described below.

The areas identified in this final revised rule constitute revisions of areas designated as critical habitat for the Quino checkerspot butterfly on April 15, 2002 (67 FR 18356; Figure 1). This final revised critical habitat designation includes approximately 62,125 ac (25,141 ha) of land in Riverside and San Diego Counties, California. Table 1 and Figures 1a and 1b below outline differences between the 2002 final critical habitat rule, the 2008 proposed revisions to the critical habitat designation, and this final revised critical habitat designation for the Quino checkerspot butterfly.

Summary of Changes From the 2002 Designation

Of the 171,605 ac (69,440 ha) of land included in the 2002 final critical habitat rule, approximately 62,125 ac (25,141 ha) are included in this final revised critical habitat designation (Figures 1a and 1b). For a detailed discussion of the changes between the 2002 final critical habitat rule and the 2008 proposed revision, please refer to the ''**Summary of Changes From Previously Designated Critical Habitat**'' section in the proposed rule (73 FR 3328; January 17, 2008). The most significant changes from the 2002 final rule to the 2008 proposed revision are illustrated in Figures 1a and 1b and Table 1 below and include:

(1) In the 2002 critical habitat designation (67 FR 18356; April 15, 2002), we based our criteria on the reasoning in the recovery plan (Service 2003a, p. v) that habitat areas supporting all occurrence complexes and habitat areas that facilitate landscape connectivity or otherwise play a significant role in maintaining population resilience are essential to the long-term conservation of the subspecies. In this 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 data not available when critical habitat was designated on April 15, 2002 (67 FR 18356) or when the recovery plan was published (Service 2003a). Application of new data and updated occurrence information described in the ''**Background**'' section above resulted in the identification of different, and in most cases more specific, habitat areas meeting the definition of critical habitat than were identified in the 2002 final critical habitat rule. This resulted in a reduced total acreage of areas that meet the definition of critical habitat for this subspecies. The large amount of new habitat and distribution information resulted in refined population distribution knowledge and identification of three new core occurrence complexes (one new occurrence complex, two status changes; see ''**Background**'' section above). These revisions capture habitat areas adequate to ensure the long-term conservation of this subspecies based on our current knowledge of its life history and ecological needs as described in the ''**Background**'' section above, and ''**Primary Constituent Elements**'' section below. The new criteria capture 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 different than those identified in the 2002 critical habitat designation. For example, the 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. Consistent with the recovery strategy outlined in the Recovery Plan (Service 2003a, pp. 71–86), the new criteria focused on core occurrence complex habitat-based population distributions designed to capture all habitats likely to support resilient metapopulations, including those likely to support local source or mainland populations (also called subpopulations) and movement areas between habitat patches required for metapopulation resilience (see Service 2003a pp. 163, 165–166 for term definitions). We believe the proposed revised critical habitat units, based on the best scientific data currently available regarding core occurrence complexes and associated habitat distributions, are adequate to ensure the long-term conservation of the subspecies and accurately capture the areas meeting the definition of critical habitat for the Quino checkerspot butterfly. Please see the ''Criteria Used to Identify Critical Habitat'' section below for a detailed discussion.

(2) Data collected since 2002 indicates that Unit 7 (Bautista) provide the function that the more isolated Brown Canyon subunit of formerly designated Unit 2 (67 FR 18356; April 15, 2002; 50 CFR 17.95(i)) previously was thought to provide. In 2002, the Brown Canyon non-core occurrence complex was believed to represent the primary venue for range expansion of the species resulting from environmental changes due to changing climate patterns. Further, the resiliency of this population was believed to have been preserved by the insulation provided by surrounding hilly terrain and publicly owned lands. Information obtained since 2002 indicates the population serving these functions is represented by the Bautista Road Core Occurrence Complex, and the Brown Canyon occurrence complex does not have the characteristics of a resilient core population. Therefore, the Brown Canyon subunit is no longer considered essential.

(3) 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 (Service 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), indicate 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 (designated as Unit 1 in 2002) is functionally isolated from occupied areas or has subsequently been developed, and this non-core occurrence complex has been extirpated. 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). Consistent with the recovery strategy outlined in the Recovery Plan (Service 2003a, pp. 71–86), 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'' below) provides adequate landscape connectivity for conservation of the subspecies, and adequately captures areas that otherwise play a significant role in maintaining metapopulation viability.

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Figure 1a.
Geographic Comparison Map of Areas Designated as Critical Habitat Land in Riverside County for the Quino Checkerspot Butterfly on April 15, 2002 (67 FR 18356) and the Final Revision 2009

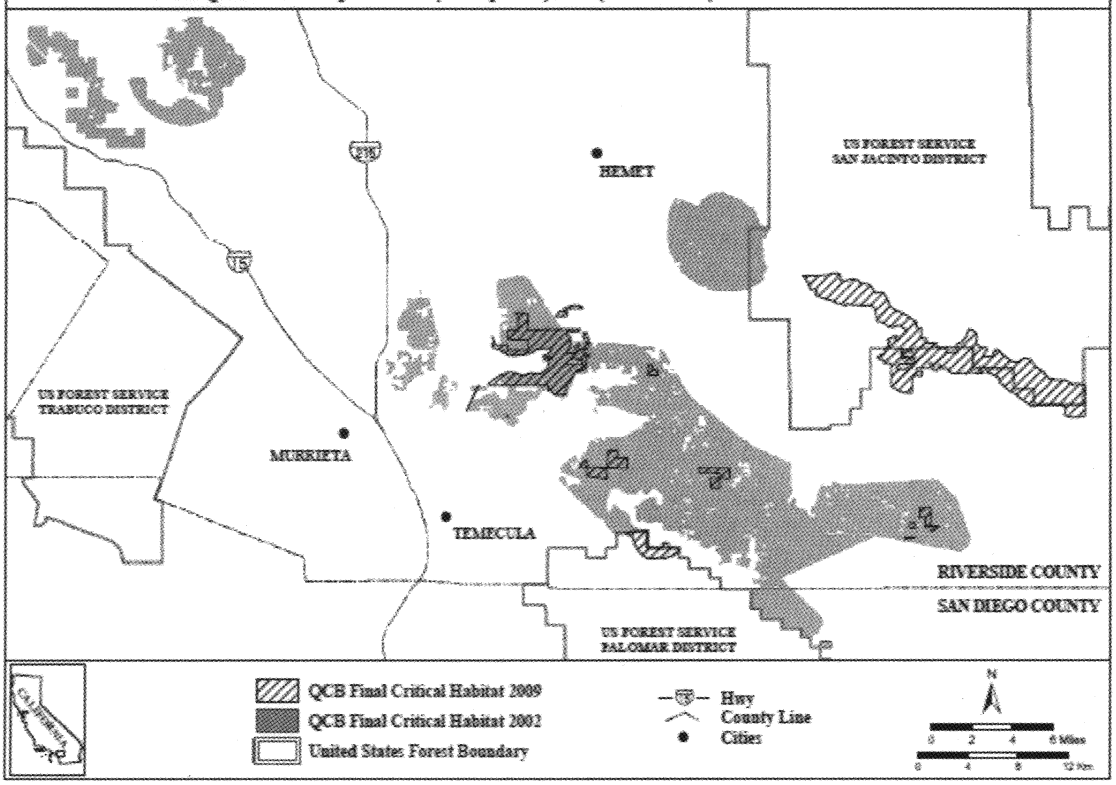

Figure 1b.
Geographic Comparison Map of Areas Designated as Critical Habitat Land in San Diego County for the Quino Checkerspot Butterfly on April 15, 2002 (67 FR 18356) and the Final Revision 2009

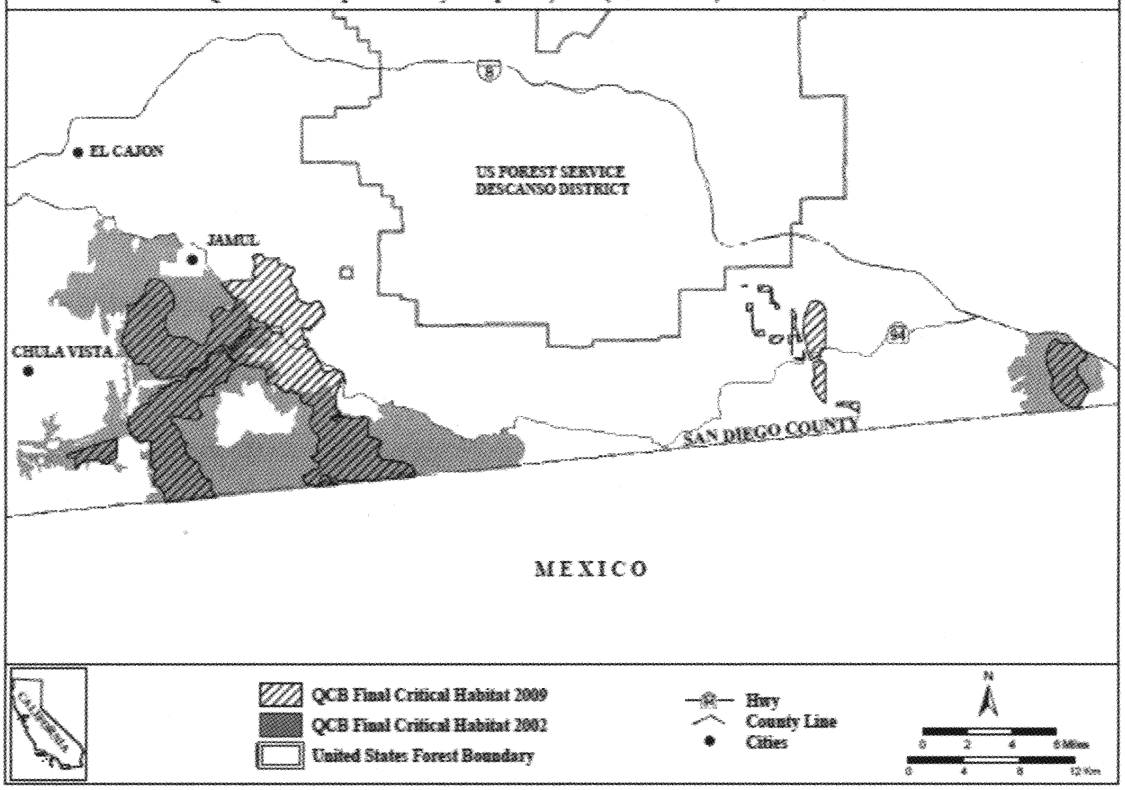

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TABLE 1. CHANGES BETWEEN THE APRIL 15, 2002, QUINO CHECKERSPOT BUTTERFLY CRITICAL HABITAT DESIGNATION; THE JANUARY 17, 2008, PROPOSED DESIGNATION; AND THIS REVISED FINAL DESIGNATION. ACREAGE VALUES ARE APPROXIMATE.

Critical Habitat Unit in this Final Rule	County	Recovery Plan occurrence complexes [1] (place names)	2002 Designation of Critical Habitat and ac (ha) [2]	2008 Proposed Revisions to the Critical Habitat Designation and ac (ha) [3]	2009 Final Revised Critical Habitat Designation and ac (ha)
1. Warm Springs	Riverside	Warm Springs Creek and Warm Springs Creek North	Majority designated in Unit 2; 0 (0)	Included as Unit 1; 2,684 (1,086)	Entire unit excluded
2. Skinner/ Johnson	Riverside	(Lake) Skinner/ Johnson (Ranch)	Partially designated in Unit 2; 4,705 (1,904)	Included as Unit 2; 12,030 (4,869)	Partially designated in Unit 2; 5,443 (2,203), partially excluded, 6,560 (2,655)
3. Sage	Riverside	(Community of) Sage and San Ignacio (Ridge)	Majority designated in Unit 2; 123 (50)	Included as Unit 3; 2,692 (1,090)	Partially designated in Unit 3; 123 ac (50 ha), partially excluded, 2,569 ac (1,040 ha)
4. Wilson Valley		Wilson Valley	Designated in Unit 2 463 (187)	Included as Unit 4; 4,813 (1,948)	Partially designated in Unit 4; 463 (187), partially excluded, 4,350 (1,760 ha)
5. Vail Lake/Oak Mountain	Riverside	Vail Lake, Pauba Valley, and (Communities of) Butterfield/ Radec	Majority designated in Unit 2; 819 (332)	Included as Unit 5; 8,187 (3,313)	Partially designated in Unit 5; 1,788 (724), partially excluded, 6,398 (2,589)

TABLE 1. CHANGES BETWEEN THE APRIL 15, 2002, QUINO CHECKERSPOT BUTTERFLY CRITICAL HABITAT DESIGNATION; THE JANUARY 17, 2008, PROPOSED DESIGNATION; AND THIS REVISED FINAL DESIGNATION. ACREAGE VALUES ARE APPROXIMATE.—Continued

Critical Habitat Unit in this Final Rule	County	Recovery Plan occurrence complexes [1] (place names)	2002 Designation of Critical Habitat and ac (ha) [2]	2008 Proposed Revisions to the Critical Habitat Designation and ac (ha) [3]	2009 Final Revised Critical Habitat Designation and ac (ha)
6. Tule Peak	Riverside	Tule Peak (Road), Southwest Cahuilla (Reservation), and Silverado (Ranch)	Majority designated in Unit 2; 15 (6)	Included as Unit 6; 6,433 (2,603)	Partially designated in Unit 6; 326 (132), partially excluded, 6,106 (2,471)
7. Bautista	Riverside	Bautista Road, Pine Meadow, Lookout Mountain, and 3Horse Creek	Not essential	Included as Unit 7; 14,014 (5,671)	Partially designated in Unit 7; 13,880 (5,617), partially excluded, 79 (32)
8. Otay	San Diego	Otay Valley, West Otay Mountain, Otay Lakes/ Rancho Jamul, Proctor Valley, Marron Valley, (Community of) Dulzura, and Honey Springs	Majority designated in Unit 3; 25,325 (10,249)	Included as Unit 8; 36,726 (14,863)	Partially designated in Unit 8; 34,941 (14,140), partially excluded, 1,782 (721)
9. La Posta/Campo	San Diego	[3](Communities of) La Posta/ Campo	Not essential	Included as Unit 9; 8,393 (3,397)	Partially designated in Unit 9; 2,647 (1,071), partially excluded, 5,740 (2,323)
10. Jacumba	San Diego	Jacumba	Designated as part of Unit 4; 2,514 (1,017)	Included as Unit 10; 2,514 (1,017)	Designated as Unit 10; 2,514 (1,017)
[4]Brown Canyon Subunit	Riverside	Brown Canyon	Designated subunit of Unit 2; 0 (0)	Not essential; not proposed	Determined not to be essential
[5]Lake Matthews	Riverside	Harford Springs (Park), [6]Lake Matthews Population Site	Unit 1; 0(0)	Not essential; not proposed	Determined not to be essential
[7]Otay	San Diego	(National Wildlife Refuge) NWR Rancho Jamul, NWR Los Montanas, Hidden Valley, (Community of) Jamul, West Otay Mesa, Barret Junction, (City of) Tecate (border area)	Designated in Unit 3; 0 (0)	Not essential; not proposed	Determined not to be essential
Totals			33,964 (13,745)	98,487 (39,857)	62,125 (25,141) designated 36,270 (14,678) excluded

1 All occurrence complexes in proposed revisions to critical habitat are now part of a core occurrence complex, except Pine Meadow, Lookout Mountain, and Horse Creek. The geographic analysis of occurrence complexes in this table is based on habitat-based population distributions described in this final revised critical habitat rule.
2 Area designated in this rule that was also included in 2002 designated critical habitat units (67 FR 18356).
3 New occurrence complexes described in the 2008 proposed revised designation (73 FR 3328) that were not described in the Recovery Plan.
4The Brown Canyon subunit in the 2002 final designation was not included in proposed revisions to critical habitat.
5 The Lake Matthews Unit in the 2002 final designation was not included in proposed revisions to critical habitat.
6 A ''historically occupied population site'' described in the Recovery Plan (not an occurrence complex).
7 The Otay Unit was Unit 3 in the 2002 final critical habitat rule (67 FR 18356). This row describes Recovery Plan occurrence complexes not included in Unit 8 of the proposed revisions to critical habitat.

Summary of Changes From the 2008 Proposed Rule To Revise Critical Habitat

The most significant changes from the 2008 proposed revision to this final revised rule are illustrated in Table 1 above and include:

(1) In the proposed revised rule, we considered lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP covered by the HCP for exclusion under section 4(b)(2) of the Act. In this final revised rule, we determined the benefits of exclusion outweigh the benefits of inclusion of lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6, and determined exclusion of these lands will not result in extinction of the species. Therefore, we excluded approximately 27,465 ac (11,115 ha) of these lands under section

4(b)(2) of the Act. We determined that the benefits of inclusion outweigh the benefits of exclusion for Unit 7. Therefore, we included all lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 in this final designation. For a complete discussion of the benefits of inclusion and exclusion see ''**Exclusions Under Section 4(b)(2) of the Act**'' section below.

(2) In the proposed revised rule, we considered all lands covered by the Chula Vista Subarea Plan for exclusion under section 4(b)(2) of the Act. We determined the benefits of exclusion outweigh the benefits of inclusion of these lands and exclusion will not result in extinction of the species. Therefore, we excluded approximately 1,673 ac (677 ha) of land covered by the Chula Vista Subarea Plan under section 4(b)(2) of the Act (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

(3) In the notice of availability for the DEA published in the **Federal Register** on December 19, 2008 (73 FR 77568), we announced we were considering exclusion of the San Diego Air Force Space Surveillance Station (SD Surveillance Station; approximately 109 ac (44 ha) within Unit 8) and the La Posta Mountain Warfare Training Facility (La Posta Facility; 2,463 ac (997 ha) within Unit 9) from critical habitat designation for reasons of national security. We determined the benefits of exclusion outweigh the benefits of inclusion for these lands and exclusion of these lands will not result in extinction of the species. Therefore, we excluded approximately 2,572 ac (1041 ha) of Department of Defense lands in Units 8 and 9 for reasons of national security under section 4(b)(2) of the Act (see ''**Application of Section 4(b)(2) – Impacts to National Security**'' section below).

(4) In the notice of availability for the DEA published in the **Federal Register** on December 19, 2008 (73 FR 77568), we announced we were considering exclusion of approximately 1,203 ac (487 ha) of the Cahuilla Band of Indians' land within Unit 6, approximately 79 ac (32 ha) of Ramona Band of Cahuilla Indians' land within Unit 7, and approximately 3,167 ac (1,282 ha) of Campo Band of Kumeyaay Indians' land within Unit 9 for economic reasons. We determined the benefits of exclusion outweigh the benefits of inclusion of these tribal lands and exclusion will not result in extinction of the species. Therefore, we excluded approximately 1,203 ac (487 ha) of tribal lands in Unit 6, approximately 79 ac (32 ha) in Unit 7, and approximately 3,167 ac (1,282 ha) in Unit 9 for economic reasons under section 4(b)(2) of the Act (see ''**Application of Section 4(b)(2) – Impacts to Government-To-Government Relationships With Tribes and Economics** '' section below).

(5) In 2008, one expert documented Quino checkerspot butterfly oviposition (egg laying) and larval feeding on a new species of host plant at several locations in Unit 6 (Pratt 2008a, p. 1). Please see ''**Background**'' section above for a complete discussion of this new information. As a result of these documented observations, we added *Collinsia concolor* to the list of host plants considered as a PCE (see ''**Background**'' section for additional details).

(6) When final critical habitat maps are being prepared with exclusions based on ownership data, this exercise often leaves small linear polygons of designated critical habitat that in-and-of themselves serve no logical regulatory or biological purpose. Initial maps are based on habitat features only; however, exclusions are based on artificial boundaries created by humans, therefore resulting in narrow ''sliver'' artifacts or very small polygons of non-excluded area once excluded areas are removed. Therefore, the sum of the total areas designated and excluded is slightly reduced in this final revised critical habitat designation compared to the size of the total proposed revised designation area estimate due to removal of small linear ownership artifacts.

(7) A number of comments we received suggested editorial changes and technical corrections to sections of the rule pertaining to the **Background** and Criteria Used To Identify Critical Habitat sections of our proposed revised rule. These changes were recommended to improve clarity, include additional information, and correct minor errors. They were incorporated into this final revised rule where appropriate.

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 or threatened species to the point at which the measures provided under the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot otherwise be relieved, may include regulated taking.

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 the government or public to access 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) would apply, but even in the event of a destruction or adverse modification finding, the landowner's obligation is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time of listing must contain the physical and biological features that are essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the PCEs laid out in the appropriate quantity and spatial arrangement essential to the

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

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

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

Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that we may eventually determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not promote the recovery of the species.

Areas that support populations, but are outside the critical habitat designation, will continue to be subject to conservation actions we and other Federal agencies implement under section 7(a)(1) of the Act. They are also subject to the regulatory protections afforded by section 9 of the Act and 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, HCPs, or other species conservation planning efforts if information available at the time of these planning efforts calls for a different outcome.

Primary Constituent Elements (PCEs)

In accordance with section 3(5)(A)(i) of the Act and the regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied by the species at the time of listing to designate as critical habitat, we consider those physical and biological features essential to the conservation of the species that may require special management considerations or protection. We consider the physical and biological features to be the PCEs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the species. The PCEs 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, and rearing (or development) of offspring; and

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

We derive the PCEs for the Quino checkerspot butterfly from its biological needs as described below and in proposed revisions to critical habitat published in the **Federal Register** on January 17, 2008 (73 FR 3328).

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.* 1997, p. 112); such habitats are 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 2003a, pp. 10–11).

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

Quino checkerspot butterflies are exothermic (cold-blooded) and therefore require an external heat source to increase their metabolic rate to levels needed for normal growth and behavior. Within open, woody-canopy communities, larvae seek microclimates with high solar exposure for basking to speed their growth rate (Weiss *et al.* 1987, p. 161; Weiss *et al.* 1988, p. 1487; Osborne and Redak 2000, p. 113; Service 2003a, p. 20). 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).

Adult butterflies will only lay eggs on species they recognize as host plants. Quino checkerspot butterfly oviposition (egg deposition) has been most often documented on *Plantago erecta, Plantago patagonica*, and *Anterrhinum coulterianum* (Service 2003a, pp. 14–18). In 2008, oviposition and larval development were recorded for the first time on *Collinsia concolor*; on numerous individual plants and at multiple locations in Riverside County (Pratt 2008a p. 1; 2008b p. 1; 2008c p. 1; 2008e, p. 1). Although *C. concolor* commonly occurs in habitats with *P. erecta, P. patagonica*, and *A. coulterianum*, (Pratt 2001, pp. 42–43; Anderson 2008, pp. 2, 3), this plant species is typically found in cooler and moister micro-habitats on north-facing slopes and in the shade compared to where the other host plant species grow (Pratt 2001, p. 40; Pratt 2008b, p. 1). Please see ''**Background**'' section above for a complete discussion of this new information.

Newly hatched pre-diapause larvae cannot move more than a few centimeters during the first two instars (development stages), restricting their development during this stage to the individual host plant on which their mother deposited eggs (the primary host plant species). Older pre-diapause larvae usually wander independently in search of food and may switch to feeding on a secondary host plant (Service 2003a, 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 2003a, p. 17). Quino checkerspot butterfly egg clusters or pre-diapause larval clusters are also documented in the field on *Cordylanthus rigidus*

(thread-leaved bird's beak) and *Castilleja exserta* (purple owl's-clover) (Service 2003a, pp. 14–18). However, use of *C. rigidus* and *C. exserta* is rare, and these species alone are not believed to be sufficient to support Quino checkerspot butterfly breeding; therefore, other species of host plant must co-exist with these species for habitat to support breeding (Service 2003a, pp. 16–17).

It is not possible to determine habitat suitability based on standing host plant densities. Estimates exist for densities of *Plantago erecta* required for larval development (Service 2003a, pp. 22–23); however, it is not always possible in a given year to determine typical host plant densities because germinating host plants may be entirely consumed by larvae; or because seeds may not germinate and larvae may return to diapause when precipitation levels are below-average (Service 2003a, p. 23). These principles apply to all host plant species to some extent; therefore, any host plants detected in habitat appearing otherwise suitable should be considered an indication of habitat suitability.

The physical structure of flowers is the primary factor that determines nectar source use. Adult checkerspot butterflies of the genus *Euphydryas* have a short tongue, approximately 0.43 inch (in) (11 millimeters (mm)) in length (Pratt 2007a, p. 1), and typically cannot feed on flowers that have deep corolla tubes or flowers evolved to open by bees (Service 2003a, p. 19). Adults may nectar on flowers with a corolla length nearly a centimeter longer than their proboscis (0.59 to 1.10 in (15 to 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). 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 *Lomatium* spp. (lomatium), *Muilla* spp. (goldenstar), *Amsinckia* spp. (fiddleneck), *Lasthenia* spp. (goldfields), *Eriodictyon* spp. (yerba santa), *Chaenactis glabriuscula* (yellow pincushion), *Ericameria linearifolia* (interior goldenbush), and *Plagiobothrys* and *Cryptantha* spp. (popcorn flowers) (Service 2003a, p. 19; see Comment 7 and our response in the ''Peer Reviewer Comments'' section above). Therefore, flowers with a corolla tube greater than 0.43 in (11 mm) are not likely to be used as nectar sources by the Quino checkerspot butterfly.

White and Levin (1981, pp. 350, 351) found that the average distance adult Quino checkerspot butterflies moved within habitat patches ranged from 173 ft (53 m) to 305 ft (93 m) in 1973 and 1972, respectively. Although butterflies were observed moving from larval host plants at distances greater than 656 ft (200 m) (1981, p. 349), it is unlikely that nectar sources greater than this distance would regularly be used by the subspecies because 656 ft (200 m) is more than double the average recapture distance in 1972, and almost 4 times the average distance in 1973 recorded by White and Levin (1981, p. 349).

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 the Quino checkerspot butterfly larvae prefer to diapause in or near the base of native shrubs, such as *Eriogonum fasciculatum*. Larvae can repeat diapause for multiple years (Service 2003a, p. 8); therefore, surveys for adults during drought years may not detect occupancy where it exists in areas containing diapause sites. Captive rearing and observation of the Quino checkerspot butterfly larvae indicate that repeated diapause is relatively common (over 50 percent likelihood for the first year) (Pratt 2006, p. 10), and larvae can re-enter diapause (Pratt 2007a, pp. 10–13). Therefore, suitable habitat requires low-lying shrubs, such as *E. fasciculatum*, that provide shelter for adults and larvae.

Sites for Breeding, Reproduction, or Development of Offspring

In Edith's checkerspot butterflies, the tendencies of females to move uphill and males to defend hilltops (''hilltopping behavior'') increase 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). Males defend hilltops because they are likely to encounter virgin females at these locations (Baughman and Murphy 1988, p. 119; Ehrlich and Wheye 1988, pp. 460–461; Mattoni *et al.* 1997, p. 109). As a result, higher ground serves as a ''visual beacon'' to enhance mating success.

Primary Constituent Elements for the Quino Checkerspot Butterfly

For the geographical areas occupied by the Quino checkerspot butterfly at the time of listing, we must identify the essential physical or biological features 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 determined the Quino checkerspot butterfly's PCEs are:

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

(A) Contain no woody canopy cover; and

(B) Contain one or more of the host plants *Plantago erecta, Plantago patagonica*, *Antirrhinum coulterianum*, or *Collinsia concolor* used for Quino checkerspot butterfly growth, reproduction, and feeding; 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 listed in (B) above; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 in (11 mm) used for Quino checkerspot butterfly 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 that contain an open, woody-canopy area at least 21.5 ft^2 (2 m^2) in size used for Quino checkerspot butterfly mating (hilltopping behavior) and are contiguous with (but not otherwise included in) open areas and natural vegetation described in PCEs 1 and 2 above.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the areas within the geographical area occupied at the time of listing contain features essential to the conservation of the subspecies that 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 were:

(1) Reduction and fragmentation of habitat by urban and agricultural development and recreational activities,

(2) over-collection,

(3) vandalism,

(4) fire, and

(5) drought.

Additional threats to this subspecies identified in the April 15, 2002, final

designation of critical habitat (67 FR 18356) include:

(1) Trash dumping,

(2) nitrogen deposition,

(3) elevated atmospheric carbon dioxide concentrations, and

(4) climate change.

Current threats to the subspecies and management needs were described in detail in the Recovery Plan (Service 2003a, pp. 55–65); including:

(1) Loss and fragmentation of habitat and landscape connectivity due to development,

(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) (Service 2003a, pp. 55–65). For example, increased atmospheric carbon dioxide concentration resulted in approximately 30 percent loss in seed production of *Plantago lanceolata* (Jablonski *et al.* 2002, p. 14), and increased temperatures caused approximately 5 percent shorter reproductive duration (Sherry *et al.* 2007, p. 200). These results indicate density and phenological availability of *Plantago spp.* to herbivores under current and predicted climate and atmospheric conditions are, or will be, reduced relative to historical conditions (Service 2003a, pp. 62–65). Host plant densities and availability are also reduced by nonnative plant invasion, which is further exacerbated by loss and fragmentation of habitat, off-road vehicle activity, enhanced soil nitrogen, and other sources of habitat-disturbance.

Management needs and actions recommended in 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 2003, 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 2003, 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 2003, 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 trash dumping in habitat (Service 2003a, p. 109); and

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

Criteria Used To Identify Critical Habitat

As discussed in the Recovery Plan (Service 2003a, pp. 71–86), the recovery strategy for Quino checkerspot butterfly focuses on conserving, managing, and monitoring resilient populations. Therefore, criteria for determining habitat required to support a population should consider long-term occupancy needs as well as movement distances to include all habitat necessary to support a population. We based our critical habitat criteria on the intent of recovery criteria 1, 3, 4, and 5 (Service 2003a, p. v) that habitat areas supporting all occurrence complexes and that facilitate landscape connectivity or otherwise play a significant role in maintaining population resilience are essential to the long-term conservation of the subspecies. Our revised ''Criteria Used to Identify Critical Habitat'' are based on new scientific information not available when the recovery plan was published (Service 2003a). The large amount of new habitat and distribution information resulted in refined population distribution knowledge and identification of three new core occurrence complexes (one new occurrence complex, two status changes; see ''**Background**'' section above). The new criteria capture 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 different than those identified in the 2002 critical habitat designation. The new criteria focused on core occurrence complex habitat-based population distributions designed to capture all habitats likely to support resilient metapopulations, including those likely to support local source or mainland populations (also called subpopulations) and movement areas between habitat patches required for metapopulation resilience (see Service 2003a pp. 163, 165–166 for term definitions).

In order to include all habitat necessary to support populations and accommodate population distributions that may shift annually or over a greater period of time, our criteria started with Quino occurrence locations considered to be extant, and expanded habitat to include all habitat we estimated was necessary to support the core occurrence complexes (populations) associated with the observed individuals. The process we used is described below.

(1) We determined occupancy within the extant range of the Quino checkerspot butterfly. Current occupancy was determined using occurrence data from the Service GIS database and associated survey reports. Areas of extant habitat containing occurrence records from 1999 or later were considered currently occupied. Since 1997, the number of known occupied sites has increased in most areas, indicating resilient populations in areas where development pressure is relatively low. Ten years is the minimum time between historical subspecies' population density highs and lows (Service 2003a, p. 29); therefore, naturally fluctuating populations documented since 1999 are not likely to have experienced a density minimum, during which they are most vulnerable to extirpation.

(2) We 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 on January 16, 1997 (62 FR 2313). Core occurrence complexes considered to be occupied at the time of listing were: (1) Recorded within 4 years of listing; (2) contained repeated observations of a large number of individuals (relative to all known occupied locations); and (3) if occupancy was documented post-listing, occurred not more than 4 mi (6.4 km) from other occurrence complexes known to be occupied at the time of listing. Four years is less than half the minimum time between historical subspecies' population density highs and lows (Service 2003a, p. 29) and, as stated above, where development pressure is relatively low, populations appear to be resilient. Additionally, 4 mi (6.4 km) is the maximum recorded Edith's checkerspot butterfly dispersal distance (Service 2003a, p. 12). Therefore, these parameters captured:

(1) The time required for natural population fluctuations to increase subspecies' density and occupancy detectability; (2) repeated observations indicating habitat has been occupied for several years; and (3) populations in close proximity to areas known to be occupied at the time of listing, as well as those areas likely to have been occupied (already colonized) at the time of listing.

(3) Once we determined the occupancy status of all occurrence complexes, we used the following rule set to identify areas that met the definition of critical habitat. As described in the ''**Background**'' section above, we defined core occurrence complexes as population density centers, specifically occurrence complexes where at least two of the following criteria apply: (a) 50 or more adults have been observed during a single survey; (b) immature life stages have been recorded; and (c) the area within 0.6 mi (1 km) of butterfly observation locations (occurrence complex area) was greater than 1,290 ac (522 ha). The best available scientific data indicate that focusing on protection and management of populations associated with occurrence complexes meeting these criteria can provide for the conservation of the subspecies because they are more likely to persist into the future and provide emigrants to other populations than populations associated with occurrence complexes that do not meet these criteria. We identified seven core occurrence complexes that meet the definition of critical habitat that were identified in the Recovery Plan (Warm Springs Creek, Skinner/ Johnson, Vail Lake, Sage, Wilson Valley, Tule Peak/Silverado, Otay Mountain), as well as three new core occurrence complexes (Bautista Road, La Posta/Campo, and Jacumba) (see ''**Background**'' section above).

(4) We determined lands necessary to support each of the populations associated with the 10 identified core occurrence complexes. We first delineated areas within 0.6 mi (1 km; movement radius) of occurrence records to capture habitat within reasonable flight range of each recorded adult sighting. This first criterion is the geographic area-based component of the definition of an occurrence complex described further in the Recovery Plan (Service 2003a, p. 35) and the ''**Background**'' section above. We subsequently included any contiguous habitat containing the PCEs within an occurrence complex (described in first criterion above) and within an additional 0.6 mi (1 km) of an occurrence complex. This second criterion used biological and geographic information (primarily Service GIS host plant occurrence data, vegetation layers, and satellite imagery) to capture the physical or biological features essential to the conservation of the subspecies in this area. We removed any areas within the occurrence complex that we determined did not contain the PCEs, based on the best available scientific data. In mapping all habitat within reasonable flight range of each recorded observation, combined with any additional habitat belonging to the observed individuals' population, we believe we captured habitat necessary to support each population associated with identified core occurrence complexes (the PCEs laid out in the appropriate quantity and spatial arrangement essential to the conservation of the subspecies). This process resulted in the identification of habitat-based population distributions for each core occurrence complex that are occupied at a population distribution scale, but where detectability may vary annually.

(5) Finally, we closely examined the new Bautista Road Core Occurrence Complex and determined habitat associated with this complex is likely undersurveyed and supports a larger population distribution than is currently delineated by the habitat-based population distribution. Furthermore, we determined this core occurrence complex is at the leading edge of an ongoing upward shift in the Quino checkerspot butterfly's elevation range (see ''**Background**'' section above). Recognizing the predictions by Parmesan (1996, p. 765; 2006, pp. 647–648), Preston *et al.* (2008, pp. 2501–2505), and Seager *et al.* (2007, pp. 1181, 1183, 1184), we expect loss of lower elevation and lower latitude populations will continue in this subspecies' range as the incidence of above-average temperatures, drought conditions, and extreme weather events continue to increase (see ''**Background**'' section above; National Oceanic and Atmospheric Administration 2007). Qualitative natural history and abundance observations and documented adult and larval observations for the Quino checkerspot butterfly indicate this species has begun to colonize higher elevation habitats (see ''**Background**'' section above). Therefore, consistent with recommendations in the Recovery Plan (Service 2003a, p. 65), we delineated habitat containing the PCEs that is contiguous with the Bautista Road Core Occurrence Complex habitat-based population distribution to connect it to the habitat-based population distributions of three non-core occurrence complexes that are higher in elevation (Pine Grove, Lookout Mountain, and Horse Creek).

These three non-core occurrence complexes were all identified over the past 5 years, and we expect they will become increasingly important to Quino checkerspot butterfly conservation in the future. Therefore, inclusion of all areas into Unit 7 within the habitat-based population distributions of the Bautista Road Core Occurrence Complex, the Pine Grove, Lookout Mountain, and Horse Creek non-core occurrence complexes, and contiguous suitable habitat between these complexes, captured habitat essential for the conservation of the subspecies. This will ensure persistence of populations associated with core occurrence complexes that we believe is critical to the conservation of the Quino checkerspot butterfly. In identifying areas that meet the definition of critical habitat, we recognize the importance of including all lands necessary to support resilient core populations. As described above, we delineated habitat where occupancy is expected, but has not been documented, that connects the Bautista Road Core Occurrence Complex with three higher elevation non-core occurrence complexes. Therefore, consistent with 50 CFR 424.12(e), we included areas contiguous with the Bautista Road Core Occurrence Complex that are outside the geographical area presently occupied by the subspecies (outside of habitat-based population distributions as described above) in Unit 7 (Bautista).

When determining revisions to critical habitat boundaries for this final rule, we made every effort to avoid including 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 maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such structures and land under them inadvertently left inside critical habitat boundaries shown on the maps of this revised critical habitat rule are excluded by text in this final rule. Therefore, Federal action involving such lands would not trigger section 7 consultations with respect to critical habitat and the requirement of no adverse modification unless the specific action may affect adjacent critical habitat.

Final Revised Critical Habitat Designation

We are designating approximately 62,125 ac (25,141 ha) as critical habitat for the Quino checkerspot butterfly within 9 units, identified as Units 2 through 10 (proposed critical habitat Unit 1 is excluded in its entirety as described in the ''Exclusions Under Section 4(b)(2) of the Act'' section of this rule). Table 2 outlines the areas included and excluded from this final revised critical habitat by land ownership. Units designated as critical habitat are discussed in detail below. The areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the Quino checkerspot butterfly.

TABLE 2. CRITICAL HABITAT UNITS FOR THE QUINO CHECKERSPOT BUTTERFLY DEPICTING THE AREAS DESIGNATED AND EXCLUDED FROM THE CRITICAL HABITAT DESIGNATION BY LAND OWNERSHIP.

Critical Habitat Unit	Land Ownership[2]	Total area proposed ac (ha)	Total area excluded ac (ha)	Total area designated ac (ha)
1. Warm Springs	Local	369 (149)	369 (149)	
	Private	2,315 (937)	2,315 (937)	0
2. Skinner/Johnson	Federal	131 (53)	0	131 (53)
	Local	8,674 (3,510)	3,361 (1,360)	5,313 (2,150)
	State	734 (297)	734 (297)	0
	Private	2465 (990)	2,465 (990)	0
3. Sage	Federal	123 (50)	0	123 (50)
	Local	89 (36)	89 (36)	0
	Private	2,480 (1,004)	2,480 (1,004)	0
4. Wilson Valley	Federal	463 (187)	0	463 (187)
	Local	1,072 (434)	1,072 (434)	0
	Private	3,278 (1,327)	3,278 (1,327)	0
5. Vail Lake/Oak Mountain	Federal	1,788 (724)	0	1,788 (724)
	State	22 (9)	22 (9)	0
	Local	97 (39)	97 (39)	0
	Private	6,279 (2,541)	6,279 (2,541)	0
6. Tule Peak	Federal	326 (132)	0	326 (132)
	Cahuilla Tribe	1,203 (487)	1,203 (487)	0
	Local	953 (386)	953 (386)	0
	Private	3,950 (1,599)	3,950 (1,599)	0
7. Bautista	Federal	9,720 (3,934)	0	9,720 (3,934)
	Ramona Tribe	79 (32)	79 (32)	0
	State	102 (41)	0	102 (41)
	Local	46 (19)	0	46 (19)
	Private	4,012 (1,624)	0	4,012 (1,624)
8. Otay	Federal	8,763 (3,546)	109 (44)	8,654 (3,502)
	State	9,674 (3,915)	35 (14)	9,639 (3,901)
	Local	5,238 (2,120)	834 (338)	4,404 (1,782)
	Private	13,048 (5,280)	804 (325)	12,244 (4,955)
9. La Posta/Campo	Federal	2,927 (1,184)	2,572 (1,040)	355 (144)
	Campo Tribe	3,167 (1,282)	3,167 (1,282)	0

TABLE 2. CRITICAL HABITAT UNITS FOR THE QUINO CHECKERSPOT BUTTERFLY DEPICTING THE AREAS DESIGNATED AND EXCLUDED FROM THE CRITICAL HABITAT DESIGNATION BY LAND OWNERSHIP.—Continued

Critical Habitat Unit	Land Ownership[2]	Total area proposed ac (ha)	Total area excluded ac (ha)	Total area designated ac (ha)
	State	0	0	6 (2)
	Private	2,286 (925)	0	2,286 (925)
10. Jacumba	State	351 (142)	0	351 (142)
	Private	2,163 (875)	0	2,163 (875)
Total		98,395 (39,819) [1]	36,270 (14,678)	62,125 (25,141)

1Unit totals are reduced in this final revised critical habitat designation due to removal of small linear ownership artifacts originally included in proposed revised critical habitat designation area estimates. The total area value in the proposed revised critical habitat designation was 98,487 ac (39,857 ha).

2Private = private ownership, including conserved lands managed for subspecies' recovery; Local = City- or County-owned land; Federal = Federally owned land; Cahuilla Tribe = Cahuilla Band of Indians; Ramona Tribe = Ramona Band of Cahuilla Indians; Campo Tribe = Campo Band of Kumeyaay Indians. Numbers may not sum due to rounding, and ownership totals may have changed from those reported in the proposed rule due to updated ownership data.

We present brief descriptions of all units and reasons why they meet the definition of critical habitat for the Quino checkerspot butterfly below. For more information about the areas excluded from critical habitat, please see the ''Exclusions Under Section 4(b)(2) of the Act'' section of this final rule.

Unit 1: Warm Springs

We excluded all lands in Unit 1 (approximately 2,684 ac (1,086 ha)) that we proposed as revised critical habitat that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion is based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below for a detailed discussion).

Unit 2: Skinner/Johnson

Unit 2 consists of approximately 5,444 ac (2,203 ha) of habitat that was occupied by the subspecies at the time of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta, Antirrhinum coulterianum*, *Cordylanthus rigidus*, and *Castilleja exserta* 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). The physical and biological features found in Unit 2 may require special management considerations or protection to minimize impacts from maintenance and recreational activities, invasion by nonnative plants, fire, enhanced soil nitrogen, and climate change.

We excluded approximately 6,560 ac (2,655 ha) that we proposed as revised critical habitat in this unit that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion is based on our determination that the benefits of exclusion outweigh the benefits of inclusion and that exclusion of these areas will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below for a detailed discussion).

Unit 3: Sage

Unit 3 consists of approximately 123 ac (50 ha) of habitat that was occupied by the subspecies at the time of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta*, *Cordylanthus rigidus*, and *Castilleja exserta* 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 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). The physical and biological features found in Unit 3 may require special management considerations or protection to minimize impacts from recreational activities, trash dumping, invasion by nonnative plants, fire, enhanced soil nitrogen, and climate change.

We excluded approximately 2,569 ac (1,040 ha) that we proposed as revised critical habitat in this unit that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion was based on our determination that the benefits of exclusion outweigh the benefits of inclusion and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Unit 4: Wilson Valley

Unit 4 consists of approximately 463 ac (187 ha) of habitat that was occupied by the subspecies at the time of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta, P. patagonica, Antirrhinum coulterianum*, *Collinsia concolor*, *Cordylanthus rigidus*, and *Castilleja exserta* host plants; nectar sources; open woody-canopy scrublands; and hilltops (Service 2003a, pp. 41, 43; Pratt 2008b pp. 1–2; 2008e, p. 1; Service GIS database). Unit 4 is located in Riverside County, north of SR 79, east of Oak Mountain and the City of 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). The physical and biological features found in Unit 4 may require special management considerations or protection to minimize impacts from recreational activities, trash dumping, invasion by nonnative plants, fire, enhanced soil nitrogen, and climate change.

We excluded approximately 4,350 ac (1,760 ha) that we proposed as revised critical habitat in this unit that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion was based on our determination the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Unit 5: Vail Lake/Oak Mountain

Unit 5 consists of approximately 1,788 ac (724 ha) of habitat that was occupied by the subspecies at the time of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta, Cordylanthus rigidus*, and *Castilleja exserta* 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, and east of Temecula within the vicinity of Oak Mountain and Vail Lake. This unit includes land associated with the Vail Lake Core Occurrence Complex and Butterfield/Radec Non-core Occurrence Complex described in the Recovery Plan (Service 2003a, p. 79). New occurrence information indicates the Butterfield/Radec Non-core Occurrence Complex should be considered part of the Vail Lake Core Occurrence Complex (see the proposed revised critical habitat rule, 73 FR 3328; January 17, 2008). The physical and biological features found in Unit 5 may require special management considerations or protection to minimize impacts from recreational activities, trash dumping, invasion by nonnative plants, fire, enhanced soil nitrogen, and climate change.

We excluded approximately 6,398 ac (2589 ha) that we proposed as revised critical habitat in this unit that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion is based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of these areas will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below).

Unit 6: Tule Peak

Unit 6 consists of approximately 326 ac (132 ha) of habitat that was occupied by the subspecies at the time of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago patagonica, Antirrhinum coulterianum*, *Collinsia concolor*, *Cordylanthus rigidus*, and *Castilleja exserta* host plants; nectar sources; open, woody canopy scrublands; and hilltops (Service 2003a, pp. 44–47; Service GIS satellite imagery; Pratt 2008a, p. 1; 2008b, p. 1; 2008c, p. 1; 2008d, p. 1; 2008e, p. 1). 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' lands. This unit includes land associated with the Tule Peak/Silverado Core Occurrence Complex (see ''**Background**'' section above). The physical and biological features found in Unit 6 may require special management considerations or protection to minimize impacts from recreational activities, primarily unauthorized off-road vehicle activity (Service 2003b, p. 79), trash dumping, invasion by nonnative plants, fire, and climate change.

We excluded approximately 4,903 ac (1,984 ha) that we proposed as revised critical habitat in this unit that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP. This exclusion is based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2)—Other Relevant Impacts – Conservation Partnerships**'' section below). We also excluded approximately 1,203 ac (487 ha) of Cahuilla Band of Indians' land from this final revised critical habitat designation based our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Impacts to Government-To-Government Relationships With Tribes and Economics** '' section below).

Unit 7: Bautista

Unit 7 consists of approximately 13,880 ac (5,617 ha) of habitat that was not within the geographical area occupied by the subspecies at the time of listing (although this area falls within the historical range of the species). Currently this unit contains habitat that may be unoccupied by individuals in a given year, but lands within this unit are considered occupied at the population level. This unit contains the Bautista Road Core, Pine Meadow Non-core, Lookout Mountain Non-core and Horse Creek Non-core Occurrence Complexes (see ''**Background**'' and ''Criteria Used To Identify Critical Habitat'' sections above). As further discussed in the ''Criteria Used To Identify Critical Habitat'' section, we determined habitat connectivity to higher elevation occurrence complexes is essential for the conservation of the subspecies, and, therefore, that the area in Unit 7 is essential for the conservation of the subspecies. Additionally, this unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago patagonica, Antirrhinum coulterianum*, *Collinsia concolor*, *Cordylanthus rigidus*, and *Castilleja exserta* host plants; nectar sources; open woody-canopy scrublands; and hilltops (Service 2003a, pp. 44–47; Service GIS database; Anderson 2008, pp. 1–5). Unit 7 is located in Riverside County north of SR 371 and the community of Anza.

We did not exclude the lands in this unit proposed as revised critical habitat that are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP because we determined that the benefits of including those lands outweighed the benefits of excluding them from the designation (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below). We did exclude approximately 79 ac (32 ha) of Ramona Band of Cahuilla Indians' land in this unit that we proposed as revised critical habitat. This exclusion is based our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of this area will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Impacts to Government-To-Government Relationships With Tribes and Economics**'' section below).

Unit 8: Otay

Unit 8 consists of approximately 34,941 ac (14,140 ha) of habitat that was occupied by the subspecies at the time

of listing and is currently occupied. This unit contains all of the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta, Cordylanthus rigidus*, and *Castilleja exserta* 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 to north of SR 94 in the vicinity of Otay Mountain and Otay Lakes. This unit includes land associated with the Otay Mountain Core Occurrence Complex (see **''Background''** and ''**Summary of Changes From Previously Designated and Proposed Revised Critical Habitat**'' sections above). The physical and biological features found in Unit 8 may require special management considerations or protection to minimize impacts from loss and fragmentation of habitat and landscape connectivity due to development, maintenance and recreational activities, trash dumping, invasion by nonnative plants, fire, enhanced soil nitrogen, and climate change.

We excluded approximately 1,673 ac (677 ha) that we proposed as revised critical habitat in this unit covered by the Chula Vista Subarea Plan based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of these areas will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Other Relevant Impacts – Conservation Partnerships**'' section below). We also excluded approximately 109 ac (44 ha) of Air Force land we proposed as revised critical habitat in this unit based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of these areas will not result in extinction of the subspecies (see ''Application of Section 4(b)(2) – Impacts to National Security'' section below).

Unit 9: La Posta–Campo

Unit 9 consists of approximately 2,647 ac (1,071 ha) of habitat that was not within the geographical area occupied by the subspecies at the time of listing. However, this unit is currently occupied and contains the La Posta/Campo Core Occurrence Complex (see ''Status and Distribution of Populations in San Diego County'' section of the proposed rule published January 17, 2008 (73 FR 3328), and ''Criteria Used To Identify Critical Habitat'' section above). We determined that the area supporting the La Posta/Campo Core Occurrence Complex is essential for the conservation of the subspecies because it is likely to contain a resilient core population including one or more subpopulations that are a source of immigrants to other habitat (see ''**Background**'' and ''Criteria Used To Identify Critical Habitat'' sections above). Additionally, this unit contains all the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Antirrhinum coulterianum*, *Collinsia concolor*, *Cordylanthus rigidus*, and *Castilleja exserta* host plants; nectar sources; open woody-canopy scrublands; and hilltops (Bureau of Indian Affairs 1992, p. C–5; Allen and Kurnow 2005, pp. 10, 13–16; Dicus 2005a, p.1; PSBS 2005a, p. 18; 2005b, p. 26; O'Conner 2006, pp. 1–4, Science Applications International Corporation 2006 pp. 33, 34, 37; Alfaro and Alfaro 2007, pp. 6–8; Service GIS database).

We excluded approximately 3,167 ac (1,282 ha) of Campo Band of Kumeyaay Indians' land that we proposed as revised critical habitat in this unit based on our determination the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of these areas will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2)—Impacts to Government-To-Government Relationships With Tribes and Economics**'' section below). We also excluded approximately 2,572 ac (1,040 ha) of Navy-owned or controlled land associated with the La Posta Facility that we proposed as revised critical habitat in this unit based on our determination that the benefits of exclusion outweigh the benefits of inclusion, and that exclusion of these areas will not result in extinction of the subspecies (see ''**Application of Section 4(b)(2) – Impacts to National Security**'' section below).

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 is currently occupied. This unit contains all the features essential to the conservation of the subspecies (PCEs 1, 2, and 3), including the following: *Plantago erecta* and *P. patagonica* 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 (see ''**Background**'' and ''Criteria Used To Identify Critical Habitat'' sections above). The physical and biological features found in Unit 10 may require special management considerations or protection to minimize impacts from loss and fragmentation of habitat and landscape connectivity due to development, recreational activities, trash dumping, invasion by nonnative plants, fire, and climate change.

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 jeopardize the continued existence of listed species or destroy or adversely modify designated 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.

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

Federal activities that may affect the Quino checkerspot butterfly or its designated critical habitat will require section 7 consultation under the Act. Activities on State, tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10(a)(1)(B) 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 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.

Application of the ''Adverse Modification'' Standard

The key factor related to the adverse modification determination is whether, with implementation of the 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 to an extent that appreciably reduces the conservation value of critical habitat for the affected species. Generally, the conservation role of Quino checkerspot butterfly critical habitat units is to support viable core populations of the subspecies.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may destroy or adversely modify such habitat, or those activities 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 remove host plants and nectar sources, introduce or increase invasion rates of invasive, nonnative exotic plant 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 host plant patches within a greater habitat patch, and directly or cumulatively causing adverse affects to Quino checkerspot butterflies and their life cycles.

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

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

Economic Analysis

Following the publication of the proposed revised critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. The DEA (dated December 19, 2008) was made available for public review and comment from December 19, 2008, to January 20, 2009 (73 FR 77568). Substantive comments and information received on the DEA are summarized above in the ''Public Comment'' section and are incorporated into the final analysis, as appropriate. Taking any relevant new information into consideration, the Service completed a final economic analysis (FEA) (dated March 24, 2009) of the designation that updates the DEA.

The primary purpose of the economic analysis is to estimate the potential incremental economic impacts associated with the revised designation of critical habitat for the Quino checkerspot butterfly. The information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. The economic analysis considers the economic efficiency effects that may result from the designation. In the case of habitat conservation, efficiency effects generally reflect the ''opportunity costs'' associated with the commitment of resources to comply with habitat protection measures (such as lost economic opportunities associated with restrictions on land use). It also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The economic analysis measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector. Finally, the economic analysis looks retrospectively at costs that have been incurred since the date we listed the Quino checkerspot butterfly as

endangered (62 FR 2313; August 16, 1997), and considers those costs that may occur in the years following the revised designation of critical habitat, with the timeframes for this analysis varying by activity.

The economic analysis focuses on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans and best management practices applied by other State and Federal agencies. Economic impacts that result from these types of protections are not included in the analysis as they are considered to be part of the regulatory and policy baseline.

The economic analysis examines activities taking place both within and adjacent to the designation. It estimates impacts based on activities that are ''reasonably foreseeable'' including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. Accordingly, the analysis bases estimates on activities that are likely to occur within a 23-year timeframe, from when the proposed rule became available to the public (73 FR 3328; January 17, 2008). The 23-year timeframe was chosen for the analysis because, as the time horizon for an economic analysis is expanded, the assumptions on which the projected number of projects and cost impacts associated with those projects are based become increasingly speculative.

The vast majority of potential incremental economic impacts attributed to the revised critical habitat designation, if it was finalized as proposed, would be expected to be related to residential development (62 to 86 percent) and tribal activities (38 to 14 percent). The FEA estimates total potential incremental economic impacts in areas proposed as revised critical habitat over the next 23 years to be $13.1 million to $50.4 million ($1.1 million to 4.2 million annualized) in present value terms using a 7 percent discount rate (including areas considered for exclusion under section 4(b)(2) of the Act).

The FEA estimates the largest impacts of the proposed revised critical habitat rule would result from section 7 consultations with the Service on residential development projects likely to occur in areas where surveys are unable to detect the butterfly (including tribal lands). The best estimates give a range of costs based on low and high impact assumptions of development projections (projection uncertainty). In the high estimate scenario, if the critical habitat designation was finalized as proposed, five projects in Unit 9 and nine projects in Unit 10 would likely require consultation with the Service as a result of the critical habitat designation. Conservatively assuming that each project is undertaken by a separate entity, as many as 14 developers would likely be affected over the 23-year timeframe of the analysis. At the high end, the one-time costs resulting from the consultation process, including administrative time spent by the businesses, compensation costs, and the value of time delays, total approximately $16.1 million for the projects in Unit 9 and $26.8 million for the projects in Unit 10. Additionally, over the 23–year timeframe, a high-end estimate of 131 projects (approximately six projects per year) would experience additional administrative costs as a result of the consultation. These costs result from the need to address adverse modification in a consultation that would occur even in the absence of critical habitat. These additional administrative costs are estimated to be $1,000 per project.

The final economic analysis is available at *http://www.regulations.gov* or upon request from the Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

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 features essential to the conservation of the subspecies and habitat that is identified, if managed or protected, could provide for the survival and recovery of the subspecies.

The identification of areas that contain the features essential to the conservation of the subspecies, or are otherwise essential for the conservation of the subspecies if outside the geographical area occupied by the subspecies at the time of listing, is a benefit resulting from the designation. The critical habitat designation process includes peer review and public comment on the identified physical and biological features and areas, and provides a mechanism 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 subspecies, and is valuable to land owners and managers in developing conservation management plans for identified areas, as well as for any other identified occupied habitat or suitable habitat that may not be included in the areas the Service identifies as meeting the definition of critical habitat.

In general, critical habitat designation always has educational benefits; however, in some cases, they may be redundant with other educational effects. For example, habitat conservation plans (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 consultation provisions under section 7(a)(2) of the Act constitute the regulatory benefits of critical habitat. As discussed above, Federal agencies must consult with the Service on actions that may affect critical habitat and must avoid destroying or adversely modifying critical habitat. Federal agencies must also consult with us on 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 to habitat will often also result in effects to the species. However, the regulatory standard is different, as the jeopardy analysis investigates the action's impact to survival and recovery of the species, while the adverse modification analysis investigates the action's effects to the designated habitat's contribution to conservation. This will, in many instances, lead to different results and different regulatory requirements. Thus, critical habitat designations may

provide greater benefits to the recovery of a species than would listing alone.

For Quino checkerspot butterfly, when consulting under section 7(a)(2) of the Act in designated critical habitat, independent analyses are made for jeopardy and adverse modification. In consultations on projects where surveys detect high densities of butterflies or low densities of butterflies combined with high densities of butterfly resources (host plants, nectaring plants), there is not likely to be a quantifiable difference between the jeopardy analysis and the adverse modification analysis as we estimate take for this subspecies in terms of acres of occupied habitat, and the Act requires Federal agencies to minimize the impact of the taking on the subspecies that may result from implementation of a proposed action. Furthermore, any upfront modifications made to the project description to minimize the project's impact on the critical habitat designation will also minimize the impacts of the taking of individuals on the subspecies. The habitat-based population distributions predict the habitat distribution needed to conserve each core occurrence complex in the long-term (see ''Criteria Used To Identify Critical Habitat'' section above). All lands within the critical habitat units are occupied at the population level; however, they contain habitat that may be unoccupied by individuals in a given year. Observable butterfly activity will vary in any given year at any one location due to multiple variables affecting the butterfly presence (for example, metapopulation dynamics, drought, weather conditions, and available plant resources). For example, annual nectar and host plant densities will vary by location within and between years based on local microclimate conditions, and adult butterfly presence will vary with resource availability. Furthermore, because Quino checkerspot butterflies are capable of multiyear diapause, fewer adult butterflies may emerge in years when nectar and host plant resources are limited. Therefore, even within habitat-based population distributions (occupied critical habitat as defined in this rule), surveys may not detect butterflies at a given location within a unit during a given flight season, and subspecies' protection under the Act may be limited to conservation measures resulting from critical habitat adverse modification analysis.

There are two limitations to the regulatory effect of critical habitat. First, a consultation is only required 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, by itself, does not restrict 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 and biological features essential to the conservation of the species or of unoccupied areas that are essential for the conservation of the species are not appreciably reduced. Critical habitat designation alone, however, does not require private property owners to undertake specific steps toward 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 the Service concurs in writing that the proposed Federal action is not likely to adversely affect the species or critical habitat. However, if we determine through informal consultation that adverse impacts are likely to occur, then formal consultation is initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of designated critical habitat.

For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may recommend additional conservation measures to minimize adverse effects to the primary constituent elements, but such measures would be discretionary on the part of the Federal agency. A biological opinion that concludes in a determination of no destruction or adverse modification would not suggest the implementation of any reasonable and prudent alternative, as we suggest reasonable and prudent alternatives to the proposed Federal action only when our biological opinion results in an adverse modification conclusion.

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 is initiated under section 7(a)(2) of the Act, the end result of consultation is to avoid jeopardy to the species or adverse modification of its critical habitat, but not necessarily to manage critical habitat or institute recovery actions on critical habitat. Conversely, voluntary conservation efforts implemented through management plans institute proactive actions over the lands they encompass and are put in place to remove or reduce known threats to a species or its habitat; therefore, implementing recovery actions. We believe that in many instances the regulatory benefit of critical habitat is minimal when compared to the conservation benefit that can be achieved through implementing HCPs under section 10 of the Act or other habitat management plans. In particular, the conservation achieved through large or regional plans is typically 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 commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7(a)(2) consultations only commit Federal agencies to preventing adverse modification of critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed action. Thus, implementation of an HCP or management plan that incorporates enhancement or recovery as the management standard may often provide as much or more benefit than a consultation for critical habitat designation.

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, p.2), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002, p. 720). Stein *et al.* (1995, p. 400) 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, p. 1407; Crouse *et al.* 2002, p. 720; James 2002, p. 271). Building partnerships and

promoting voluntary cooperation of landowners are essential to understanding the status of species on non-Federal lands, and are necessary to implement recovery actions such as reintroducing listed species, habitat restoration, and habitat protection.

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 a 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 encouraging endangered species to their property, and there is mounting evidence that some regulatory actions by the Federal Government, while well-intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996, pp. 5–6; Bean 2002, pp. 2–3; Conner and Mathews 2002, pp. 1–2; James 2002, pp. 270–271; Koch 2002, pp. 2–3; Brook *et al.* 2003, pp. 1639–1643). 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, pp. 1264–1265; Brook *et al.* 2003, pp. 1644–1648).

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, p. 1263; Bean 2002, p. 2; Brook *et al.* 2003, pp. 1644–1648). The magnitude of this negative outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, and control of invasive species) are necessary for species conservation (Bean 2002, pp. 3–4). 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 than critical habitat alone.

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 partnerships or voluntary conservation efforts can often be high.

Benefits of Excluding Lands With HCPs or Other Approved Management Plans

The benefits of excluding lands with HCPs or other approved long-term management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed as a result of the critical habitat designation. Most HCPs and other conservation plans take many years to develop, and upon completion, are consistent with the recovery objectives for listed species that are covered within the plan area. Many also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine our efforts and partnerships as well. Our experience in implementing the Act has found that designation of critical habitat within the boundaries of management plans that provide conservation measures for a species is a disincentive to many entities that are either currently developing such plans, or contemplating doing so in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species are affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning.

A related benefit of excluding lands covered by approved HCPs and management plans that cover listed species 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 these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

Both HCPs and Natural Communities Conservation Plan (NCCP)-HCP applications require consultation, which would review the effects of all HCP-covered activities that might adversely affect the species under a jeopardy standard, including possibly significant habitat modification, even without the critical habitat designation. Additionally, all other Federal actions that may affect the listed species still require consultation under section 7(a)(2) of the Act, and we review these actions for possibly significant habitat modification in accordance with the jeopardy standard under section 7(a)(2).

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

Application of Section 4(b)(2) – Impacts To Government-To-Government Relationship With Tribes And Economics

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat based on economic or other relevant impacts if the Secretary determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat. However, these exclusions cannot occur if it will result in the extinction of the species concerned.

In making the following exclusions, we acknowledge that the costs and other impacts predicted in the economic analysis might not be completely avoided by this exclusion because some of the costs may still be incurred through implementation of other protections for the subspecies that exist elsewhere in the Act.

Tribal Lands – Cahuilla Band of Indians

In accordance with the Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (Secretarial Order 3206; 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), we believe that fish, wildlife, and other natural resources on tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Based on this philosophy, we believe in most cases designation of tribal lands as critical habitat provides very little additional benefits to threatened and endangered species. Conversely, such designation is often viewed by tribes as an unwarranted and unwanted intrusion into tribal self-governance; therefore, critical habitat designation compromises the government-to-government relationship essential to achieving our mutual goal of managing for viability of ecosystems on which threatened and endangered species depend. Section 3(B)(4) of the Appendix to Secretarial Order 3206 ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997), also specifically states ''* * * Critical habitat shall not be designated in [areas that may affect tribal trust resources, tribally-owned fee lands, or the exercise of tribal rights] unless it is determined essential to conserve a listed species. In designating critical habitat, the Services shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands.'' We received multiple comment letters from several tribal governments and the BIA stating that designation of critical habitat on lands of the Cahuilla Band of Indians constitutes a significant burden to the tribe. It is our understanding that all proposed revised critical habitat on the Cahuilla Band of Indians' land is on individual allotments, and any economic impacts resulting from the designation would directly effect individual tribal members or families.

We determined that lands of the Cahuilla Band of Indians contain the physical or biological features essential to the conservation of the Quino checkerspot butterfly and therefore meet the definition of critical habitat under the Act. In making our final decision with regard to these tribal lands, we considered several factors including our relationship with the affected tribe, our recognition that tribal governments protect and manage their resources in the manner most beneficial to them, and the estimated economic impacts to the affected tribe associated with the designation of critical habitat. We recognize that the Cahuilla Band of Indians exercises legislative, administrative, and judicial control over activities within the boundaries of its lands and has a natural resource management program and staff. The tribe's natural resource management efforts will continue to be implemented regardless of whether tribal lands are designated as critical habitat. Under section 4(b)(2) of the Act, we are excluding all Cahuilla Band of Indians' lands (in Unit 6) that contain features essential to the conservation of the Quino checkerspot butterfly from this final revised critical habitat designation. As described in our analysis below, we reached this determination because of our effective working relationship with the tribe, our responsibilities under Secretarial Order 3206, and in consideration of the disproportionate relative economic impact on the tribe associated with the designation of critical habitat on tribal lands.

Socioeconomic data discussed in chapter 6 of the FEA describe the vulnerability of the Cahuilla Band of Indians to economic impacts. The tribe governs its lands and is solely responsible for providing necessary public services that are typically provided by county and city governments on nontribal lands. However, the tribe has a much smaller population base and a limited amount of land available for development or conservation. Therefore, far fewer resources are available to the Cahuilla Band of Indians to draw upon in comparison to local and county governments, in addition to the tribe serving a disadvantaged population.

According to data collected in preparation of the DEA, the Cahuilla Band of Indians has a relatively small population (168 members) from which to raise revenue. This resource base is significantly smaller than the surrounding county (Riverside) that supports a population base of 1,545,387 people. The DEA stated the median household income level of the Cahuilla Band of Indians is lower than the surrounding county. Likewise, the proportion of people below the poverty level is substantially higher for the Cahuilla Band of Indians relative to the nontribal populations of Riverside County. There is an even larger disparity among the most impoverished people (percentage of people below 50 percent of the poverty level); the percentage of people on the Cahuilla Band of Indians' reservation whose income is below half the poverty level (approximately 15 percent) is approximately three times that of the nontribal population of Riverside County (approximately 6 percent). This disparity is also reflected in the property values on the reservation, where the median value of owner-occupied houses is less than half that of owner-occupied houses in the county.

Chapter 6 of the FEA states that, while no specific economic impacts can be quantified, it should be emphasized that the Cahuilla Band of Indians do not have independent taxing authority and therefore must rely on development fees within limited tribal lands to generate government revenue. While there are no development plans for the Cahuilla Band of Indians that can be specified at this time, potential restrictions on development resulting from critical habitat designation could result in additional constraints to limited tribal resources. In consideration of economic vulnerability of the Cahuilla Band of Indians discussed above, their limited resource base, and the disadvantaged population they serve, we determined any economic impacts associated with a critical habitat designation will have a disproportionately negative impact on this tribe and our working relationship with them.

Benefits of Inclusion – Cahuilla Band of Indians

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard under which consultation is completed.

The Cahuilla Band of Indians' lands are within the habitat-based population distribution of the Tule Peak/Silverado Core Occurrence Complex (Unit 6). If surveys detect occupancy within a project footprint, then consultation would occur regardless of critical habitat designation, and the likelihood of this occurring within this occupied critical habitat unit is high. However, as discussed above in the ''Benefits of Designating Critical Habitat'' section, even in occupied habitat, surveys may not detect butterflies during any given flight season. Therefore, the conservation benefits of critical habitat designation for the Quino checkerspot butterfly are reduced but not negated by population occupancy in Unit 6.

Another possible benefit of including lands in a critical habitat designation is that a designation can serve to educate the landowner and the public regarding the potential conservation value of an

area, which could help focus conservation efforts to designated areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed above in the ''Tribal Comments'' section, the Cahuilla Band of Indians is aware of the value of its lands to the conservation of the Quino checkerspot butterfly and currently implements management measures that contribute to the conservation of natural resources and native species. The tribe is already working with the Service to understand the habitat needs of this subspecies, and has an active natural resource management program. Further, the tribal lands were included in the proposed designation, and the proposed designation reached a wide audience. Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the BIA or tribes on areas important to the long-term conservation of this subspecies) may have already been realized.

In light of continued commitment by the Cahuilla Band of Indians to manage its lands in a manner that promotes the conservation of native species, we believe designation of critical habitat on these tribal lands would provide few additional regulatory and conservation benefits to the subspecies beyond those that will result from continued jeopardy consultation.

Benefits of Exclusion – Cahuilla Band of Indians

The benefits of excluding approximately 1,203 ac (487 ha) of Cahuilla Band of Indians' land from designated critical habitat are significant. We believe the benefits that would be realized by forgoing the designation of critical habitat on these lands include: (1) Furtherance of our Federal Indian Trust obligations and our deference to tribal conservation and natural resource management of its lands and resources, including Federal trust species; (2) continuance and strengthening of our effective working relationships with the tribe to promote conservation of the Quino checkerspot butterfly and its habitat; (3) conservation benefits by tribal programs that might not otherwise occur; and (4) removal of all incremental economic impacts to the tribe that may result from critical habitat designation on tribal lands.

We communicated with the Cahuilla Band of Indians throughout the designation process. Meetings and communications were conducted in accordance with Secretarial Order 3206; the Presidential 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 Department Manual of the Department of the Interior (512 DM 2). We believe tribes should be the governmental entities to manage and promote conservation of the Quino checkerspot butterfly on their lands. We recognize the tribes' fundamental right to provide for tribal resource management activities, including those relating to the Quino checkerspot butterfly. The Cahuilla Band of Indians informed us that critical habitat would be viewed as an intrusion on its sovereign abilities to manage natural resources in accordance with its own policies, customs, and laws. Furthermore, several comment letters received from tribes and the BIA indicated designation of critical habitat would adversely affect our working relationships with tribes.

Several tribes and the BIA commented that designation of critical habitat on these tribal lands would constitute a significant burden to the Cahuilla Band of Indians. Potential economic impacts only become realized through consultation when there is a Federal nexus. However, in the case of tribal lands, there is a high likelihood all projected costs would be realized, as the BIA (a Federal Agency) provides technical assistance to tribes on management planning and oversees a variety of programs on tribal lands. As described above, the Cahuilla Band of Indians is economically depressed and therefore vulnerable to an economic impact. Eliminating potential incremental economic impacts of critical habitat designation would prevent additional economic impact on the tribal economy where section 7 consultation costs are already likely due to known occupancy.

Benefits of Exclusion Outweigh Benefits of Inclusion—Cahuilla Band of Indians

The benefits of excluding the Cahuilla Band of Indians' lands from critical habitat are more significant than the benefits of inclusion. The philosophy of allowing the tribe to manage its natural resources to benefit the Quino checkerspot butterfly and its habitat without the perception of additional Federal Government intrusion is consistent with our published policies on Native American natural resource management. The exclusion of these areas will also encourage and help maintain our cooperative working relationships with this tribe and facilitate further conservation activities by local tribal environmental organizations, which will likely provide benefits to this subspecies that would not otherwise occur. Finally, as discussed above, eliminating the disproportionately high incremental economic impacts associated with a critical habitat designation on the Cahuilla Band of Indians' lands will prevent unnecessary and counter-productive impacts to the vulnerable tribal economy. Therefore, we determined the benefits identified above of excluding approximately 1,203 ac (487 ha) of Cahuilla Band of Indians' land from the critical habitat designation outweigh the benefits of including these tribal lands.

Exclusion Will Not Result in Extinction of the Species—Cahuilla Band of Indians

We determined that exclusion of the Cahuilla Band of Indians' lands from the final revised designation of critical habitat for the Quino checkerspot butterfly will not result in the extinction of the subspecies. The majority of lands within proposed Unit 6 that are outside of the tribe's jurisdiction are protected and managed either explicitly for the subspecies, or indirectly through more general objectives to protect natural values, thereby providing conservation value to the physical or biological features essential to the conservation of the Quino checkerspot butterfly that are found within the area supporting the Tule Peak/Silverado Core Occurrence Complex. Additionally, the tribe's continued commitment to manage its lands in a manner that promotes the conservation of native species, and the high likelihood of future Federal nexuses on tribal land resulting in consultations under the jeopardy standard of section 7(a)(2) of the Act that will ensure activities on tribal land are not likely to jeopardize the continued existence of the subspecies provide assurances that the subspecies will not go extinct as a result of this exclusion. Therefore, based on the above discussion we are excluding approximately 1,202 ac (488 ha) of Cahuilla Band of Indians' land proposed in Unit 6 from this critical habitat designation.

Tribal Lands – Ramona Band of Cahuilla Indians

In accordance with the Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (Secretarial Order 3206; 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), we believe that fish, wildlife, and other natural resources on tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Based on this philosophy, we believe in most cases designation of tribal lands as critical habitat provides very little additional benefits to threatened and endangered species. Conversely, such designation is often viewed by tribes as an unwarranted and unwanted intrusion into tribal self-governance; therefore, critical habitat designation compromises the government-to-government relationship essential to achieving our mutual goal of managing for viability of ecosystems on which threatened and endangered species depend. Section 3(B)(4) of the Appendix to Secretarial Order 3206 ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997), also specifically states ''* * * Critical habitat shall not be designated in [areas that may affect tribal trust resources, tribally-owned fee lands, or the exercise of tribal rights] unless it is determined essential to conserve a listed species. In designating critical habitat, the Services shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands.'' We received multiple comment letters from several tribal governments and the BIA stating that designation of critical habitat on tribal lands constitutes a significant burden to tribes. The Ramona Band of Cahuilla Indians is the only tribe affected by the proposed revision to critical habitat that does not own a casino. It is our understanding the Ramona Band of Cahuilla Indians' primary economic development plan is the low-impact ecotourism ''resort'' (solar-powered electricity and only structures are small cabin-like ''yurts'' and a electrical facility) currently under construction on their reservation.

We determined that tribal fee lands of the Ramona Band of Cahuilla Indians contain the physical or biological features essential to the conservation of the Quino checkerspot butterfly and meet the definition of critical habitat under the Act. In making our final decision with regard to these tribal lands, we considered several factors including our relationship with the affected tribe, our recognition that tribal governments protect and manage their resources in the manner most beneficial to them, and the estimated economic impacts to the affected tribe associated with the designation of critical habitat. We recognize that the Ramona Band of Cahuilla Indians exercises legislative, administrative, and judicial control over activities within the boundaries of its lands and that the tribe has a natural resource management program and staff. The tribe's natural resource management efforts will continue to be implemented regardless of whether tribal lands are designated as critical habitat. Under section 4(b)(2) of the Act, we are excluding all Ramona Band of Cahuilla Indians' lands (in Unit 7) from this final revised critical habitat designation. As described in our analysis below, we reached this determination because of our effective working relationship with the tribe and in consideration of the disproportionate economic impact associated with the designation of critical habitat on tribal lands.

Socioeconomic data discussed in chapter 6 of the FEA demonstrate the economic vulnerability of the Ramona Band of Cahuilla Indians. The tribe self-governs its lands and is solely responsible for public services in the same manner as county and city governments. The Ramona Band of Cahuilla Indians does not have independent taxing authority and, therefore, must rely on development fees within limited tribal lands to generate government revenue. However, as discussed in detail in chapter 6 of the FEA, local tribal governments have far fewer resources to draw from than county governments and the Ramona Band of Cahuilla Indians serves an especially disadvantaged population. Furthermore, the tribe has a limited amount of reservation lands available for development and conservation.

The Ramona Band of Cahuilla Indians has an extremely small population (8 members), including children, from which to raise revenue. The FEA did not analyze impacts to the Ramona Band of Cahuilla Indians because data were not available, but it is our understanding that their resource base is reduced compared to the Cahuilla Band of Indians. This resource base is significantly smaller than the surrounding county (Riverside) that supports a population base of 1,545,387 people. Additionally, although the DEA did not provide specific statistics for the Ramona Band of Cahuilla Indians, it is reasonable to assume, based on our general knowledge of the tribe's circumstances (see above discussion) that, similar to the Cahuilla Band of Indians, the proportion of tribal members below the poverty level, particularly the most impoverished people, is substantially higher relative to the nontribal populations of Riverside County, and the median value of owner-occupied houses is less than half that of owner-occupied houses in the county.

The DEA did not analyze costs to the Ramona Band of Cahuilla Indians as we were initially unaware that the proposed revisions to critical habitat included tribally owned fee lands for this tribe. Land ownership data used in our analysis of proposed revisions to critical habitat did not accurately reflect recent tribal purchases. However, in consideration of land ownership information submitted to the Service after publication of proposed revisions to critical habitat (indicating 79 ac (32 ha) of lands owned by the tribe were included in Unit 7), the general economic vulnerability of tribes discussed in the DEA, the Ramona Band of Cahuilla Indians' limited resource base, and the disadvantaged population they serve, we determined any economic impacts associated with a critical habitat designation will have a disproportionately negative impact on this tribe.

Benefits of Inclusion – Ramona Band of Cahuilla Indians

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard under which consultation is completed.

Ramona Band of Cahuilla Indians' lands are within the habitat-based population distribution of the Bautista Road core occurrence complexes (Unit 7). If surveys detect occupancy within a project footprint, then consultation would occur regardless of critical habitat designation, and the likelihood of this occurring within this occupied critical habitat unit is high. However, as discussed above in the ''Benefits of Designating Critical Habitat'' section, surveys may not detect butterflies during any given flight season even in occupied habitat. Therefore, the conservation benefits of critical habitat designation for the Quino checkerspot butterfly are reduced but not negated by population occupancy in Unit 7.

Another possible benefit of including lands in a critical habitat designation is

that the designation can serve to educate the landowner and the public regarding the potential conservation value of an area, and this may help focus conservation efforts to designated areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed above in the ''Tribal Comments'' section, the Ramona Band of Cahuilla Indians is aware of the value of its lands to the conservation of the Quino checkerspot butterfly and currently implements management measures that contribute to the conservation of natural resources and native species, for example, surveys and mapping of sensitive native species and habitat restoration associated with ecotourism resort development. The Ramona Band of Cahuilla Indians is already working with the Service to understand the habitat needs of this subspecies, and has an active natural resource management program including nontribal staff members. Further, the tribal lands were included in the proposed designation, which itself reached a wide audience and served to educate the public. Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the BIA or tribes on areas important to the long-term conservation of this subspecies) may have already been realized.

In light of continued commitment by the Ramona Band of Cahuilla Indians to manage its lands in a manner that promotes the conservation of native species, we believe designation of critical habitat on tribal fee lands would provide few additional regulatory and conservation benefits to the subspecies beyond those that will result from continued jeopardy consultation.

Benefits of Exclusion – Ramona Band of Cahuilla Indians

The benefits of excluding approximately 79 ac (32 ha) of Ramona Band of Cahuilla Indians' land from designated critical habitat are significant. We believe the benefits that would be realized by forgoing the designation of critical habitat on these lands include: (1) Furtherance of our Federal Indian Trust obligations and our deference to tribal conservation and natural resource management of their lands and resources, including Federal trust species; (2) continuance and strengthening of our effective working relationships with the tribe to promote conservation of the Quino checkerspot butterfly and its habitat; (3) conservation benefits by tribal programs that might not otherwise occur; and (4) removal of all incremental economic impacts to the tribe that may result from critical habitat designation on tribal lands.

We communicated with the Ramona Band of Cahuilla Indians during the designation process, as soon as we were aware that the proposed revision included tribal fee lands. Meetings and communications were conducted in accordance with Secretarial Order 3206; the Presidential 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 Department Manual of the Department of the Interior (512 DM 2). We believe tribes should be the governmental entities to manage and promote conservation of the Quino checkerspot butterfly on their lands. We recognize tribes' fundamental right to provide for tribal resource management activities, including those relating to the Quino checkerspot butterfly. The Ramona Band of Cahuilla Indians informed us that critical habitat would be viewed as an intrusion on its sovereign abilities to manage natural resources in accordance with its own policies, customs, and laws. Furthermore, several comment letters received from tribes and the BIA indicated designation of critical habitat would adversely affect our working relationships with the Ramona Band of Cahuilla Indians.

Several tribes, including the Ramona Band of Cahuilla Indians, and the BIA commented that designation of critical habitat on tribal lands would constitute a significant burden to affected tribes. Potential economic impacts only become realized through consultation when there is a Federal nexus. However, in the case of tribal lands, there is a high likelihood all projected costs will be realized, as the BIA (a Federal Agency) provides technical assistance to tribes on management planning and oversees a variety of programs on tribal lands. As described above, the Ramona Band of Cahuilla Indians is economically depressed and therefore vulnerable to an economic impact. Eliminating potential incremental economic impacts of critical habitat designation will prevent additional economic impact on the tribal economy where section 7 consultation costs are already likely due to known occupancy.

Benefits of Exclusion Outweigh Benefits of Inclusion – Ramona Band of Cahuilla Indians

The benefits of excluding the Ramona Band of Cahuilla Indians' lands from critical habitat are more significant than the benefits of inclusion. The philosophy of allowing the tribe to manage its natural resources to benefit the Quino checkerspot butterfly and its habitat without the perception of additional Federal Government intrusion is consistent with our published policies on Native American natural resource management. The exclusion of these areas will also encourage and help maintain our cooperative working relationships with this tribe and facilitate further conservation activities by the tribal environmental organization, which will likely provide benefits to this subspecies that would not otherwise occur. Finally, as discussed above, eliminating the disproportionately high incremental economic impacts associated with a critical habitat designation on the Ramona Band of Cahuilla Indians' lands will prevent unnecessary and counter-productive impacts to the vulnerable tribal economy. Therefore, we determined the benefits identified above of excluding approximately 79 ac (32 ha) of Ramona Band of Cahuilla Indians' land from the revised critical habitat designation outweigh the benefits of including these tribal lands.

Exclusion Will Not Result in Extinction of the Species—Ramona Band of Cahuilla Indians

We determined that the exclusion of 79 ac (32 ha) of the Ramona Band of Cahuilla Indians' land from the final revised designation of critical habitat for the Quino checkerspot butterfly will not result in the extinction of the subspecies. The vast majority of lands proposed in Unit 7 are being designated as critical habitat and will receive the full protection afforded to critical habitat under the Act. Additionally, the tribe's continued commitment to manage its lands in a manner that promotes the conservation of native species, and the likelihood of future Federal nexuses on tribal land resulting in consultations under the jeopardy standard of section 7(a)(2) of the Act that will ensure activities on tribal land are not likely to jeopardize the continued existence of the subspecies provide assurances that the subspecies will not go extinct as a result of this exclusion. Therefore, based on the above discussion we are excluding approximately 79 ac (32 ha) of Ramona

Band of Cahuilla Indians' land proposed in Unit 7 from this critical habitat designation.

Tribal Lands—Campo Band of Kumeyaay Indians

In accordance with the Secretarial Order 3206, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (Secretarial Order 3206; 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), we believe that fish, wildlife, and other natural resources on tribal lands are better managed under tribal authorities, policies, and programs than through Federal regulation wherever possible and practicable. Based on this philosophy, we believe in most cases designation of tribal lands as critical habitat provides very little additional benefits to threatened and endangered species. Conversely, such designation is often viewed by tribes as an unwarranted and unwanted intrusion into tribal self-governance; therefore critical habitat designation compromises the government-to-government relationship essential to achieving our mutual goal of managing for viability of ecosystems on which threatened and endangered species depend. Section 3(B)(4) of the Appendix to Secretarial Order 3206 ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act'' (June 5, 1997), also specifically states ''* * * Critical habitat shall not be designated in [areas that may affect tribal trust resources, tribally-owned fee lands, or the exercise of tribal rights] unless it is determined essential to conserve a listed species. In designating critical habitat, the Services shall evaluate and document the extent to which the conservation needs of the listed species can be achieved by limiting the designation to other lands.'' We received multiple comment letters from several tribal governments and the BIA stating that designation of critical habitat on tribal lands constitutes a significant burden to tribes.

We determined that 3,167 ac (1,282 ha) of Campo Band of Kumeyaay Indians' lands (in Unit 9) contain the physical or biological features essential to the conservation of the Quino checkerspot butterfly and meet the definition of critical habitat under the Act. In making our final decision with regard to these tribal lands, we considered several factors including our relationship with the affected tribe, our recognition that tribal governments protect and manage their resources in the manner most beneficial to them, and the estimated economic impacts to the affected tribe associated with the designation of critical habitat. We recognize that the Campo Band of Kumeyaay Indians exercises legislative, administrative, and judicial control over activities within the boundaries of its lands and has a natural resource management program and staff. Natural resource management efforts will continue to be implemented by the Campo Band of Kumeyaay Indians regardless of whether tribal lands are designated as critical habitat. Under section 4(b)(2) of the Act, we are excluding all 3,167 ac (1,282 ha) of Campo Band of Kumeyaay Indians' lands (in Unit 9) from this final revised critical habitat designation that contain the physical and biological features essential to the conservation of the Quino checkerspot butterfly. As described in our analysis below, we reached this determination because of our effective working relationship with the tribe and in consideration of the disproportionate economic impact associated with the designation of critical habitat on tribal lands.

Socioeconomic data discussed in chapter 6 of the FEA demonstrate the economic vulnerability of the Campo Band of Kumeyaay Indians. The tribe self-governs its lands and is solely responsible for public services in the same manner as county and city governments. However, as discussed in detail in chapter 6 of the FEA, this tribal government has far fewer resources to draw from than county governments and serves an especially disadvantaged population. Tribal governments do not have independent taxing authority and therefore must rely on development fees within limited tribal lands to generate government revenue. Furthermore, the Campo Band of Kumeyaay Indians has a very limited amount of reservation lands available for development and conservation.

According to data collected in preparation of the DEA, the Campo Band of Kumeyaay Indians has a small population (372 members) from which to raise revenue. This resource base is significantly smaller than the surrounding county (San Diego) that supports a population base of 2,813,833 people. The Campo Band of Kumeyaay Indians' unemployment rate is almost twice that of San Diego County, and the median household income level is lower. Likewise, the proportion of people below the poverty level is substantially higher for the Campo Band of Kumeyaay Indians relative to the nontribal population of San Diego County. There is an even larger disparity among the most impoverished people (percentage of people below 50 percent of the poverty level); the percentage of people below half of the poverty level on the Campo Band of Kumeyaay Indians' reservation (approximately 29 percent) is more than five times that of the nontribal population of San Diego County (approximately 5 percent). This disparity is also reflected in property values on the reservation, where the median value of owner-occupied houses is less than half that of owner-occupied houses in San Diego County.

As described in Chapter 6 of the FEA, the projected incremental economic impacts that would be incurred by the Campo Band of Kumeyaay Indians as a result of the proposed critical habitat designation totals $4.9 million to $6.8 million over the 23 year analysis period ($406,000 to $563,000 annualized) at a seven percent discount rate (up to 62 percent of all incremental economic impacts of designating critical habitat in Unit 9). Tribal lands available for development are limited on the reservation, and up to 62 percent of all projected incremental economic impacts of designating critical habitat in Unit 9 (primarily residential development) were anticipated to be incurred by the Campo Band of Kumeyaay Indians. Therefore, in consideration of economic vulnerability of the tribal government discussed above, its limited resource base, and the disadvantaged population it serves, we determined any economic impacts associated with a critical habitat designation will have a disproportionately negative impact on this tribe.

Benefits of Inclusion—Campo Band of Kumeyaay Indians

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard under which consultation is completed.

The Campo Band of Kumeyaay Indians' land are within the habitat-based population distribution of the La Posta–Campo Core Occurrence Complex (Unit 9). If surveys detect occupancy within a project footprint, then consultation would occur regardless of critical habitat designation, and the

likelihood of this occurring within this occupied critical habitat unit is high. However, as discussed above in the ''Benefits of Designating Critical Habitat'' section, even in occupied habitat, surveys may not detect butterflies during any given flight season. Therefore, the conservation benefits of critical habitat designation are reduced but not negated by population occupancy in Unit 9.

Another possible benefit of including lands in a critical habitat designation is that the designation can serve to educate the landowner and the public regarding the potential conservation value of an area, and this may help focus conservation efforts to designated areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed in the ''Tribal Comments'' section above, the Campo Band of Kumeyaay Indians is aware of the value of its lands to the conservation of the Quino checkerspot butterfly and currently implements management measures that contribute to the conservation of natural resources and native species. For example, in their first comment letter (March 20, 2008) the tribe cited a completed riparian habitat restoration project. The Campo Band of Kumeyaay Indians is already working with the Service to understand the habitat needs of this subspecies, and has an active natural resource management program. Further, the tribal lands were included in the proposed designation, which itself reached a wide audience and served to educate the public. Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the BIA or tribes on areas important to the long-term conservation of this subspecies) may have already been realized.

In light of continued commitment by the Campo Band of Kumeyaay Indians to manage its lands in a manner that promotes the conservation of native species, we believe designation of critical habitat on tribal lands would provide few additional regulatory and conservation benefits to the subspecies beyond those that will result from continued jeopardy consultation.

Benefits of Exclusion—Campo Band of Kumeyaay Indians

The benefits of excluding approximately 3,167 ac (1,282 ha) of Campo Band of Kumeyaay Indians land from designated critical habitat are significant. We believe the benefits that would be realized by forgoing the designation of critical habitat on these lands include: (1) Furtherance of our Federal Indian Trust obligations and our deference to tribal conservation and natural resource management of their lands and resources, including Federal trust species; (2) continuance and strengthening of our effective working relationship with the tribe to promote conservation of the Quino checkerspot butterfly and its habitat; (3) conservation benefits by tribal programs that might not otherwise occur; and (4) removal of all incremental economic impacts to the tribe that may result from critical habitat designation on tribal lands.

We communicated with the Campo Band of Kumeyaay Indians throughout the designation process. Meetings and communications were conducted in accordance with Secretarial Order 3206; the Presidential 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 Department Manual of the Department of the Interior (512 DM 2). We believe tribes should be the governmental entities to manage and promote conservation of the Quino checkerspot butterfly on their lands. We recognize tribes' fundamental right to provide for tribal resource management activities, including those relating to the Quino checkerspot butterfly. The Campo Band of Kumeyaay Indians informed us that critical habitat would be viewed as an intrusion on its sovereign abilities to manage natural resources in accordance with its own policies, customs, and laws. Furthermore, several comment letters received from the Campo Band of Kumeyaay Indians, other tribes, and the BIA indicated designation of critical habitat adversely affects our working relationships with all tribes.

The Campo Band of Kumeyaay Indians and the BIA commented that designation of critical habitat on Campo Band of Kumeyaay Indians' lands would constitute a significant burden to the tribe. Projected economic impacts only become realized through consultation when there is a Federal nexus. However, in the case of tribal lands, there is a high likelihood all projected costs will be realized, as the BIA (a Federal Agency) provides technical assistance to tribes on management planning and oversees a variety of programs on tribal lands. As described above, the Campo Band of Kumeyaay Indians is economically depressed and therefore vulnerable to the economic impact. Eliminating projected incremental economic impacts of critical habitat designation as described in the FEA will prevent additional economic impact on the tribal economy where section 7 consultation costs are already likely due to known occupancy.

Benefits of Exclusion Outweigh Benefits of Inclusion—Campo Band of Kumeyaay Indians

The benefits of excluding the Campo Band of Kumeyaay Indians' lands from critical habitat are more significant than the benefits of inclusion. The philosophy of allowing the tribe to manage its natural resources to benefit the Quino checkerspot butterfly and its habitat without the perception of additional Federal Government intrusion is consistent with our published policies on Native American natural resource management. The exclusion of these areas will also encourage and help maintain our cooperative working relationship with the Campo Band of Kumeyaay Indians and facilitate further conservation activities by local tribal environmental organizations, which will likely provide benefits to this subspecies that would not otherwise occur. Finally, as discussed above, eliminating the disproportionately high incremental economic impacts associated with a critical habitat designation on the Campo Band of Kumeyaay Indians' land will prevent unnecessary and counter-productive impacts to the vulnerable tribal economy. Therefore, we determined the benefits identified above of excluding approximately 3,087 ac (1,249 ha) of Campo Band of Kumeyaay Indians' land from the critical habitat designation outweigh the benefits of including these tribal lands.

Exclusion Will Not Result in Extinction of the Species – Campo Band of Kumeyaay Indians

We determined that the exclusion of the Campo Band of Kumeyaay Indians' lands from the final revised designation of critical habitat for the Quino checkerspot butterfly will not result in the extinction of the subspecies. The tribe's continued commitment to manage its lands in a manner that promotes the conservation of native species, and the high likelihood of future Federal nexuses on tribal land resulting in consultations under the jeopardy standard of section 7(a)(2) of the Act that will ensure activities on tribal land are not likely to jeopardize the continued existence of the subspecies provide assurances that the subspecies will not go extinct as a result of this exclusion. Therefore, based on the above discussion we are excluding approximately 3,167 ac (1,282 ha) of

Campo Band of Kumeyaay Indians' land proposed in Unit 9 from this critical habitat designation.

Application of Section 4(b)(2)—Impacts to National Security

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

Department of Defense—San Diego Air Force Space Surveillance Station

We determined that approximately 109 ac (44 ha) of Air Force lands at the San Diego Air Force Space Surveillance Station (Surveillance Station), located in Unit 8, contain the features essential to the conservation of the Quino checkerspot butterfly, and therefore meet the definition of critical habitat under the Act. In making our final decision with regard to these Air Force lands, we considered several factors including impacts to national security associated with a critical habitat designation as described by the Air Force, existing consultations, and conservation measures in place at this facility that benefit the Quino checkerspot butterfly. Under section 4(b)(2) of the Act, we are excluding all Air Force Surveillance Station lands in Unit 8 containing features essential to the conservation of the Quino checkerspot butterfly from this final revised critical habitat designation. As described in our analysis below, we reached this determination in consideration of the impact to national security associated with the designation of critical habitat on these Air Force lands.

An endangered species management plan is in place at the Surveillance Station to conserve Quino checkerspot butterfly habitat. Activities at the station that reduce the risk of fire damage consist of occasional equipment inspection, equipment maintenance, and mowing, therefore conservation actions are relatively simple. Conservation measures included in the plan that benefit the Quino checkerspot butterfly and its habitat include (1) Monitoring Quino checkerspot butterfly occupancy and habitat status through protocol surveys that also document habitat quality, suitability, and the presence and abundance of host plants and nectar sources; (2) use of monitoring results to adopt management strategies that maintain and protect the Quino checkerspot butterfly; and (3) maintaining existing habitat onsite, including actions such as flagging and avoiding host plants prior to fire abatement activities, or utilizing the existing mowing program to maintain areas of low, open grassland most suitable for host plants. The Air Force is currently working on an INRMP for this facility that will incorporate the existing endangered species management plan. Quino checkerspot butterfly management efforts will continue to be implemented by the Air Force regardless of whether the Surveillance Station is designated as critical habitat.

In a letter received by the Service on March 20, 2008, the Air Force determined that critical habitat designation on Surveillance Station lands would impact national security. The mission of the Surveillance Station is to detect, track, and identify manmade objects in near-earth and deep-space orbits using a series of receiving stations equipped with linear antenna arrays. The Air Force expressed concern that designation of these lands could cause short-notice, national security, mission-critical activities to be delayed if they were required to conduct consultation due to a critical habitat designation. Short-notice, mission-critical activities not previously analyzed that would likely be delayed by section 7 consultation and directly affect national security include equipment upgrades, some maintenance activities, and replacement of antennae. These activities require immediate ground disturbance in designated areas for new antennae construction or heavy equipment operation, and are not covered by the INRMP.

Benefits of Inclusion—Air Force Surveillance Station

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to insure actions they fund, authorize, or carry out are not likely to result in destruction or adverse modification of designated critical habitat, the regulatory standard under which consultation is completed.

These Air Force lands are within the habitat-based population distribution of the Otay Mountain Core Occurrence Complex (Unit 8). If surveys detect occupancy within a project footprint, then consultation would occur regardless of critical habitat designation, and the likelihood of this occurring within this occupied critical habitat unit is high. However, as discussed above in the ''Benefits of Designating Critical Habitat'' section, even in occupied habitat, surveys may not detect butterflies during any given flight season. Therefore, the conservation benefits of critical habitat designation are reduced but not negated by population occupancy in Unit 8.

The primary benefit of including these Air Force lands within a critical habitat designation is the requirement for consultation on actions that may adversely modify or destroy designated critical habitat; however, consultation on these lands, which are within the habitat-based population distribution of the Otay Mountain Core Occurrence Complex and are within the boundaries of previously designated Quino checkerspot butterfly critical habitat, has already been completed. The Service completed consultation with the Navy (prior landowner) regarding all current and foreseen mowing activity and issued a biological opinion concluding that all current and foreseen mowing activity is not likely to jeopardize the Quino checkerspot butterfly nor destroy or adversely modify its currently designated critical habitat (Service 2003, FWS–SDG–2511.3).

Another possible benefit of including lands in a critical habitat designation is that the designation can serve to educate the landowner and the public regarding the potential conservation value of an area, and this may help focus conservation efforts to identified areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed above, the Air Force is aware of the value of Surveillance Station lands to the conservation of the Quino checkerspot butterfly and currently implements management measures to conserve Quino checkerspot butterflies and their habitat. The Air Force is actively working with the Service and the CDFG to develop an INRMP that will ensure conservation of this subspecies on Surveillance Station lands. Further, all Surveillance Station lands were included in the proposed designation, which itself reached a wide audience. Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the Air Force on areas important to the long-term conservation of this subspecies) have largely already been realized by consultation, development of the management plan, development of the INRMP, and proposing these areas as critical habitat.

We believe designation of critical habitat would provide few, if any, additional regulatory and conservation benefits to the subspecies beyond those that will result from continued jeopardy consultation due to the continued commitment by the Air Force to manage its lands in a manner that promotes conservation of the Quino checkerspot butterfly and the coordination and management efforts demonstrated by the Air Force resulting from consultation and development of an INRMP.

Benefits of Exclusion—Air Force Surveillance Station

The benefits of excluding approximately 109 ac (44 ha) of Air Force lands are significant. The Air Force maintains and defends our national security at the Surveillance Station by detecting, tracking, and identifying man-made objects in near-earth and deep space orbits. As described above, the Air Force determined designation of Surveillance Station lands could delay short-notice national security mission-critical activities such as inspections/maintenance of antenna arrays and their components. Excluding these Air Force lands from critical habitat designation will remove the potentially significant impact that a designation of critical habitat could have on the Air Force's ability to maintain and defend our national security.

Benefits of Exclusion Outweigh Benefits of Inclusion—Air Force Surveillance Station

We reviewed and evaluated the benefits of inclusion and benefits of exclusion for Air Force Surveillance Station lands in Unit 8. We believe the benefits of designating these lands as Quino checkerspot butterfly critical habitat are small, whereas the benefits of excluding these lands from critical habitat will result in the removal of impacts to national security as determined by the Air Force. Therefore, we have determined the benefits identified above of excluding approximately 109 ac (44 ha) of Air Force Surveillance Station lands from the critical habitat designation outweigh the benefits of including these lands.

Exclusion Will Not Result in Extinction of the Species—Air Force Surveillance Station

We determined that the exclusion of the Air Force Surveillance Station lands from the final revised designation of critical habitat for the Quino checkerspot butterfly will not result in the extinction of the subspecies. While some loss of habitat for the Quino checkerspot butterfly is anticipated with the continued Air Force activities on Surveillance Station lands, we concluded in our biological opinion (Service 2003, FWS–SDG–2511.3) that mowing activity would not jeopardize the continued existence of this subspecies. Additionally, the current management and proposed management under the draft INRMP in development provides some protection and management of lands within Unit 8, including the physical or biological features essential to the conservation of the Quino checkerspot butterfly. Finally, the likelihood of future Federal nexuses on these Air Force lands resulting in consultations under the jeopardy standard of section 7(a)(2) of the Act that will ensure activities on these lands are not likely to jeopardize the continued existence of the subspecies provide assurances that the subspecies will not go extinct as a result of this exclusion. Therefore, based on the above discussion we are excluding approximately 109 ac (44 ha) of Air Force Surveillance Station lands proposed in Unit 8 from this critical habitat designation.

Department of Defense—La Posta Mountain Warfare Training Facility

We determined that approximately 2,463 ac (997 ha) of land owned or controlled by the United States Navy (Navy), or designated for its use, at the La Posta Mountain Warfare Training Facility (La Posta Facility), located in Unit 9, contain the features essential to the conservation of the Quino checkerspot butterfly, and meet the definition of critical habitat under the Act. In making our final decision with regard to these Navy lands, we considered several factors including impacts to national security associated with a critical habitat designation as described by the Navy, existing consultations, and conservation measures in place at this facility that benefit the Quino checkerspot butterfly. Under section 4(b)(2) of the Act, we are excluding all Navy La Posta Facility lands, and lands owned by the BLM designated for use as part of the La Posta Facility from this final revised critical habitat designation. As described in our section 4(b)(2) analysis below, we reached this determination in consideration of the impact to national security associated with the designation of critical habitat on these Navy lands.

The Navy Special Operations Forces train at the La Posta Facility before deploying to the United States Pacific and Central Commands in support of missions in the global war on terrorism. This warfare training facility supports mission-essential training for Navy troops prior to deployment into these hostile areas of the world. The La Posta Facility is currently the only semi-remote, Navy-controlled complex supporting Assault and Tactical Weapons Training, and the only San Diego region cold weather—mountain warfare site that provides training in unconventional warfare and special tactical intelligence. The Navy Special Operations Forces training schedule is extremely concentrated and does not allow for any shifting of training blocks. By Navy training policy, this site contains a remote range built specifically for the skill set required, is close to home, and is without distractions. Therefore, these lands have high national security value.

The Navy actively conserves the Quino checkerspot butterfly and its habitat at the La Posta Facility. Conservation measures pursuant to a biological opinion (FWS–SDG–4452) include a comprehensive Quino Habitat Enhancement Plan for the La Posta Facility. The Navy funds implementation of the Quino Habitat Enhancement Plan and consistent with the plan, the Navy: (1) Identifies areas containing important Quino checkerspot butterfly habitat features (e.g., host plants for breeding and hilltops for mating); (2) delineates Quino Management Area boundaries (based on mapping in #1); (3) implements specific management strategies, such as weed control, to conserve the subspecies; (4) avoids trampling of Quino checkerspot butterfly larvae, host plants, or cryptobiotic soil crusts in important habitat; (5) monitors Quino checkerspot butterfly habitat to detect any significant changes; (6) describes and implements larval salvage and release techniques; and (7) conducts surveys every 4 years to detect changes in the Quino checkerspot butterfly distribution.

In addition to the conservation measures described above, the Navy provided funding for The Nature Conservancy to purchase and manage approximately 138 ac (56 ha) of Quino checkerspot butterfly habitat adjacent to the La Posta Facility. Furthermore, the Navy has updated its Naval Base Coronado INRMP to address the Quino checkerspot butterfly and its habitat at the La Posta Facility and is awaiting approval by the Service. The INRMP will incorporate all conservation measures included in the current Quino checkerspot butterfly Habitat Enhancement Plan and address expansion plans for the La Posta Facility. Quino checkerspot butterfly management efforts will continue to be implemented by the Navy regardless of

whether the La Posta Facility is designated as critical habitat.

In a letter received by the Service on March 20, 2008, (see ''Comments From Other Federal Agencies'' section above) the Navy determined that critical habitat designation on La Posta Facility lands would affect national security. With the closure of several contract sites previously conducting Navy Sea, Air, and Land Forces unit level training, the La Posta facility is now the sole Navy training site in the San Diego region for developing small, well-trained and highly mobile independent operational units for deployment into combat. Designation of these lands as critical habitat could delay construction of facilities needed to support mission critical training vital to the current global war on terrorism and other missions related to national security. To support training requirements, there are a series of development projects being planned at the La Posta Facility including construction of a close-quarter combat training facility. Any delay in construction of facilities that support operational readiness would seriously affect personnel readiness by disrupting mission critical training and the ability to acquire and perform special warfare skills.

Benefits of Inclusion—Navy La Posta Facility

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to insure actions they fund, authorize, or carry out are not likely to result in destruction or adverse modification of designated critical habitat, the regulatory standard under which consultation is completed.

These Navy lands are within the habitat-based population distribution of the recently identified La Posta/Campo Core Occurrence Complex. If surveys detect occupancy within a project footprint, then consultation would occur regardless of critical habitat designation, and the likelihood of this occurring within this occupied critical habitat unit is high. However, as discussed above in the ''Benefits of Designating Critical Habitat'' section, even in occupied habitat, surveys may not detect butterflies during any given flight season. Therefore, the conservation benefits of critical habitat designation are reduced but not negated by population occupancy in Unit 9.

Additionally, the Service has already consulted with the Navy regarding all current construction activities at the La Posta Facility, including construction of the aforementioned close-quarters combat training facility, and issued a biological opinion (Service 2007; FWS–SDG–4452) concluding the proposed activities are not likely to jeopardize the continued existence of the Quino checkerspot butterfly. Conservation measures resulting from that consultation include the development of a comprehensive Quino Habitat Enhancement Plan discussed above. Critical habitat is not currently designated on these lands; therefore, the consultation did not include an adverse modification analysis. However, the Quino Habitat Enhancement Plan, if implemented long-term as described above, will conserve and enhance the physical and biological features essential to the conservation of the Quino checkerspot butterfly.

Another possible benefit of including lands in a critical habitat designation is that the designation can serve to educate the landowner and the public regarding the potential conservation value of an area, and this may help focus conservation efforts to identified areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed above, the Navy is aware of the value of La Posta Facility lands to Quino checkerspot butterfly conservation and currently implements management measures to conserve the subspecies and its habitat. The Navy is actively working with the Service and the CDFG to update the Naval Base Coronado INRMP to address Quino checkerspot butterflies and their habitat at the La Posta Facility. Further, all La Posta Facility lands were included in the proposed designation, which itself reached a wide audience. Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the Navy on areas important to the long-term conservation of this subspecies) have largely already been realized by consultation, development of the Habitat Enhancement Plan, development of the INRMP, and proposing these areas as critical habitat.

In light of continued Navy commitments to manage its lands in a manner that promotes conservation of the Quino checkerspot butterfly, we believe designation of critical habitat on these Navy lands would provide minimal additional regulatory and conservation benefits to the subspecies beyond those that will result from continued jeopardy consultation.

Benefits of Exclusion—Navy La Posta Facility

The benefits of excluding the approximately 2,463 ac (997 ha) of Navy lands are significant. The Navy maintains and defends our national security at the La Posta Facility by training highly specialized troops for deployment. As described above, it is possible that designation of La Posta Facility lands as critical habitat could delay construction schedules and thereby disrupt mission critical training and the Navy's ability to acquire and perform special warfare skills. Additional consultation under section 7 of the Act due to critical habitat designation could limit or otherwise delay or restrict the amount and timing of mission-critical training exercises. Excluding these Navy lands from the critical habitat designation will effectively remove the impact that a designation of critical habitat could have on the Navy's ability to maintain and defend our national security.

Benefits of Exclusion Outweigh Benefits of Inclusion—Navy La Posta Facility

The benefits of including these Navy La Posta Facility lands in designation of critical habitat for the Quino checkerspot butterfly are small compared to the benefits of excluding these lands from critical habitat for the purposes of national security training efforts. Therefore, we determined the benefits identified above of excluding approximately 2,463 ac (997 ha) of Navy La Posta Facility lands from the critical habitat designation outweigh the benefits of including these lands in the designation.

Exclusion Will Not Result in Extinction of the Species—Navy La Posta Facility

In keeping with our analysis and conclusion detailed in our biological opinion for the Navy La Posta Facility (Service 2007; FWS–SDG–4452) and potential national security impacts identified by the Navy, we determined exclusion of 2,463 ac (997 ha) of land within the La Posta Facility from the final designation of critical habitat for the Quino checkerspot butterfly in Unit 9 will not result in the extinction of the subspecies. Additionally, the likelihood of future federal nexuses on these Federal lands resulting in consultations under the jeopardy standard of section 7(a)(2) of the Act that will ensure activities on these lands are not likely to jeopardize the continued existence of the subspecies provide assurances that the subspecies will not go extinct as a result of this exclusion. Therefore, based on the above discussion we are

excluding approximately 2,463 ac (997 ha) of land within the La Posta Facility proposed in Unit 9 from this critical habitat designation.

Application of Section 4(b)(2)—Other Relevant Impacts—Conservation Partnerships

Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for other relevant impacts if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. As discussed above in the ''Conservation Partnerships on Non-Federal Lands'' section, we believe that designation can negatively impact the working relationships and conservation partnerships we have formed with private landowners. The Service recognizes that 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002) and we will only achieve recovery of federally listed species with the cooperation of private landowners.

In making the following exclusions, we evaluated the benefits of designating these non-Federal lands while considering the conservation benefits to the Quino checkerspot butterfly and the physical or biological features essential to its conservation that result from our existing partnerships. As discussed in the ''Benefits of Designating Critical Habitat'' section above, conservation partnerships that result in implementation of an HCP or other management plan that considers enhancement or recovery as the management standard often provide as much or more benefit than consultation for critical habitat designation (the primary benefit of a designation).

In considering the benefits of including lands in a designation that are covered by a current HCP or other management plan, we evaluate a number of factors to help us determine if the plan provides additional conservation benefits than would likely result from consultation on a designation:

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

(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 balance the benefits of inclusion against the benefits of exclusion by considering the benefits of preserving partnerships and encouraging development of additional HCPs and other conservation plans in the future.

San Diego County Multiple Species Conservation Program – Chula Vista Subarea Plan

We determined approximately 1,673 ac (677 ha) of land in Unit 8 owned by or under the jurisdiction of the permittees of the City of Chula Vista (City) Subarea Plan of the San Diego County Multiple Species Conservation Program (MSCP) (Chula Vista Subarea Plan) contain the features essential to the conservation of the Quino checkerspot butterfly, and therefore meet the definition of critical habitat under the Act. In making our final decision with regard to these Chula Vista Subarea Plan lands owned by or under the jurisdiction of the permittees of the HCP, we considered several factors, including our relationship with the participating MSCP jurisdiction, our relationship with other MSCP stakeholders, existing consultations, conservation measures in place on these lands that benefit the Quino checkerspot butterfly, and impacts to current and future partnerships. We recognize the Quino checkerspot butterfly conservation efforts outlined in the Chula Vista Subarea Plan will continue to be implemented by the jurisdictions and HCP permit holders regardless of whether covered areas are designated as critical habitat. Under section 4(b)(2) of the Act, we are excluding all lands covered by the Chula Vista Subarea Plan that are owned by or are under the jurisdiction of the permittees of the HCP from this final revised designation of critical habitat. As described in our section 4(b)(2) analysis below, we have reached this determination in consideration of the impacts associated with designation of critical habitat on non-Federal lands covered by a management plan and on our effective working relationships with HCP permit holders.

The MSCP is a framework HCP that has been in place for more than a decade. The plan area encompasses approximately 582,243 ac (235,626 ha) (County of San Diego 1997, p. 1–1; MSCP 1998, pp. 2–1, 4–2 to 4–4) and provides for conservation of 85 federally listed and sensitive species (''covered species'') through the establishment and management of approximately 171,920 ac (69,574 ha) of preserve lands within the Multi-Habitat Planning Area (MHPA) (City of San Diego) and Pre-Approved Mitigation Areas (PAMA) (County of San Diego). The MSCP was developed in support of applications for incidental take permits for several federally listed species by 12 participating jurisdictions and many other stakeholders in southwestern San Diego County. Under the umbrella of the MSCP, each of the 12 participating jurisdictions is required to prepare a subarea plan that implements the goals of the MSCP within that particular jurisdiction. Although not covered under the umbrella of the MSCP, the Quino checkerspot butterfly is a covered species under the Chula Vista Subarea Plan, which provides for the long-term conservation of this subspecies.

We approved the Chula Vista 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. Within the Chula Vista Subarea Plan, approximately 1,673 ac (677 ha) meet the definition of critical habitat for the Quino checkerspot butterfly. The Chula Vista Subarea Plan includes the following goals: (1) To conserve covered species (including the Quino checkerspot butterfly) and their habitats through the assemblage and conservation of significant interconnected habitat cores and linkages (Preserve); (2) to provide funding for and management of the Preserve, including biological monitoring and adaptive management; and (3) 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 85 species (City of Chula Vista 2003, Section 1, p. 2).

The Chula Vista Subarea Plan contains requirements to monitor and adaptively manage Quino checkerspot butterfly habitats and therefore provides for conservation of this subspecies' essential physical and biological features. This area-specific management plan is comprehensive and addresses a broad range of management needs at the preserve and species levels intended to reduce threats to the Quino checkerspot butterfly and thereby contribute to its recovery. The Quino checkerspot butterfly is threatened primarily by loss and fragmentation of habitat and landscape connectivity due to urban and agricultural development, invasion of nonnative plant species, off-road vehicle use, grazing, fire, enhanced soil nitrogen levels, and range shift resulting from environmental changes associated with changing climate patterns (Service

2003a, pp. 55–65). All lands preserved under the Chula Vista Subarea Plan are adaptively managed and maintained to: (1) Ensure the long-term viability and sustainability of native ecosystem function and natural processes throughout the Preserve; (2) protect existing and restored biological resources from the impacts of human activities within the Preserve while accommodating compatible uses; (3) enhance and restore, where feasible, appropriate native plant associations and wildlife connections to adjoining habitat to provide viable wildlife and sensitive species habitat; (4) 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) ensure functional habitats and linkages for those species (Service 2003b, pp.18, 70, FWS–SDG–882.1). Quino checkerspot butterfly management efforts will continue to be implemented by the City regardless of whether these areas are designated as critical habitat.

We determined that approximately 1,673 ac (677 ha) of land within the boundaries of the Chula Vista Subarea Plan contain the physical or biological features essential to the conservation of the Quino checkerspot butterfly, and therefore meet the definition of critical habitat. The City has assured the conservation of approximately 1,520 ac (615 ha) (91 percent) of those lands in the ''hard line areas designated for 100 percent conservation'' where no additional development will be approved unless a Boundary Adjustment or HCP Amendment is approved by the Service (City of Chula Vista 2003, pp. 5–2 to 5–3, Figure 5–1). In implementing the Chula Vista Subarea Plan, the City has already conserved approximately 894 ac (362 ha), or 59 percent, of those 1,520 ac (615 ha), and the remaining approximate 626 ac (253 ha) are assured conservation under the Plan. The extent of habitat preservation and management to date through implementation of the Chula Vista Subarea Plan is significant and demonstrates the City's commitment to fully implement the HCP.

The other 164 ac (66 ha) that meet the definition of critical habitat within the boundaries of the Chula Vista Subarea Plan were not originally assured conservation. However, through the adaptive management flexibility of the Chula Vista Subarea Plan, the City has already placed approximately 28 ac (11 ha) of those 164 ac (66 ha) into the habitat preserve system conserved and managed under the HCP. These approximately 28 ac (11 ha) are already receiving management consistent with the goals and objectives of the Chula Vista Subarea Plan. The remaining approximately 136 ac (55 ha) of land that contain the physical or biological features essential to the conservation of the species within the boundaries of the Chula Vista Subarea Plan (less than one percent of Unit 8) are not currently assured conservation; however, any impacts to those 136 ac (55 ha) will still be subject to the requirements of the Chula Vista Subarea Plan. Furthermore, under the Chula Vista Subarea Plan, development projects must avoid impacts to the Quino checkerspot butterfly to the maximum extent practicable in areas not identified for conservation (McNeeley 2008, p. 1). Current development plans indicate that these remaining lands are planned for recreational use, and there will continue to be opportunities to preserve some native habitat in these areas. Although some losses may occur to this subspecies within the approximate 136 ac (55 ha) of land that are not currently preserved or otherwise assured conservation under the Chula Vista Subarea Plan, the preservation, conservation, and management of the Quino checkerspot butterfly provided under the subarea plan provides a more comprehensive ecosystem-based approach to protecting and managing Quino checkerspot butterfly habitat and ensures the long-term conservation of this subspecies and its habitat within all areas addressed by this HCP than would be achieved through consultation for critical habitat designation (the primary benefit of a designation).

The MSCP and the Chula Vista Subarea Plan incorporate many processes that allow for Service oversight and participation in program implementation. These processes include: annual reporting requirements, review and approval of proposed subarea plan amendments or preserve boundary adjustments, review and comment on projects through CEQA, and chairing the Habitat Management Technical Committee and the Monitoring Subcommittee (MSCP 1998, p. 5–11 to 5–23). For example, Habitat Management Plans are developed for each preserve area within the Chula Vista Subarea Plan, and annual monitoring and management objectives are reported for each preserve. There are also monthly coordination meetings between the Service and the City to discuss any conservation issues that need to be addressed. The MSCP and the Chula Vista Subarea Plan annually account for progress that occurs. Annual reports from each HCP are provided to the Service, which include by individual project and cumulatively, habitat acreage destroyed and conserved within the MSCP and its respective subareas. This accounting process ensures habitat conservation proceeds in rough proportion with losses and is in compliance with the MSCP subarea plans and associated implementing agreements.

In summary, although not all lands meeting the definition of critical habitat for the Quino checkerspot butterfly owned by or under the jurisdiction of the permittees of the Chula Vista Subarea Plan of the MSCP are assured conservation within the Chula Vista Subarea Plan preserve system (136 ac (55 ha) not protected, see above), the majority (91 percent) of these approximately 1,673 ac (677 ha) are assured conservation.

We received letters during the comment periods indicating designation of lands covered by an HCP as critical habitat would affect our relationships with large private landowners and stakeholders. Furthermore, designation would discourage development of additional HCPs and other conservation plans in the future.

Benefits of Inclusion—Chula Vista Subarea Plan

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard of section 7 of the Act under which consultation is completed.

The MSCP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal, project-by-project approach (as would occur under sections 7 and 9 of the Act) and will achieve more Quino checkerspot butterfly conservation within the Chula Vista Subarea Plan boundaries than would be achieved through section 7 consultations involving consideration of critical habitat. The MSCP and Chula Vista Subarea Plan provide for proactive monitoring and management of preserved lands (as previously described), which will remove or reduce known threats to the Quino checkerspot butterfly and its PCEs. The physical and biological features essential to the conservation of the Quino checkerspot butterfly will benefit from the preservation of high quality habitat;

restoration, enhancement, and management of all preserve lands; minimization of project impacts; education of the public and state and local governments; and continued promotion of partnerships on lands owned by or under the jurisdiction of the permittees of the HCP. Conservation and management of Quino checkerspot butterfly habitat within the Chula Vista Subarea Plan boundaries is needed for survival and recovery of this subspecies. Meeting such conservation needs on a regional scale, as can be provided through a regional HCP approach that includes areas not likely to have a Federal nexus, typically is not achieved through the application of the statutory prohibition on adverse modification or destruction of critical habitat.

Furthermore, 91 percent of all lands within the boundaries of the Chula Vista Subarea Plan proposed for designation that are owned by or are under the jurisdiction of the permittees of the HCP is within the boundaries of formerly designated Quino checkerspot butterfly critical habitat. The Service completed consultation on the Chula Vista Subarea Plan and continues to work closely with the City to ensure the Plan is implemented properly and in a manner that contributes to the conservation of the Quino checkerspot butterfly.

We believe some habitat loss may occur within the approximate 136 ac (55 ha) of land that contain the physical or biological features essential to the conservation of the species that are not currently preserved or otherwise assured conservation under the Chula Vista Subarea Plan. Therefore, the benefits of including these lands within designated critical habitat are greater than for the lands not conserved or assured conservation under the Chula Vista Subarea Plan. However, the area permitted for development is less than one percent of proposed critical habitat in Unit 8, and the overall conservation benefits of designating this small percentage of the unit as critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) to the Quino checkerspot butterfly are minimal.

Another possible benefit of including lands in a critical habitat designation is that the designation can serve to educate the landowners and the public regarding the potential conservation value of an area and may help focus conservation efforts on areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience is valuable, including parties engaged in conservation activities. As discussed above, the permit holders of the Chula Vista Subarea Plan are aware of the value of these lands to conservation of the Quino checkerspot butterfly and management measures are in place to conserve Quino checkerspot butterflies and their habitat. The Service was a partner in the development of the Chula Vista Subarea Plan and consultation was completed on the issuance of the 10(a)(1)(B) permit. The process of developing the MSCP and Chula Vista Subarea Plan involved numerous partners including (but not limited to) the 12 participating jurisdictions, the CDFG, and several Federal agencies. Furthermore, all lands were included in the proposed revised designation published in the **Federal Register** on January 17, 2008 (73 FR 3328). This publication was announced by way of a press release and information was posted on the Service's website, which ensured the proposal reached a wide audience. Therefore, the educational benefits of critical habitat designation (such as providing information to the City and other stakeholders on areas important to the long-term conservation of this subspecies) have largely already been realized through the HCP development process, by proposing these areas as critical habitat, and through the Service's public notification processes.

Specific conservation actions, avoidance and minimization measures, and management for the Quino checkerspot butterfly and its PCEs provided by the Chula Vista Subarea Plan should make conservation measures required as a result of regulatory protections afforded through a critical habitat designation unlikely. Based on the above discussion we believe section 7 consultations for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision provide little conservation benefits above and beyond those provided by the Chula Vista Subarea Plan. Therefore, we determine the regulatory and educational benefits of designating those acres as Quino checkerspot butterfly critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) are minimal.

Benefits of Exclusion—Chula Vista Subarea Plan

The benefits of excluding the approximate 1,673 ac (677 ha) of land within the boundaries of the Chula Vista Subarea Plan of the MSCP owned by or under the jurisdiction of the permittees of the HCP from designated critical habitat are significant. We believe significant benefits would be realized by forgoing designation of critical habitat on these lands including: (1) Continuance and strengthening of our effective working relationships with all MSCP jurisdictions and stakeholders to promote conservation of the Quino checkerspot butterfly and its habitat; (2) allowance for continued meaningful collaboration and cooperation in working toward recovering this subspecies, including conservation benefits that might not otherwise occur; (3) encouragement of other jurisdictions with completed subarea plans under the MSCP to amend its plans to cover and benefit the Quino checkerspot butterfly and its habitat; (4) the encouragement for other jurisdictions to complete subarea plans under the MSCP (e.g., including the cities of Coronado, Del Mar, El Cajon, and Santee); and (5) encouragement of additional HCP and other conservation plan development in the future on other private lands for this and other federally listed and sensitive species.

We developed close partnerships with the City and several other stakeholders through the development of the Chula Vista Subarea Plan, which incorporates appropriate protections and management for the Quino checkerspot butterfly, its habitat, and the physical or biological features essential to the conservation of this subspecies. Those protections are consistent with statutory mandates under section 7 of the Act to avoid destruction or adverse modification of critical habitat and go beyond that requirement by including active management and protection of connected habitat areas. By excluding these approximately 1,673 ac (677 ha) of land from designation, we are eliminating an essentially redundant layer of regulatory review for projects covered by the Chula Vista Subarea Plan in this area, helping to preserve our ongoing partnership with the City, and encouraging new partnerships with other landowners and jurisdictions. This partnership with the City, the larger regional MSCP participants, and the landscape level, multiple-species conservation planning efforts they promote are needed to achieve long-term conservation of the Quino checkerspot butterfly.

Large scale HCPs, such as the regional MSCP and subarea plans issued under its framework, take many years to develop and foster an ecosystem-based approach to habitat conservation planning by addressing conservation issues through a coordinated approach. However, participation in these large and often costly regional plans are voluntary for permit holders (such as

local jurisdictions), in the sense they could require landowners (e.g., homeowners, developers) to consult with the Service individually for required permits under section 10 of the Act. If, in the case of the MSCP, local jurisdictions required landowners to obtain section 10 permits individually prior to issuance of a building permit, they would incur no costs associated with the landowner's need for a section 10 permit. However, this approach results in uncoordinated, ''patchy'' conservation that would not be likely to further federally listed species' recovery. Rather, by voluntarily developing these large scale plans, coordinated landscape-scale conservation results in preservation of interconnected linkage areas and populations that support recovery of listed species. Once an HCP is permitted, implementation of conservation measures will occur regardless of whether critical habitat is designated within its plan boundaries.

We received letters commenting on the designation of critical habitat from other HCP permit holders, private landowners, and stakeholders in HCPs indicating designation of lands covered by an HCP as critical habitat would affect our relationships with large private landowners, jurisdictions, and tribal governments. Furthermore, designation would discourage development of additional HCPs and other conservation plans in the future. Excluding lands owned by or under the jurisdiction of the permittees of an HCP within the boundary of an HCP demonstrates our good faith effort and working relationships, and eliminates impacts to existing and future partnerships while encouraging development of additional HCPs and other species or habitat conservation plans.

The Benefits of Exclusion Outweigh the Benefits of Inclusion—Chula Vista Subarea Plan

We reviewed and evaluated the exclusion of approximately 1,673 ac (677 ha) of land within the Chula Vista Subarea Plan owned by or under the jurisdiction of the permittees of the HCP from revised designation of critical habitat and determined the benefits of excluding these lands outweigh the benefits of including them.

The benefits of including these lands in the designation are small. Critical habitat is currently designated in 91 percent of lands covered by the Chula Vista Subarea Plan, and the Service conducted a consultation with the City and continues to work with them through the implementation phase to ensure the HCP is implemented properly and providing conservation for the Quino checkerspot butterfly. The eight percent of lands (136 ac; 55 ha) on which critical habitat was not previously designated are not assured conservation under the Chula Vista Subarea Plan. However, current development plans indicate that these remaining lands are planned for recreational use, and opportunities will exist to continue to preserve some native habitat in these areas while developing and allowing recreational use. In areas not conserved by the Chula Vista Subarea Plan, development projects must still avoid impacts to the Quino checkerspot butterfly to the maximum extent practicable (McNeeley 2008, p. 1). The City has already placed approximately 28 ac (11 ha) of land under conservation outside of the requirements of its subarea plan. The educational benefits of critical habitat designation have largely already been realized as a result of material provided on our website, through the public notice-and-comment procedures required to establish the MSCP and City and County subarea plans, and by proposal of these lands for designation as revised critical habitat. Therefore, although we acknowledge that there are approximately 136 ac (55 ha) addressed by the Chula Vista Subarea Plan that meet the definition of critical habitat and are not assured conservation (at risk for development), we believe that the benefits of including these areas in the critical habitat designation would be minor.

In contrast to the benefits of inclusion, the benefits of excluding lands covered by the Chula Vista Subarea Plan from critical habitat are significant. Exclusion of these lands from critical habitat will help preserve the partnerships we developed with local jurisdictions and project proponents in the development of the MSCP and Chula Vista Subarea Plan and aid in fostering additional partnerships for the benefit of all species of concern on lands owned by or under the jurisdiction of the permittees of the HCP. Designation of lands covered by the Chula Vista Subarea Plan may discourage other partners from seeking, amending, or completing subarea plans under the MSCP framework plan or from pursing other HCPs. Designation of critical habitat does not require management or recovery actions take place on the lands included in the designation. The Chula Vista Subarea Plan, however, will provide for significant preservation and management of Quino checkerspot butterfly habitat and help reach the recovery goals for this subspecies through habitat enhancement and restoration; functional connections to adjoining habitat; and subspecies monitoring efforts. Additional HCPs or other species–habitat plans potentially fostered by this exclusion would also help to recover this and other federally listed species. Therefore, in consideration of the relevant impact to current and future partnerships, as summarized in the ''Conservation Partnerships on Non-Federal Lands'' section above, we determined significant benefits of exclusion outweigh the minor benefits of critical habitat designation.

Exclusion Will Not Result in Extinction of the Species—Chula Vista Subarea Plan

In keeping with our analysis and conclusion detailed in our biological opinion for the Chula Vista Subarea Plan (Service 2003b, FWS–SDG–882.1), we determined that the exclusion of approximately 1,673 ac (677 ha) of land within the Chula Vista Subarea Plan area owned by or under the jurisdiction of the permittees of the HCP from the final designation of critical habitat for the Quino checkerspot butterfly will not result in extinction of the Quino checkerspot butterfly. The Chula Vista Subarea Plan provides protection and management, in perpetuity, of lands that meet the definition of critical habitat for the subspecies in Unit 9. Additionally, the jeopardy standard of section 7 of the Act and routine implementation of conservation measures through the section 7 process provide assurances that the subspecies will not go extinct as a result of exclusion. Therefore, based on the above discussion we are excluding approximately 1,673 ac (677 ha) of land within the Chula Vista Subarea Plan area owned by or under the jurisdiction of the permittees of the HCP from this critical habitat designation.

Western Riverside County Multiple Species Habitat Conservation Plan

We determined that approximately 31,852 ac (12,890 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP contain the features essential to the conservation of the Quino checkerspot butterfly, and meet the definition of critical habitat under the Act. Our exclusion analysis did not include lands within the boundaries of the Western Riverside County MSHCP that are not owned by or otherwise under the jurisdiction of permittees and therefore not subject to the permit

conditions of this HCP (e.g. Federal lands, Metropolitan Water District of Southern California lands, tribal lands). In making our final decision with regard to these lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP, we considered several factors including our relationships with the participating jurisdictions, our relationships with other stakeholders, existing consultations, conservation measures in place on these lands that benefit the Quino checkerspot butterfly, and impacts to current and future partnerships. We recognize Quino checkerspot butterfly conservation efforts outlined in the Western Riverside County MSHCP will continue to be implemented regardless of whether covered areas are designated as revised critical habitat. Under section 4(b)(2) of the Act, we are excluding all 27,465 ac (11,115 ha) of land meeting the definition of critical habitat covered by the Western Riverside County MSHCP within Units 1 through 6 that are owned by or under the jurisdiction of the permittees from this revised final designation of critical habitat. Conversely, within Unit 7, we are designating all lands meeting the definition of critical habitat covered by the Western Riverside County MSHCP that are owned by or are under the jurisdiction of the permittees (4,141 ac (1,676 ha)). As described in our section 4(b)(2) analysis below, we reached these determinations in consideration of the impacts associated with the designation of revised critical habitat on lands owned by or under the jurisdiction of the permittees of the HCP covered by the HCP balanced against the benefits of including an area in the final designation.

The Western Riverside County MSHCP is a large-scale, multi-jurisdictional HCP encompassing approximately 1.26 million ac (510,000 ha) of land in western Riverside County. The Western Riverside County MSHCP addresses 146 listed and unlisted ''covered species,'' including the Quino checkerspot butterfly. Participants in the MSHCP include 14 cities; the County of Riverside (including the Riverside County Flood Control and Water Conservation Agency, Riverside County Transportation Commission, Riverside County Parks and Open Space District, and Riverside County Waste Department); California Department of Parks and Recreation; and the California Department of Transportation. The Western Riverside County MSHCP is a multi-species conservation program minimizing and mitigating expected loss of habitat and associated incidental take of covered species. On June 22, 2004, the Service issued an incidental take permit (Service 2004a, TE–088609–0) under section 10(a)(1)(B) of the Act to 22 permittees under the Western Riverside County MSHCP for a period of 75 years.

The Western Riverside County MSHCP requires conservation of approximately 153,000 ac (61,916 ha) of new lands (Additional Reserve Lands) to complement the approximate 347,000 ac (140,426 ha) of pre-existing natural and open space areas (Public–Quasi-Public (PQP) lands). PQP lands include those under Federal ownership, primarily managed by the Forest Service and BLM, and also permittee-owned or privately-owned open-space areas under the jurisdiction of the permittees of the Western Riverside County MSHCP, primarily managed by the State and Riverside County. Collectively. The Additional Reserve Lands and PQP lands form the overall Western Riverside County MSHCP Conservation Area. The configuration of the approximately 153,000 ac (61,916 ha) of Additional Reserve Lands is not mapped or precisely identified (''hard-lined'') in the Western Riverside County MSHCP, but rather is based on textual descriptions of habitat conservation necessary to meet the conservation goals for all covered species within the bounds of an approximately 310,000-ac (125,453-ha) Criteria Area interpreted as implementation of the Western Riverside County MSHCP takes place.

Quino checkerspot butterfly conservation goals under the Western Riverside County MSHCP include protection (Additional Reserve Lands and PQP, including Federal lands) of at least 67,493 ac (27,314 ha) of subspecies' habitat mosaic. The conservation acreage goal will be achieved through acquisition or other dedications of land assembled from within the Criteria Area (the Additional Reserve Lands) and through coordinated management of existing PQP lands. We internally mapped a ''Conceptual Reserve Design'' that illustrates existing PQP lands and predicts an ideal geographic distribution of the Additional Reserve Lands based on our interpretation of the textual descriptions of habitat conservation necessary to meet conservation goals. Our Conceptual Reserve Design was intended to predict one possible future configuration of the eventual approximately 153,000 ac (61, 916 ha) of Additional Reserve Lands in conjunction with the existing PQP lands, including approximately 67,493 ac (27,314 ha) of ''suitable'' Quino checkerspot butterfly habitat throughout the plan area, that will be conserved to meet the goals and objectives of the plan (Service 2004a, p. 73; FWS–WRIV–870.19).

Preservation and management of approximately 67,493 ac (27,314 ha) of Quino checkerspot butterfly habitat under the Western Riverside County MSHCP will contribute to conservation and ultimate recovery of this subspecies. The Quino checkerspot butterfly is threatened primarily by loss and fragmentation of habitat and landscape connectivity due to urban and agricultural development, invasion of nonnative plant species, off-road vehicle use, grazing, and fire, enhanced soil nitrogen levels, and range shift resulting from environmental changes due to changing climate patterns (Service 2003a, pp. 55–65). The Western Riverside County MSHCP removes or reduces threats to this subspecies and the features essential to its conservation by placing large blocks of occupied and unoccupied habitat into preservation throughout the MSHCP Conservation Area. Areas identified for preservation and conservation include linkages of suitable Quino checkerspot butterfly habitat between the 7 ''Core Areas'' to maintain landscape connectivity and support the population dynamics of this subspecies. The approximately 67,493 ac (27,314 ha) that will be conserved under this plan for the Quino checkerspot butterfly capture a variety of habitat characteristics supporting Quino checkerspot butterflies throughout western Riverside County. Distribution of the subspecies within the existing Western Riverside County MSHCP Conservation Area is documented through annual surveys. Surveys will continue annually as lands are added to the Conservation Area. The surveys are intended to verify continued occupancy at a minimum of 75 percent of the occupied locations identified in the plan. An adaptive management program is being implemented to maintain or enhance all conserved habitat to increase its value for, and the viability of, Quino checkerspot butterfly populations (Dudek 2003, Volume I, Section 9, Table 9–2, pp. 9–28, 9–29). Quino checkerspot butterfly conservation and management efforts will continue to be implemented under this plan regardless of whether these areas are designated as revised critical habitat.

We determined that approximately 31,852 ac (12,890 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP meet the definition of critical habitat for the Quino

checkerspot butterfly. These lands are divided into 7 units, each associated with a core occurrence complex habitat-based population distribution as identified in this final rule. Our analysis of additional survey data and distribution information not available at the time the Western Riverside County MSHCP was developed identified a new core occurrence complex, the Bautista Road Core Occurrence Complex (Unit 7). Therefore permittees can meet the goals and objectives of the plan as written for this subspecies without conserving significant portions of the permittee-owned or open-space areas that are essential for the conservation of the species in Unit 7. Due to the identification of a new core occurrence complex (Unit 7) mostly outside the HCP conservation design, we evaluated the benefits of including (if the Western Riverside County MSHCP conservation design provides equivalent or greater conservation benefit to Quino checkerspot butterfly and its habitat than would likely result from consultation on a designation) the lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 separately from our evaluation of the benefits of designating Units 1 through 6.

Conservation Status of Units 1 through 6 Western Riverside County MSHCP

Units 1 through 6 contain approximately 27,465 ac (11,115 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP. Our analysis identified four basic conservation status categories of land under the jurisdiction of the permittees of the Western Riverside County MSHCP: (1) Conserved as Public/Quasi-Public or as Additional Reserve Lands (already in Conservation Area); (2) likely to be conserved as indicated by our Conceptual Reserve Design (targeted as Additional Reserve Lands); (3) possible, but not likely, conservation within the defined Criteria Area (not captured by our Conceptual Reserve Design), and (4) no possibility of conservation under the HCP (outside the defined Criteria Area).

In the 4 years of implementing the Western Riverside County MSHCP approximately 1,956 ac (792 ha) of land within Units 1 through 6 have already been placed into the Conservation Area and are permanently preserved as Additional Reserve Lands, and 2036 ac (ha) were already conserved prior to HCP implementation. Although some areas placed in conservation are not yet fully managed, such management will occur as the plan continues to be implemented. Our Conceptual Reserve Design indicates that another approximately 17,302 ac (7,002 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6 (approximately 63 percent) will likely be conserved as Additional Reserve Lands. The extent of habitat preservation that has taken place to date through implementation of the Western Riverside County MSHCP is significant and demonstrates the permittees' commitment to fully implement the plan.

In Units 1 through 6, approximately 5,851 ac (2,368 ha) that meet the definition of critical habitat owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP are within the Criteria Area but were not captured by our Conceptual Reserve Design. A substantial portion of these lands occur in Unit 6 (approximately 2,819 ac (951 ha)). Condition 12 of the Special Terms and Conditions for Incidental Take Permit TE–088609–0 specifically identifies Unit 6 for additional conservation by requiring the permittees to ''work to conserve the Quino checkerspot butterfly within the Tule Creek—Anza Valley Subunit of the REMAP Area (Tule Peak/Silverado Core Occurrence Complex) and, if necessary, to use the Criteria Refinement Process to achieve this conservation'' (Service 2004b, p. 2, TE–088609–0). The Western Riverside County Regional Conservation Authority (permittee under the Western Riverside County MSHCP) has demonstrated its willingness and commitment to conserve lands needed for subspecies' recovery that are not otherwise targeted for conservation by plan criteria. In 2008, approximately 396 ac (160 ha) of occupied habitat all or partly outside of our Conceptual Reserve Design, but within the Criteria Area, were acquired as Additional Reserve Lands within the Tule Peak/Silverado Core Occurrence Complex (Unit 6). These lands were acquired specifically for the conservation of the Quino checkerspot butterfly.

Approximately 319 ac (129 ha) of land within Unit 2 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP that meet the definition of critical habitat occur outside of the Criteria Area and are not already conserved. These areas all occur on the outer edges of Unit 2 and represent only 3 percent of the unit. Although some losses may occur to this subspecies within these lands, we believe the losses are minimal and the preservation, conservation, and management of the Quino checkerspot butterfly provided for by this plan ensures sufficient long-term conservation of this subspecies and its habitat in Units 1 through 6.

The Western Riverside County MSHCP incorporates many processes that allow for Service oversight and participation in program implementation. These processes include: (1) Consultation with the Service on a long-term management and monitoring plan; (2) submission of annual monitoring reports; (3) annual status meetings with the Service; and (4) submission of annual implementation reports to the Service (Service 2004b, p. 9–10, TE–088609–0).

In summary, although not all lands proposed as revised critical habitat within Units 1 through 6 are targeted for preservation as Additional Reserve Lands within the Western Riverside County MSHCP or have already been officially dedicated to the preserve system, continued implementation of the MSHCP will result in the majority of these lands being conserved.

Benefits of Inclusion—Units 1 through 6 Western Riverside County MSHCP

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of including an area in a critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in the destruction or adverse modification of any designated critical habitat, the regulatory standard of section 7 of the Act under which consultation is completed.

The Western Riverside County MSHCP addresses conservation issues from a coordinated, integrated perspective rather than a piecemeal, project-by-project approach (as would occur under sections 7 and 9 of the Act) and will achieve more Quino checkerspot butterfly conservation than would be achieved through section 7 consultations involving consideration of critical habitat. The Western Riverside County MSHCP provides for proactive monitoring and management of preserved lands (as previously described), which remove or reduce known threats to the Quino checkerspot butterfly and its PCEs and therefore preclude or reduce the need for additional conservation provided by section 7 consultations due to critical habitat designation. The physical and biological features essential to the conservation of the Quino checkerspot butterfly will benefit from the preservation of high quality habitat and management of all preserve lands; minimization of project impacts; education of the public and state and

local governments; and continued promotion of partnerships on lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP. Conservation and management of Quino checkerspot butterfly habitat within the Western Riverside County MSHCP boundaries is needed for survival and recovery of this subspecies. Meeting such conservation needs on a regional scale, as can be provided through a regional HCP approach that includes areas that likely do not have a Federal nexus typically is not achieved through the application of the statutory prohibition on adverse modification or destruction of critical habitat alone, and are otherwise largely redundant.

Furthermore, the HCP preserve lands are within the habitat-based population distributions of six core occurrence complexes and approximately 90 percent of all land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP proposed for designation in Units 1 through 6 is within the boundaries of formerly designated Quino checkerspot butterfly critical habitat. The Service completed consultation on the Western Riverside County MSHCP and continues to work with plan participants to ensure the Plan is implemented properly and in a manner that contributes to the conservation of the Quino checkerspot butterfly.

We believe some losses may occur to the Quino checkerspot butterfly habitat within the approximately 5,851 ac (2,368 ha) that are within the Criteria Area but were not captured by our Conceptual Reserve Design and the approximately 319 ac (129 ha) of land that will not be conserved under the Western Riverside County MSHCP (outside the Criteria Area). Therefore, the benefits of including these lands within designated critical habitat is higher than for the lands that are conserved or targeted for conservation under the Western Riverside County MSHCP. However, the area that will not be conserved under the Western Riverside County MSHCP is less than one percent of proposed revised critical habitat in Units 1 through 6, and the area not captured by our Conceptual Reserve Design is less than 12 percent of proposed revised critical habitat in Units 1 through 6 (including land not owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP). Therefore the benefits for the conservation of the Quino checkerspot butterfly that would occur as a result of designating this small percentage as critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) are minimal.

Another possible benefit of including lands in a critical habitat designation is the designation can serve to educate the landowners and the public regarding the potential conservation value of an area, and this may help focus conservation efforts on areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience, including parties engaged in conservation activities, is valuable. As discussed above the permit holders of the Western Riverside County MSHCP are aware of the value of these lands to the conservation of the Quino checkerspot butterfly and management measures are in place to conserve Quino checkerspot butterflies and their habitat. The Service was a partner in the development of the Western Riverside County MSHCP and consultation was completed on the issuance of the 10(a)(1)(B) permit. The process of developing the Western Riverside County MSHCP has involved numerous partners including (but not limited to): 14 cities in western Riverside County; the County of Riverside; the California Department of Parks and Recreation; and the California Department of Transportation; and several Federal agencies. Furthermore, the majority of lands in Units 1–6 were previously designated as critical habitat (67 FR 18356, April 15, 2002; Table 1) and all lands were included in the proposed revised designation, which was published in the **Federal Register** on January 17, 2008 (73 FR 3328). These publications were announced in a press release and information was posted on the Service's website, which ensured the proposal reached a wide audience. No substantial new information regarding additional habitat areas essential to the conservation of Quino checkerspot butterfly in Units 1-6 was provided in the proposed revisions to critical habitat (see ''**Summary of Changes From the 2008 Proposed Rule To Revise Critical Habitat**'' section above). Therefore, the educational benefits that might follow critical habitat designation (such as providing information to the permittees and other stakeholders on areas important to the long-term conservation of this subspecies) have largely already been realized for these units on multiple occasions by: (1) HCP development; (2) designating these areas as critical habitat; (3) proposing these areas as revised critical habitat; and (4) through the Service's other public notification processes.

Specific conservation actions, avoidance and minimization measures, and management for the Quino checkerspot butterfly and its PCEs provided by the Western Riverside County MSHCP should make most conservation measures required as a result of regulatory protections afforded through a critical habitat designation unlikely. Based on the above discussion we believe section 7 consultations for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision provide little conservation benefits above and beyond those provided by the Western Riverside County MSHCP. Therefore, we determine the regulatory and educational benefits of designating those acres as Quino checkerspot butterfly critical habitat (e.g., protection afforded through the section 7(a)(2) consultation process) are minimal.

Benefits of Exclusion—Units 1 through 6 Western Riverside County MSHCP

The benefits of excluding the approximate 27,465 ac (11,115 ha) of land within Units 1 through 6 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP from designated critical habitat are significant. We believe significant benefits would be realized by forgoing the designation of critical habitat on these lands including: (1) Continuance and strengthening of our effective working relationships with all Western Riverside County MSHCP permittees and stakeholders to promote further conservation of the Quino checkerspot butterfly and its habitat; (2) allowance for continued meaningful collaboration and cooperation in working toward recovering this subspecies, including conservation benefits that might not otherwise occur; and (3) encouragement of development of additional HCPs and other conservation plans in the future on other private lands for this and other federally listed and sensitive species.

We developed close partnerships with the all permittees under the Western Riverside County MSHCP (represented by the Riverside Conservation Authority) and several other stakeholders through the development of this large scale HCP, which incorporates appropriate protections and management for the Quino checkerspot butterfly, its habitat, and the physical and biological features essential to the conservation of this subspecies. Those protections are consistent with statutory mandates under section 7 of the Act to avoid adverse modification or destruction of

critical habitat and go beyond that prohibition by including active management and protection of connected habitat areas. By excluding approximately 27,465 ac (11,115 ha) of land in Units 1 through 6 from designation, we are eliminating an essentially redundant layer of regulatory review for projects covered by the Western Riverside County MSHCP in this area, helping to preserve our ongoing partnership with the represented city and county governments, and encouraging new partnerships with other landowners and jurisdictions. This partnership with regional participants and the landscape level, multiple-species conservation planning efforts it promotes, are integral to achieving long-term conservation of the Quino checkerspot butterfly.

Large scale regional HCPs, such as the Western Riverside County MSHCP take many years to develop and foster an ecosystem-based approach to habitat conservation planning by coordinating conservation issues with regional planning efforts. However, participation in these large and often costly regional plans is voluntary for permit holders (such as local jurisdictions), in the sense these permit holders could require landowners (e.g., homeowners, developers) to consult with the Service individually for required section 10 permits. If, in the case of the Western Riverside County MSHCP, the local jurisdictions required landowners to obtain section 10 permits individually prior to issuance of a building permit, these jurisdictions would incur no costs associated with the landowner's need for a section 10 permit. However, this approach would result in uncoordinated, ''patchy'' conservation that would not be likely to further the recovery of federally listed species. Rather, by voluntarily developing these large scale plans, the coordinated landscape-scale conservation results in preservation of interconnected linkage areas and populations that support recovery of listed species. We recognize that once an HCP is permitted, implementation of conservation measures will occur regardless of whether critical habitat is designated within plan boundaries in order for permittees to receive incidental take coverage.

We received multiple letters commenting on the proposed revised designation of critical habitat from Western Riverside County MSHCP permit holders, private landowners and other stakeholders in this HCP indicating designation of lands covered by an HCP as critical habitat would affect our relationships with them. Furthermore, designation would discourage development of additional HCPs and other conservation plans in the future. Excluding lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP demonstrates our good faith effort and working relationships and will eliminate impacts to existing and future partnerships while encouraging development of additional HCPs and other species or habitat conservation plans.

The Benefits of Exclusion Outweigh the Benefits of Inclusion—Units 1 through 6 Western Riverside County MSHCP

We reviewed and evaluated the exclusion of approximately 27,465 ac (11,115 ha) of land within Units 1 through 6 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP from designation of revised critical habitat and determined the benefits of excluding these lands within the boundaries of the HCP outweigh the benefits of including them.

The benefits of including these lands in final revised critical habitat are small. Critical habitat is currently designated on approximately 90 percent of the proposed lands in Units 1 through 6 covered by the Western Riverside County MSHCP. The Service conducted a consultation with the Western Riverside County MSHCP participants and continues to work with them through the implementation phase to ensure the HCP is implemented properly and providing conservation for the Quino checkerspot butterfly. The educational benefits of critical habitat designation are already in place as a result of material provided on our website, the public notice-and-comment procedures required to establish the Western Riverside County MSHCP, and our inclusion of these lands in the proposed rule to revise critical habitat. We acknowledge that there are approximately 5,851 ac (2,368 ha) of land meeting the definition of critical habitat that are within the Criteria Area but were not captured by our Conceptual Reserve Design (and therefore not likely to be conserved), and approximately 319 ac (129 ha) of land outside the Criteria Area addressed by the Western Riverside County MSHCP that meet the definition of critical habitat but are not within criteria cells or already conserved (no possible conservation under the HCP) in Units 1 through 6; however, the benefits of designating these areas as critical habitat are minor.

The benefits of excluding lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6 from critical habitat are more significant than the benefits of including them. Exclusion of these lands from critical habitat will help preserve our partnerships with the local jurisdictions and project proponents achieved through development of the Western Riverside County MSHCP and aid in fostering additional partnerships for the benefit of all species of concern on lands owned by or under the jurisdiction of the permittees of the HCP. Designation of lands covered by the Western Riverside County MSHCP may also discourage other partners from pursuing HCPs or conservation plans. Designation of critical habitat does not require management or recovery actions take place on the lands included in the designation. The Western Riverside County MSHCP, however, will provide for significant preservation and management of habitat for the Quino checkerspot butterfly and will help reach the recovery goals for this subspecies through habitat enhancement and restoration, functional connections to adjoining habitat, and monitoring efforts. Future HCPs or other species or habitat plans fostered by this exclusion would also help to recover this and other federally listed species. Therefore, in consideration of the relevant impacts to current and future partnerships, as summarized above and in the ''Conservation Partnerships on Non-Federal Lands'' section, we determined the benefits of exclusion outweigh the minor benefits of designating lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6.

Exclusion Will Not Result in Extinction of the Species—Units 1 through 6 Western Riverside County MSHCP

We determined that exclusion of approximately 27,465 ac (11,115 ha) in Units 1 through 6 from the final revised designation of critical habitat for the Quino checkerspot butterfly will not result in extinction of the subspecies because the Western Riverside County MSHCP provides for conservation of this subspecies and its PCEs (Warm Springs Creek, Skinner/Johnson, Sage, Wilson Valley, Vail Lake/Oak Mountain, and Tule Peak/Silverado core occurrence complexes). While some loss of habitat for the Quino checkerspot butterfly is anticipated with the continued implementation of the Western Riverside County MSHCP, critical habitat was already designated in the majority of Units 1 through 6 prior to approval of the HCP.

Additionally, the Service conducted a consultation with the Western Riverside County MSHCP participants and continues to work with them through the implementation phase to ensure the HCP is implemented properly and providing conservation for the Quino checkerspot butterfly. Furthermore, the jeopardy standard of section 7 of the Act and routine implementation of habitat conservation through the section 7 process also provide assurances the subspecies will not go extinct. The exclusion leaves these protections unchanged from those that would exist if excluded areas were designated as critical habitat.

Critical habitat is being designated for the Quino checkerspot butterfly in other areas that will be accorded protection from adverse modification by Federal actions using the conservation standard in the Act consistent with the Ninth Circuit Court's decision in *Gifford Pinchot*. Additionally, the subspecies occurs on lands protected and managed either explicitly for the subspecies, or indirectly through more general objectives to protect natural values. Existing protections acting in concert with the other protections provided under the Act for these lands, absent designation of critical habitat on them, and with protections afforded by the remaining critical habitat designation, lead us to find exclusion of lands in Units 1 through 6 covered by the Western Riverside County MSHCP will not result in extinction of the Quino checkerspot butterfly. Therefore, based on the above discussion, we are excluding approximately 27,465 ac (11,115 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Units 1 through 6 from this critical habitat designation.

Conservation Status of Unit 7 Western Riverside County MSHCP

Unit 7 contains approximately 4,387 ac (1,775 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP. As described above, conservation to meet the goals and objectives of the Western Riverside County MSHCP will occur within the defined Criteria Area; approximately 686 ac (278 ha) (17 percent) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 that meet the definition of critical habitat are within the Criteria Area.

In the 4 years of implementing the Western Riverside County MSHCP, no land within the Criteria Area in Unit 7 has been acquired for conservation as Additional Reserve Lands. Our interpretation of the written conservation criteria indicates that 15 percent (595 ac; 240 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 are targeted for conservation as Additional Reserve Lands (within our Conceptual Reserve Design).

Approximately 3,701 ac (1,498 ha) (about 84 percent) of land within Unit 7 that meets the definition of critical habitat and are owned by or are under the jurisdiction of the permittees of the Western Riverside County MSHCP fall outside the Criteria Area and, therefore, have no possibility of conservation under the HCP (by comparison, only 3 percent of Unit 2 in all of Units 1 through 6 falls into this category). The Service will work with our partners to fund and facilitate conservation of these approximately 3,701 ac (1,498 ha) of Quino checkerspot butterfly habitat that would not otherwise be conserved under the Western Riverside County MSHCP in Unit 7. However, we expect habitat losses will occur within these approximately 3,701 ac (1,498 ha) of land outside the Western Riverside County MSHCP Criteria Area. Although we believe preservation, conservation, and management of Quino checkerspot butterfly habitat provided for by this plan ensures the long-term conservation of this subspecies and its habitat within Units 1 through 6, subspecies conservation needs within the majority of lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 (approximately 84 percent of these lands) are not addressed by the Western Riverside County MSHCP because they lie outside of the Criteria Area.

Benefits of Inclusion—Unit 7 Western Riverside County MSHCP

As described in detail above in the ''Benefits of Designating Critical Habitat'' section, the principle benefit of designating an area as critical habitat designation is the requirement of Federal agencies to ensure actions they fund, authorize, or carry out are not likely to result in destruction or adverse modification of any designated critical habitat, the regulatory standard of section 7 of the Act under which consultation is completed.

As described above in the ''Benefits of Inclusion – Units 1 through 6 Western Riverside County MSHCP'' section, the Western Riverside County MSHCP addresses conservation issues from a coordinated, integrated perspective and will achieve more Quino checkerspot butterfly conservation than would be achieved through section 7 consultations involving consideration of critical habitat. However, Quino checkerspot butterfly conservation measures under the Western Riverside County MSHCP does not address new information regarding Quino checkerspot butterfly distribution in Unit 7 (Bautista Road Core Occurrence Complex and associated habitats) because the importance of habitat in this area to the conservation of the Quino checkerspot butterfly was not understood when the Western Riverside County MSHCP permit was issued. Thus, the Western Riverside County MSHCP does not provide habitat conservation and other measures necessary to maintain the Bautista Road Core Occurrence Complex and support ongoing elevation range shift in the area. Furthermore, lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 are outside of the boundaries of currently designated Quino checkerspot butterfly critical habitat. Therefore, our HCP permit analysis did not address Unit 7 of this revised designation (Service 2004a, p. 287; FWS–WRIV–870.19).

Unit 7, along with the closest other core occurrence complex (Tule Peak/Silverado), supports the highest recorded post-listing Quino checkerspot butterfly abundance observations and the highest diversity of host plant species in the subspecies' extant range. Unit 7 is also the northernmost unit and contains the greatest elevational gradient within the extant range of the butterfly. The high diversity of host plants and the elevational gradient underscore the importance of this habitat to the butterfly in light of documented drought conditions and future drought predictions (see ''Background'' section above). Furthermore, we believe that non-core occurrence complexes north of the community of Anza (Unit 7) are the result of recent colonization events and an ongoing range shift in this subspecies upward in elevation. We expect Unit 7 to provide immigrants to higher elevation suitable habitat that is not yet occupied and to proximal higher elevation populations that may be temporarily extirpated during the course of range-edge expansion and therefore require immigrants for re-establishment (e.g., the Quinn Flat Non-core Occurrence Complex).

We believe losses may occur to Quino checkerspot butterfly habitat within the majority of the approximately 4,387 ac (1,775 ha) of lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in

Unit 7. Therefore, the benefits of including these lands within designated critical habitat are greater than for lands conserved or targeted for conservation under the Western Riverside County MSHCP in Units 1 through 6. The area permitted for development under the Western Riverside County MSHCP is 25 percent of proposed critical habitat in Unit 7. Because lands owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 are largely outside the Criteria Area, conservation design under the Western Riverside County MSHCP does not capture the Bautista Road Core Occurrence Complex. Therefore, there is a significant regulatory benefit of designating the approximately 4,387 ac (1,775 ha) of land owned by or under the jurisdiction of the permittees of the HCP as critical habitat in this unit.

Another possible benefit of including lands in a critical habitat designation is the designation can serve to educate the landowners and the public regarding the potential conservation value of an area and may help focus conservation efforts to areas of high conservation value for certain species. Any information about the Quino checkerspot butterfly and its habitat that reaches a wide audience, including parties engaged in conservation activities, is valuable. As discussed above, additional distributional information demonstrating the significance of Unit 7 became available following completion of consultation on the Western Riverside County MSHCP, including the importance of populations in Unit 7 in supporting range shift resulting from environmental changes due to changing climate patterns (see ''**Background**'' and ''Criteria Used To Identify Critical Habitat'' sections above). The majority of lands in Unit 7 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP are not currently preserved or targeted for conservation under the HCP and the new information was not addressed by the HCP, therefore the permit holders of the HCP are not necessarily aware of the value of these lands to the conservation of the Quino checkerspot butterfly. Furthermore, no lands in Unit 7 were previously designated as critical habitat (Table 1) (67 FR 18356; April 15, 2002). With regard to occupied areas in Unit 7, the April 15, 2002, critical habitat designation stated ''[the Bautista Road Occurrence Complex] ...was first documented in 2001 following the publication of the [critical habitat] proposal and we do not currently have sufficient information concerning habitat within the complex and landscape connectivity to other complexes to determine that it is essential to the conservation of the [sub]species.'' Although all lands in Unit 7 were included in the proposed revised designation, this final revised critical habitat designation will continue to provide useful educational information to the public.

Benefits of Exclusion—Unit 7 Western Riverside County MSHCP

There are benefits of excluding the approximate 4,387 ac (1,775 ha) of land owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP in Unit 7 from revised critical habitat. We believe benefits would be realized by forgoing the designation of critical habitat on these lands including: (1) Continuance and strengthening of our effective working relationships with all Western Riverside County MSHCP permittees and stakeholders to promote further conservation of the Quino checkerspot butterfly and its habitat; (2) allowance for continued meaningful collaboration and cooperation in working toward recovering this subspecies, including conservation benefits that might not otherwise occur; and (3) encouragement of development of additional HCPs and other conservation plans in the future on other private lands for this and other federally listed and sensitive species. Please see the ''Benefits of Exclusion – Units 1 through 6 Western Riverside County MSHCP'' section for additional discussion related to partnerships and landscape-scale conservation benefits.

The Benefits of Inclusion Outweigh the Benefits of Exclusion—Unit 7 Western Riverside County MSHCP

We reviewed and evaluated the exclusion of approximately 4,387 ac (1,775 ha) ha) of land within Unit 7 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP from designation of revised critical habitat and determined the benefits of designating these lands as critical habitat outweigh the benefits of excluding them.

We recognize there are significant benefits of excluding lands within the Western Riverside County MSHCP from critical habitat. The exclusion of these lands from critical habitat would help preserve the partnerships we developed with the local jurisdictions and project proponents in the development of the Western Riverside County MSHCP and foster additional partnerships for the benefit of all species of concern on lands owned by or under the jurisdiction of the permittees of the HCP. Although the Western Riverside County MSHCP will provide significant preservation and management of habitat for the Quino checkerspot butterfly and help reach recovery goals for this subspecies in Units 1 through 6, the plan does not conserve the Bautista Road Core Occurrence Complex (Unit 7) because this area was identified as a core occurrence complex following completion of the Western Riverside County MSHCP.

We believe the benefits of designating lands within Unit 7 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP as critical habitat are more significant than the benefits of excluding them. Critical habitat was not previously designated in Unit 7; therefore, the effects of permit issuance on critical habitat in this area were not analyzed in a biological opinion, and the educational benefits of HCP analysis and critical habitat designation were not realized. Unit 7 supports the Bautista Road Core Occurrence Complex and associated habitat and non-core occurrence complexes which we believe are needed to support a resilient core population, as well as ongoing range shift of this subspecies upward in elevation. This unit contains the greatest elevational gradient and highest diversity of host plant species within the extant range of the butterfly. Furthermore, substantial losses to Quino checkerspot butterfly habitat within Unit 7 may occur on 3,701 ac (1,498 ha) outside the Criteria Area. We do not anticipate that monitoring and management of lands within the Criteria Area of Unit 7 will ensure continued occupancy of this core occurrence complex. Finally, we find that there will be significant educational benefits of designation in this unit, not already met by the HCP approval process, previous critical habitat designation, or publication of proposed revised critical habitat. Therefore, we conclude the regulatory protections that may be afforded through critical habitat designation in Unit 7 are greater than the conservation benefits provided by the Western Riverside County MSHCP in this unit.

In summary, we determined the benefits of including Unit 7 in designated critical habitat outweigh the benefits of exclusion; therefore, we are designating all 4,387 ac (1,775 ha) of land within Unit 7 owned by or under the jurisdiction of the permittees of the Western Riverside County MSHCP as revised critical habitat.

Required Determinations

Regulatory Planning and Review

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

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

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

(3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

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

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

Under the Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 802(2)), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect 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 an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. In this final rule, we are certifying that the critical habitat designation for the Quino checkerspot butterfly will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

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

To determine if the revised designation of critical habitat for the Quino checkerspot butterfly would affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities, such as residential and commercial development. In order to determine whether it is appropriate for our agency to certify that this rule would not have a significant economic impact on a substantial number of small entities, we considered each industry or category individually. To estimate the numbers of small entities potentially affected, we also considered whether their activities have any Federal involvement. Critical habitat designation will not affect activities that do not have any Federal involvement; designation of critical habitat affects activities conducted, funded, permitted, or authorized by Federal agencies.

Designation of critical habitat affects only activities conducted, funded, permitted, or authorized by Federal agencies. Some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they fund, permit, or implement that may affect the Quino checkerspot butterfly. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinitiate consultation for ongoing Federal activities.

In the DEA of the proposed revisions to critical habitat, we evaluated the potential economic effects on small business entities resulting from implementation of conservation actions related to the proposed revisions to critical habitat for the Quino checkerspot butterfly. The DEA is based on the estimated incremental impacts associated with the proposed rulemaking as described in sections 2 through 7. The DEA evaluates the potential for economic impacts related to activity categories including residential development, tribal activities, habitat management, and non-residential development. The DEA concludes that the incremental impacts resulting from this rulemaking that may be borne by small businesses will be associated only with residential development. Incremental impacts are either not expected for the other types of activities considered or, if expected, will not be borne by small entities.

As discussed in Appendix A of the DEA, the largest impacts of the proposed rule result from section 7 consultations with the Service on development projects likely to occur in areas where surveys are unable to detect the Quino checkerspot butterfly. The exclusions made in this final revised rule do not affect this analysis in the DEA. In the high estimate scenario, five projects in Unit 9 and nine projects in Unit 10 were identified as likely to require consultation with the Service as a result of the proposed rule. Conservatively assuming that each project is undertaken by a separate entity, as many as 14 developers were identified as likely to be affected over the 23–year time frame of the analysis. Furthermore, approximately six developers per year were identified as potentially experiencing impacts that likely represent less than one percent of the value of a new home. At the high-end, the one-time costs resulting from the consultation process, including administrative time spent by the businesses, compensation costs, and the value of time delays, totaled approximately $16.1 million for the projects in Unit 9 and $26.8 million for the projects in Unit 10. No information regarding the probability that these businesses are small entities is available. However, assuming they are small businesses, we are certifying that the number of small entities (14) that could be significantly affected is not substantial, and that the critical habitat designation for the Quino checkerspot butterfly will not have a significant economic impact on these small entities.

Energy Supply, Distribution, or Use—Executive Order 13211

On May 18, 2001, the President issued E.O. 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This revision to critical habitat for the Quino checkerspot butterfly is not considered a significant regulatory action under E.O. 12866. OMB has provided guidance for

implementing this Order that outlines nine outcomes that may constitute ''a significant adverse effect'' when compared without the regulatory action under consideration. The FEA identified Calpine Corporation, San Diego Gas and Electric, and Southern California Edison as entities involved in the production of energy. As discussed in Appendix A, the FEA finds that none of these outcomes are likely to occur. As such, the final designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use, and a Statement of Energy Effects is not required.

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

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

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments,'' with two exceptions. It excludes ''a condition of federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. ''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 section 7 of the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat. Non-Federal entities that receive Federal funding, assistance, permits, or otherwise require approval or authorization from a Federal agency for an action, may be indirectly affected by the designation of critical habitat. However, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly affected because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

(2) We do not believe that this rule would significantly or uniquely affect small governments because it would not produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The FEA concludes incremental impacts may occur due to project modifications that may need to be made for development; however, these are not expected to affect small governments. Consequently, we do not believe that the revised critical habitat designation would significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

Takings—Executive Order 12630

In accordance with E.O. 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of designating critical habitat for the Quino checkerspot butterfly in a takings implications assessment. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. The takings implications assessment concludes that this final revised designation of critical habitat for the Quino checkerspot butterfly does not pose significant takings implications.

Federalism—Executive Order 13132

In accordance with Executive Order 13132 (Federalism), the 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 final revised critical habitat designation with appropriate State resource agencies in California; however, we did not receive any comments from State agencies. The majority of land (68 percent) being designated is not State or locally-owned and, therefore, the designation has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas that contain the physical and biological 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. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. This final rule uses standard property descriptions and identifies the physical and biological features essential to the conservation of the species 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 the 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)).

Government-to-Government Relationship with Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal tribes on a government-to-government basis. 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.

In the proposed revisions to critical habitat published in the **Federal Register** on January 17, 2008 (73 FR 3328), we proposed approximately 1,203 ac (487 ha) of Cahuilla Band of Indians' and approximately 79 ac (ha) of Ramona Band of Cahuilla Indians' lands in Riverside County, and approximately 3,156 ac (1277 ha) of land within Campo Band of Kumeyaay Indians' lands in San Diego County as critical habitat for the Quino checkerspot butterfly. We worked directly with the tribes to determine economic and other burdens expected to result from critical habitat designation on tribal lands, and as a result of information exchanged, are excluding all tribal lands meeting the definition of critical habitat for the Quino checkerspot butterfly from this final revised designation under section 4(b)(2) of the Act (see ''**Application of Section 4(b)(2) –Impacts to Government-To-Government Relationships With Tribes And Economics**'' section above).

References Cited

A complete list of all references cited in this rulemaking is available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/carlsbad/*.

Author(s)

The primary author of this notice is the staff from the Carlsbad Fish and Wildlife Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

■ Accordingly, we 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 (ft2) (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*, *Antirrhinum coulterianum*, or *Collinsia concolor* used for Quino checkerspot butterfly growth, reproduction, and feeding; 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 listed in paragraph (2)(i)(B) above; or

(D) Contain flowering plants with a corolla tube less than or equal to 0.43 in (11 mm) used for Quino checkerspot butterfly 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, containing an open, woody-canopy area at least 21.5 ft^2 (2 m^2) in size used for Quino checkerspot butterfly mating (hilltopping behavior) and are contiguous with (but not otherwise included in) open areas and natural vegetation described in paragraphs (2)(i) and (ii) above.

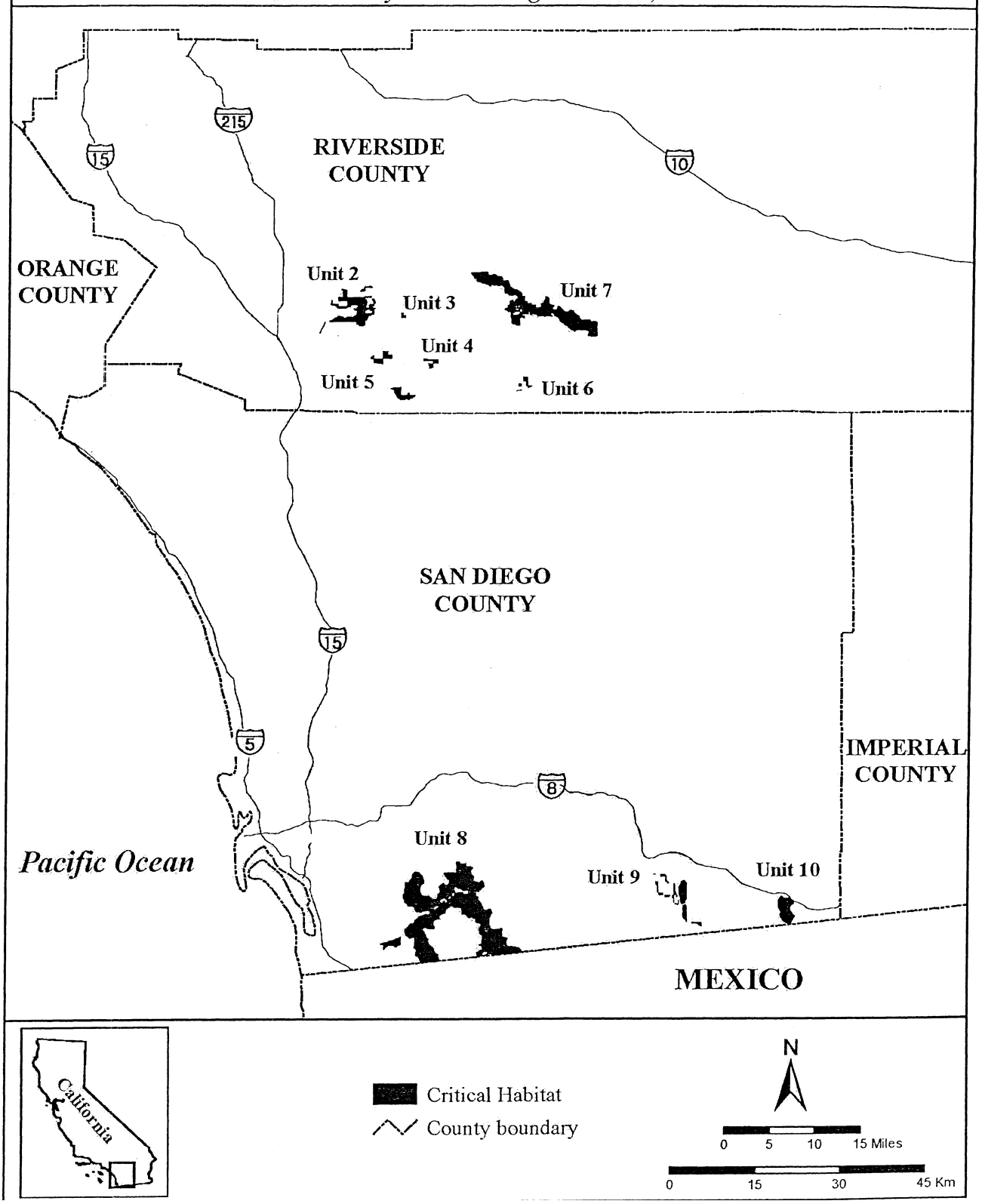
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(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:

BILLING CODE 4310–55–S

Map 1: Index
Critical Habitat for *Euphydryas editha quino* (Quino checkerspot butterfly),
Riverside County and San Diego Counties, California



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(6) Unit 2: Skinner/Johnson, 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 1983 (NAD83) coordinates (E, N): 499480, 3720871; 498641, 3720857; 498511, 3720856; 498353, 3720855; 498593, 3720996; 498642, 3721009; 499082, 3721122; 499479, 3721141; 499529, 3721143; 499731, 3721103; 499738, 3721101; 499829, 3720955; 499918, 3720879; thence returning to 499480, 3720871. Continue to 497696, 3720235; 497728, 3720291; 497832, 3720397; 498082, 3720651; 498640, 3720657; 498640, 3720445; 498639, 3720257; 498639, 3720257; 498059, 3720244; 497833, 3720239; 497778, 3720238; thence returning to 497696, 3720235. Continue to 494486, 3720445; 494486, 3720445; 494496, 3720550; 494671, 3720558; 494796, 3720564; 495236, 3720522; 495415, 3720453; 495475, 3720430; 495475, 3720430; 495474, 3720194; 495474, 3720033; 495470, 3719192; 496227, 3719210; 496269, 3719211; 496291, 3719212; 496669, 3719221; 497068, 3719231; 497401, 3719235; 497436, 3719236; 497456, 3719236; 497636, 3719238; 497727, 3719239; 497838, 3719241; 498238, 3719245; 498463, 3719247; 498638, 3719249; 498647, 3719249; 498648, 3719249; 498654, 3719249; 498722, 3719250; 499106, 3719253; 499141, 3719254; 499290, 3719254; 499723, 3719253; 499723, 3719253; 499641, 3719206; 499612, 3719190; 499612, 3719190; 499544, 3719046; 499543, 3719044; 499543, 3719044; 499540, 3719034; 499529, 3719035; 499526, 3719035; 499524, 3719035; 499523, 3719035; 499523, 3719036; 499080, 3719076; 499079, 3719074; 499065, 3719034; 499065, 3719034; 499063, 3719029; 499059, 3719017; 498910, 3719042; 498899, 3719044; 498888, 3719047; 498877, 3719051; 498866, 3719054; 498856, 3719059; 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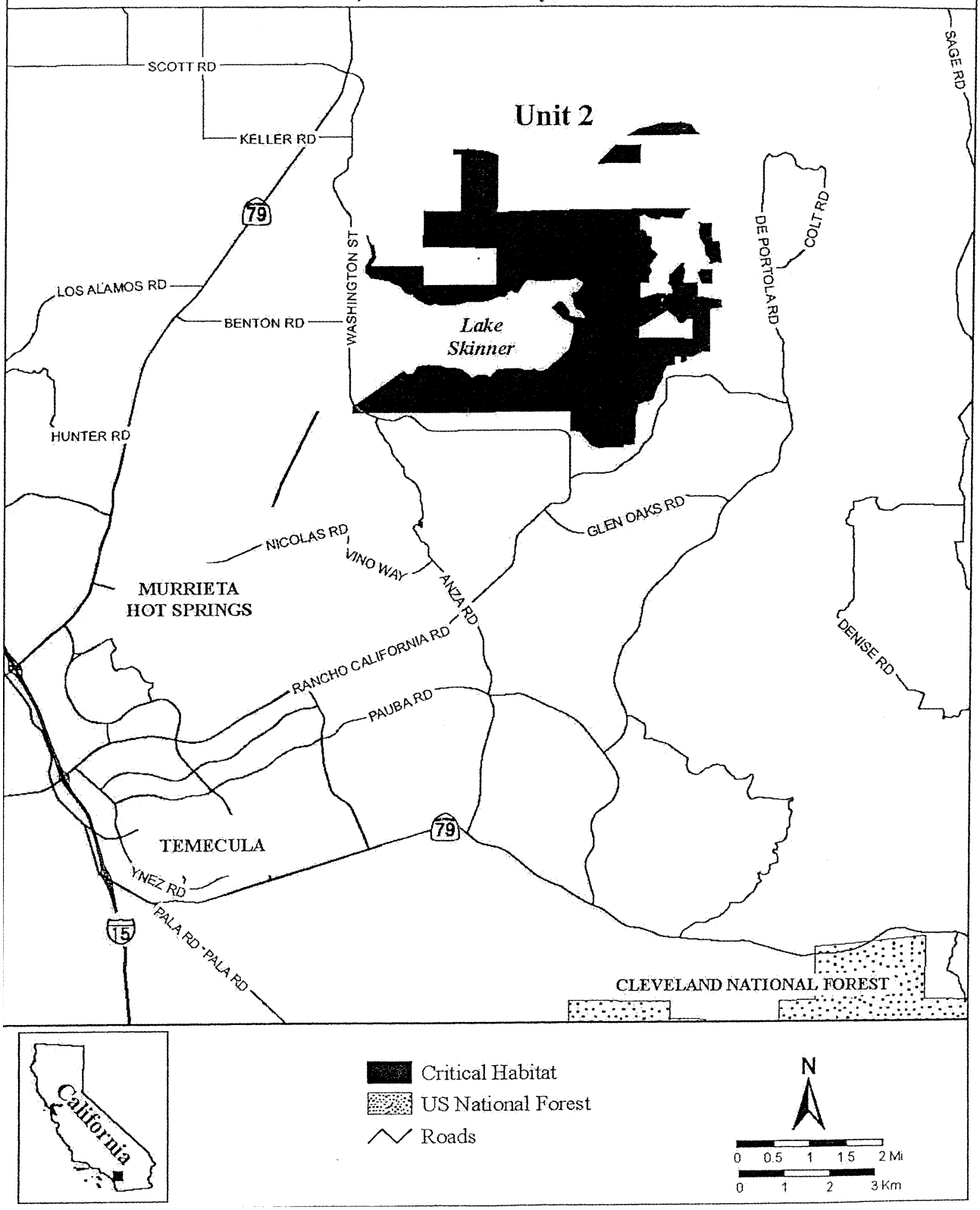
(ii) *Note*: Map of Unit 2, Skinner/Johnson follows:

BILLING CODE 4310–55–S

Map of
Critical Habitat for *Euphydryas editha quino* (Quino checkerspot butterfly)
Unit 2, Riverside County, California



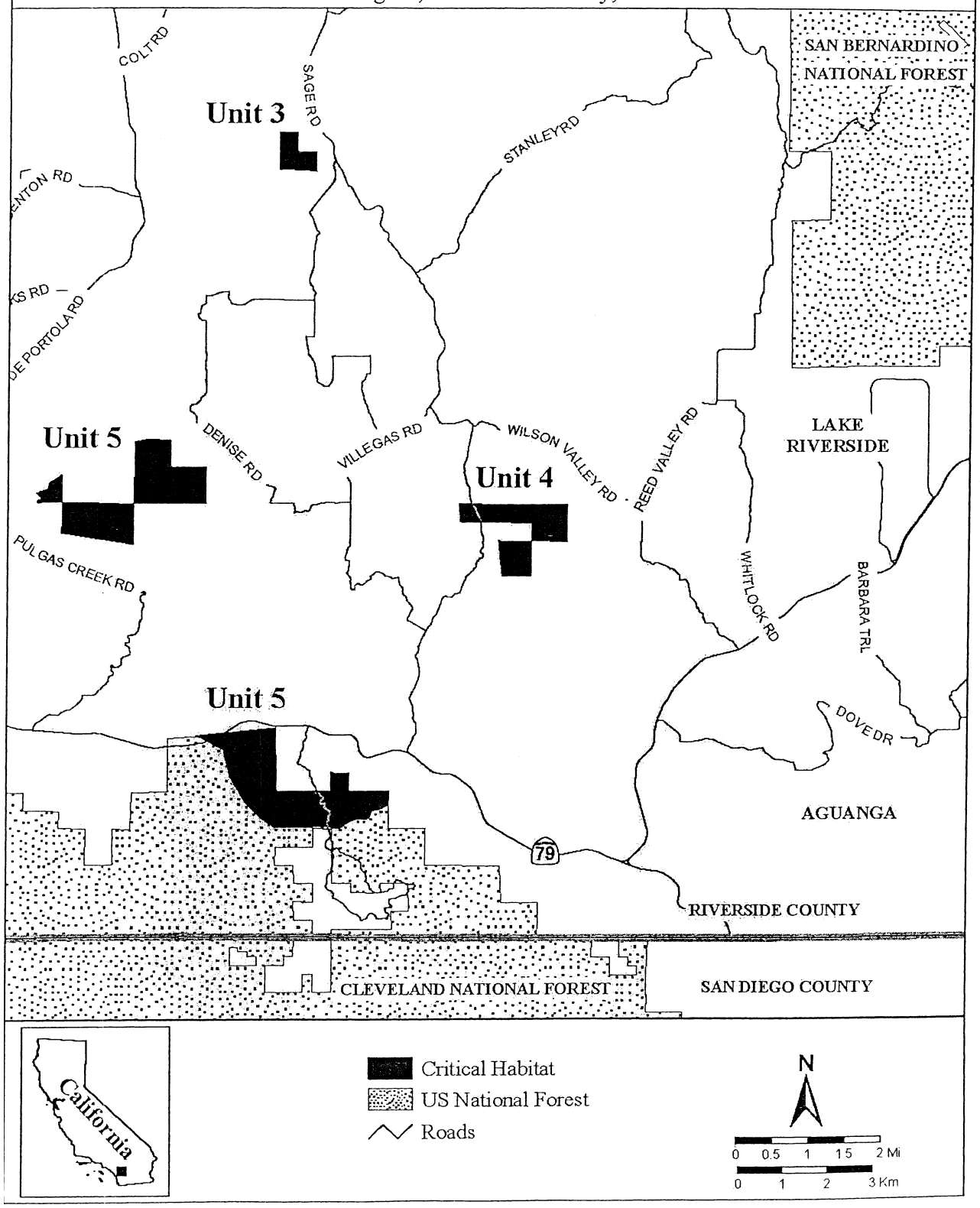
BILLING CODE 4310–55–C

(7) 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 1983 (NAD83) coordinates (E, N): 505035, 3716405; 505035, 3716405; 505175, 3716404; 505175, 3716404; 505245, 3716403; 505267, 3716403; 505380, 3716402; 505427, 3716402; 505429, 3716017; 505429, 3715985; 505432, 3715985; 505727, 3715975; 505831, 3715971; 505831, 3715971; 505831, 3715774; 505831, 3715547; 505025, 3715591; 505025, 3715611; 505026, 3715641; 505027, 3715789; 505027, 3715789; 505029, 3715890; 505030, 3715988; 505032, 3716141; 505032, 3716189; 505032, 3716189; thence returning to 505035, 3716405.

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

Map of
Critical Habitat for *Euphydryas editha quino* (Quino checkerspot butterfly)
Units 3 through 5, Riverside County, California



BILLING CODE 4310–55–C

(8) 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 1983 (NAD83) coordinates (E, N): 510234, 3707784; 510234, 3707785; 510234, 3707800; 510234, 3707808; 509911, 3707810; 509378, 3707813; 509357, 3707813; 509356, 3707812; 509356, 3707812; 509094, 3707816; 509094, 3707816; 509094, 3707816; 509092, 3707833; 509092, 3707835; 509064, 3708174; 509061, 3708213; 509060, 3708216; 509060, 3708217; 509311, 3708214; 509360, 3708214; 509412, 3708213; 509447, 3708213; 509447, 3708213; 509535, 3708212; 509558, 3708212; 509712, 3708211; 509854, 3708209; 509870, 3708209; 509870, 3708209; 509870, 3708209; 509935, 3708209; 510386, 3708205; 510689, 3708203; 511420, 3708197; 511480, 3708197; 511507, 3708197; 511507, 3708197; 511507, 3708172; 511507, 3708066; 511507, 3708066; 511506, 3707959; 511506, 3707934; 511505, 3707784; 511504, 3707636; 511504, 3707594; 511503, 3707514; 511503, 3707503; 511503, 3707503; 511503, 3707375; 511502, 3707375; 511087, 3707383; 510706, 3707390; 510706, 3707390; 510706, 3707390; 510706, 3707424; 510704, 3707599; 510702, 3707780; 510680, 3707780; 510595, 3707781; thence returning to 510234, 3707784. Continue to 510706, 3707390; 510707, 3707301; 510715, 3706625; 510715, 3706625; 510035, 3706610; 510035, 3706610; 510025, 3706704; 510024, 3706709; 510024, 3706712; 510015, 3706798; 509994, 3707007; 509994, 3707007; 509973, 3707206; 509973, 3707206; 509963, 3707305; 509953, 3707404; 509953, 3707404; 510609, 3707392; 510678, 3707390; thence returning to 510706, 3707390.

(ii) *Note*: Unit 4 (Wilson Valley) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

(8) 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 1983 (NAD83) coordinates (E, N): 501858, 3709596; 501858, 3709596; 502139, 3709646; 502615, 3709631; 502626, 3709625; 502643, 3709615; 502643, 3709609; 502642, 3709465; 502642, 3709465; 502641, 3709286; 502641, 3709256; 502640, 3709087; 502640, 3709074; 502640, 3709046; 503036, 3709037; 503036, 3709037; 503174, 3709034; 503340, 3709031; 503433, 3709028; 503434, 3708993; 503434, 3708987; 503434, 3708987; 503434, 3708899; 503435, 3708725; 503435, 3708713; 503435, 3708707; 503435, 3708707; 503437, 3708213; 503437, 3708213; 503437, 3708213; 501828, 3708226; 501828, 3708226; 501828, 3708226; 501829, 3708245; 501829, 3708258; 501841, 3708792; 501844, 3708936; 501849, 3709192; 501853, 3709344; 501853, 3709354; 501853, 3709364; thence returning to 501858, 3709596. Continue to 500229, 3708250; 500085, 3708249; 499766, 3708247; 499671, 3708246; 499671, 3708246; 499668, 3708295; 499768, 3708331; 499694, 3708419; 499652, 3708468; 499727, 3708495; 499768, 3708510; 499887, 3708558; 499915, 3708657; 499987, 3708725; 500070, 3708773; 500134, 3708820; 500154, 3708832; 500220, 3708869; 500220, 3708868; thence returning to 500229, 3708250. Continue to 501828, 3708226; 501830, 3708001; 501831, 3707844; 501833, 3707599; 501834, 3707442; 501835, 3707394; 501835, 3707318; 501835, 3707318; 501550, 3707363; 501429, 3707383; 501022, 3707448; 500616, 3707513; 500397, 3707548; 500210, 3707578; 500210, 3707578; 500210, 3707582; 500214, 3707723; 500226, 3708156; 500229, 3708250; 500229, 3708250; 500229, 3708250; 500719, 3708249; 501023, 3708249; 501441, 3708237; 501466, 3708236; 501737, 3708229; 501801, 3708227; 501817, 3708226; thence returning to 501828, 3708226. Continue to 507529, 3701874; 507531, 3701777; 507532, 3701729; 507532, 3701729; 507513, 3701663; 507489, 3701583; 507470, 3701544; 507352, 3701469; 507350, 3701469; 507350, 3701467; 507271, 3701434; 507218, 3701448; 507155, 3701416; 507129, 3701371; 507113, 3701304; 507071, 3701262; 506993, 3701239; 506916, 3701235; 506865, 3701235; 506805, 3701244; 506703, 3701200; 506640, 3701170; 506568, 3701135; 506494, 3701063; 506399, 3701047; 506264, 3701054; 506246, 3701061; 506242, 3701061; 506242, 3701072; 505840, 3701071; 505840, 3701071; 505840, 3701068; 505840, 3701068; 505833, 3701068; 505723, 3701058; 505713, 3701052; 505415, 3701052; 505035, 3701052; 505013, 3701052; 504656, 3701290; 504313, 3701648; 504171, 3701886; 503985, 3702199; 503837, 3702780; 503528, 3702954; 503528, 3702954; 503494, 3702973; 503477, 3702981; 503477, 3702981; 503417, 3703009; 503271, 3703077; 503258, 3703095; 503250, 3703106; 503340, 3703114; 503415, 3703121; 503866, 3703163; 503873, 3703164; 503946, 3703171; 503953, 3703172; 505023, 3703271; 505023, 3703271; 505026, 3703040; 505026, 3703040; 505029, 3702852; 505029, 3702852; 505030, 3702776; 505031, 3702723; 505031, 3702702; 505039, 3702145; 505043, 3701881; 505043, 3701881; 505266, 3701880; 505443, 3701879; 505443, 3701879; 505722, 3701878; 505843, 3701877; 505848, 3701877; 506242, 3701875; 506242, 3701875; 506242, 3702278; 506244, 3702278; 506643, 3702274; 506643, 3702106; 506642, 3702087; 506642, 3701873; 506642, 3701873; 506657, 3701873; 506684, 3701873; 507103, 3701873; 507282, 3701874; thence returning to 507529, 3701874.

(ii) *Note*: Unit 5 (Vail Lake/Oak Mountain) for the Quino checkerspot butterfly is depicted on the map in paragraph (7)(ii) of this entry.

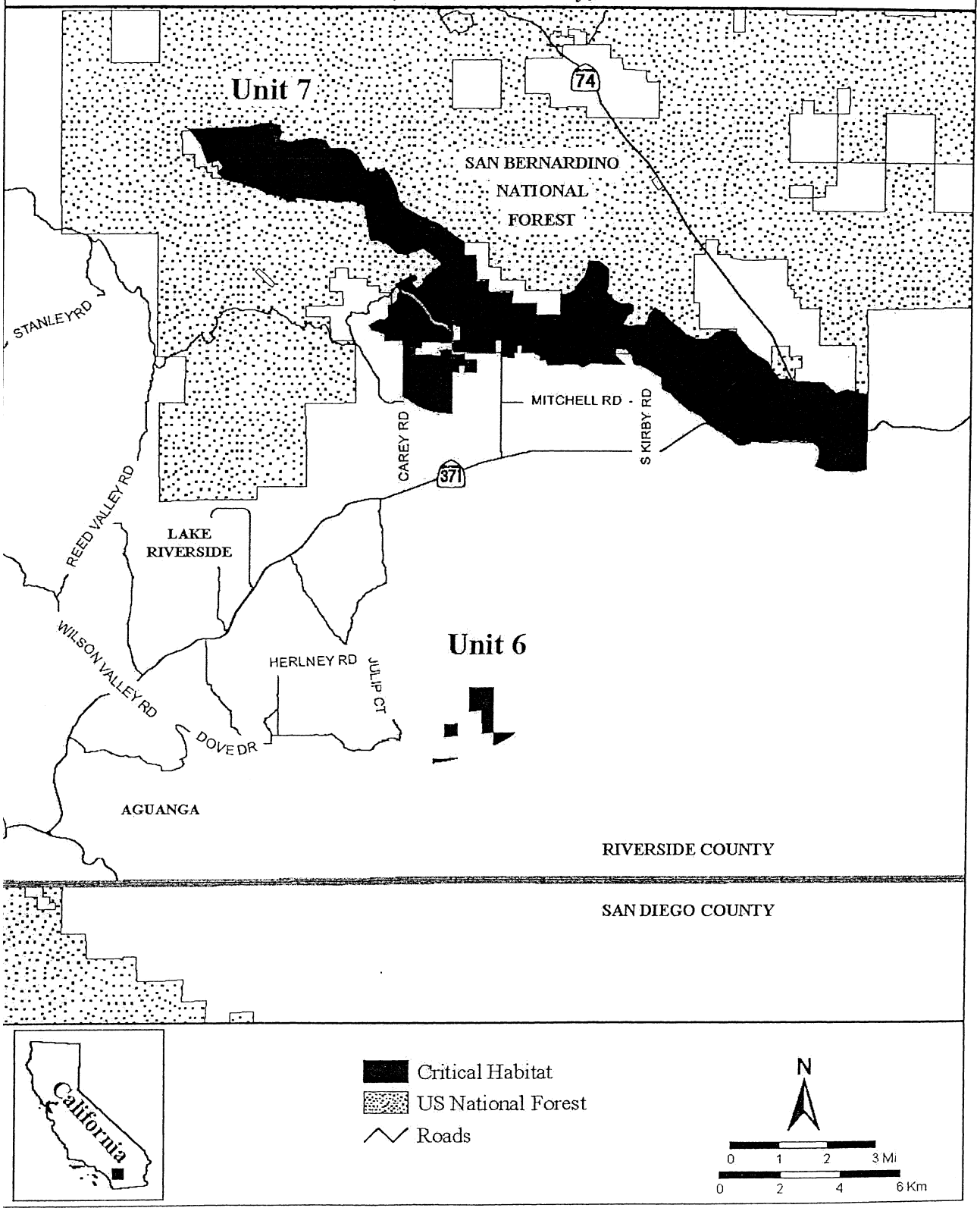
(10) Unit 6: Tule Peak Unit, Riverside County, California.

(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 1983 (NAD83) coordinates (E, N): 527628, 3703575; 527233, 3703541; 527233, 3703541; 527232, 3703658; 527230, 3703925; 527230, 3703934; 527229, 3704074; 527228, 3704118; 527226, 3704307; 526831, 3704287; 526824, 3704287; 526813, 3704286; 526813, 3704286; 526811, 3704467; 526806, 3704812; 526803, 3705067; 527305, 3705070; 527625, 3705073; 527626, 3704522; 527626, 3704231; 527627, 3703961; 527627, 3703809; 527627, 3703725; 527627, 3703709; 527628, 3703696; 527628, 3703575; thence returning to 527628, 3703575. Continue to 526311, 3703859; 526400, 3703866; 526403, 3703470; 526403, 3703470; 526365, 3703467; 526040, 3703439; 525983, 3703434; 525980, 3703823; 525980, 3703835; thence returning to 526311, 3703859. Continue to 528328, 3703573; 528328, 3703573; 528310, 3703558; 528208, 3703471; 528051, 3703364; 527873, 3703263; 527737, 3703197; 527631, 3703161; 527630, 3703161; 527630, 3703161; 527628, 3703575; 527628, 3703575; 528134, 3703574; 528153, 3703574; thence returning to 528328, 3703573. Continue to 526412, 3702730; 526363, 3702718; 525995, 3702627; 525987, 3702626; 525605, 3702584; 525588, 3702582; 525588, 3702582; 525588, 3702696; 525588, 3702696; 525854, 3702707; 525986, 3702713; 526140, 3702719; 526368, 3702728; thence returning to 526412, 3702730.

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

BILLING CODE 4310–55–S

Map of
Critical Habitat for *Euphydryas editha quino* (Quino checkerspot butterfly)
Units 6 and 7, Riverside County, California



BILLING CODE 4310–55–C

(8) 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 1983 (NAD83) coordinates (E, N): 524940, 3714398; 524927, 3714405; 524915, 3714413; 524912, 3714415; 524909, 3714416; 524891, 3714427; 524867, 3714442; 524861, 3714445; 524843, 3714457; 524824, 3714470; 524819, 3714473; 524796, 3714488; 524773, 3714505; 524750, 3714521; 524727, 3714538; 524704, 3714555; 524702, 3714557; 524687, 3714568; 524679, 3714573; 524654, 3714586; 524629, 3714600; 524617, 3714607; 524605, 3714614; 524580, 3714629; 524556, 3714644; 524532, 3714659; 524513, 3714671; 524509, 3714674; 524492, 3714686; 524485, 3714690; 524480, 3714693; 524481, 3714769; 524482, 3715168; 524477, 3716096; 524477, 3716098; 524477, 3716098; 524477, 3716100; 524471, 3716251; 524469, 3716299; 524465, 3716399; 524461, 3716501; 524460, 3716518; 524266, 3716521; 524066, 3716524; 524027, 3716524; 523864, 3716521; 523861, 3716521; 523854, 3716740; 523656, 3716816; 523633, 3716826; 523462, 3716890; 523431, 3716902; 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(ii) *Note*: Unit 7 (Bautista) for the Quino checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(8) 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 1983 (NAD83) coordinates (E, N): 505693, 3606447; 505703, 3606427; 505702, 3606427; 505702, 3606426; 505693, 3606046; 505691, 3605963; 505687, 3605768; 505677, 3605363; 505668, 3604969; 505635, 3604959; 505560, 3604935; 505239, 3604836; 505150, 3604808; 505147, 3604807; 505125, 3604572; 505124, 3604564; 504912, 3604574; 504650, 3604587; 504549, 3604707; 504464, 3604807; 503596, 3604788; 503441, 3604784; 503423, 3604784; 502983, 3604518; 502810, 3604205; 502732, 3604207; 502715, 3605000; 502151, 3605003; 502141, 3605216; 502141, 3605222; 502335, 3605289; 502913, 3605488; 502919, 3605481; 502922, 3605478; 503260, 3605591; 503260, 3605593; 503257, 3605604; 503255, 3605606; 503274, 3605613; 503537, 3605704; 503545, 3605706; 503856, 3605814; 503909, 3605832; 503935, 3605840; 504176, 3605924; 504337, 3605979; 504546, 3606052; 504617, 3606076; 504799, 3606141; 505139, 3606262; 505378, 3606338; 505594, 3606413; 505692, 3606446; 505693, 3606447; thence returning to 505693, 3606447. Continue to 506421, 3607499; 506490, 3607502; 506512, 3607503; 506510, 3607549; 506510, 3607549; 506489, 3607885; 506564, 3607917; 506564, 3607917; 506776, 3608010; 506859, 3608047; 506976, 3608221; 507010, 3608271; 507025, 3608294; 507168, 3608518; 507452, 3608739; 507453, 3608758; 507569, 3608830; 507852, 3608932; 507977, 3608971; 508040, 3609097; 508040, 3609363; 508199, 3609449; 508324, 3609517; 508518, 3609622; 508714, 3609755; 508740, 3609897; 508745, 3609928; 508824, 3610006; 508996, 3610006; 509114, 3610061; 509177, 3610137; 509190, 3610152; 509192, 3610155; 509333, 3610179; 509420, 3610202; 509490, 3610163; 509537, 3610108; 509537, 3610202; 509553, 3610351; 509725, 3610390; 509984, 3610508; 510011, 3610531; 510039, 3610555; 510149, 3610563; 510305, 3610500; 510517, 3610469; 510666, 3610508; 510713, 3610641; 510792, 3610822; 510828, 3610885; 510909, 3611025; 510930, 3611061; 511066, 3611284; 511301, 3611402; 511497, 3611417; 511497, 3611226; 511497, 3611221; 511676, 3611260; 511787, 3611284; 512102, 3611553; 512218, 3611653; 512210, 3611672; 512171, 3611755; 512265, 3612060; 512273, 3612311; 512352, 3612421; 512508, 3612507; 512610, 3612531; 512691, 3612505; 512759, 3612484; 512785, 3612488; 512844, 3612496; 512872, 3612501; 512916, 3612507; 513018, 3612593; 513049, 3612664; 513144, 3612719; 513261, 3612742; 513266, 3612803; 513267, 3612819; 513269, 3612844; 513295, 3612845; 513313, 3612846; 513418, 3612851; 513457, 3612852; 513567, 3612758; 513567, 3612664; 513567, 3612523; 513620, 3612383; 513653, 3612295; 513880, 3612084; 513953, 3612024; 514096, 3611906; 514147, 3611864; 514249, 3611966; 514177, 3611992; 514163, 3611998; 514139, 3612068; 513990, 3612209; 513888, 3612217; 513786, 3612350; 513763, 3612499; 513810, 3612617; 513833, 3612627; 513935, 3612672; 514006, 3612774; 514147, 3612876; 514148, 3612877; 514232, 3612971; 514280, 3613025; 514335, 3613158; 514406, 3613236; 514471, 3613282; 514539, 3613330; 514546, 3613351; 514552, 3613367; 514610, 3613526; 514798, 3613636; 514939,

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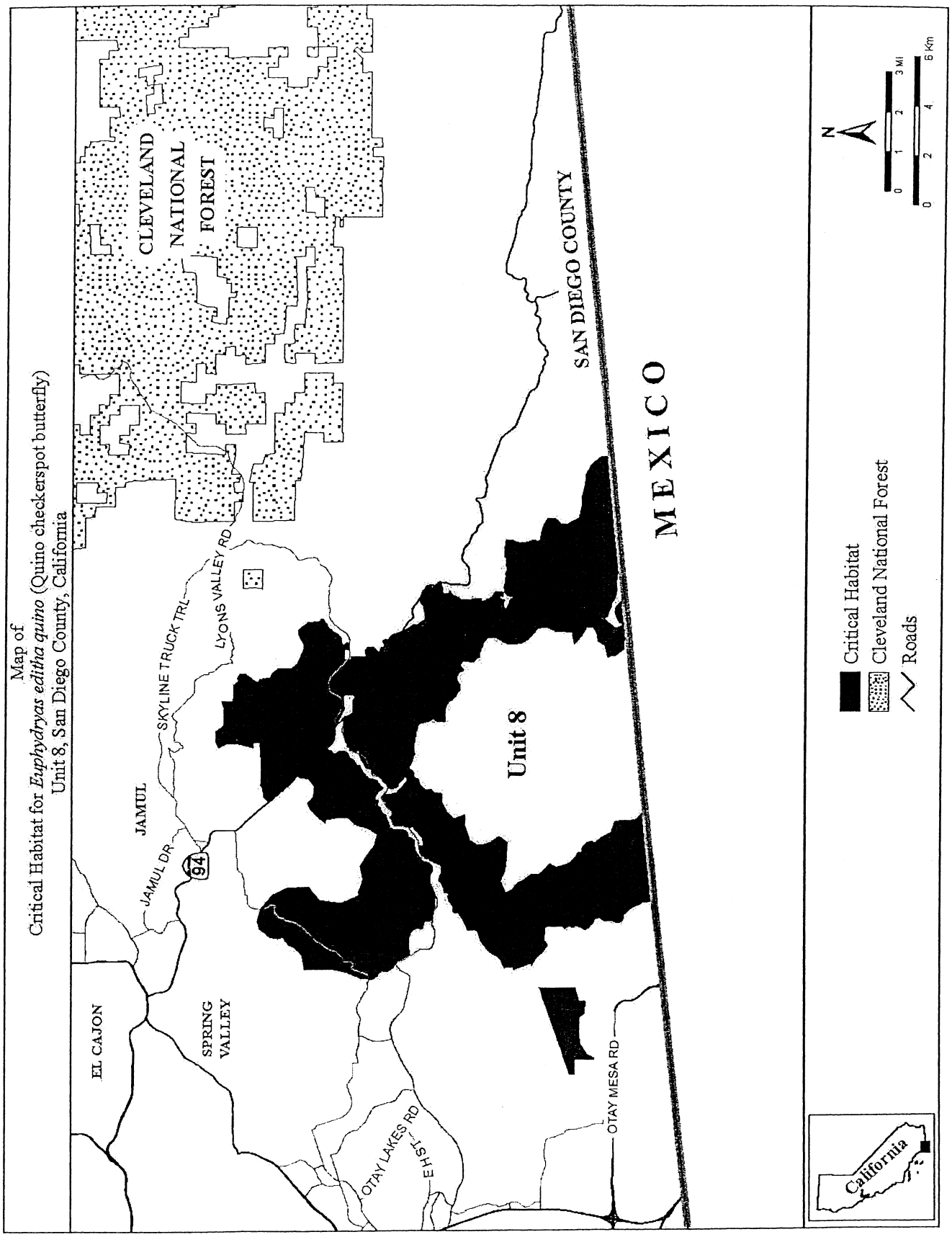
(ii) *Note*: Map of Unit 8 (Otay) follows:

BILLING CODE 4310–55–S



BILLING CODE 4310–55–C

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

(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 1983 (NAD83) coordinates (E, N): 555235, 3612703; 555266, 3612642; 555282, 3612538; 555299, 3612347; 555299, 3612204; 555289, 3612185; 555286, 3612179; 555258, 3612122; 555255, 3612116; 555250, 3612113; 555196, 3612065; 555167, 3612040; 555141, 3612041; 554992, 3612051; 554790, 3612076; 554773, 3612078; 554750, 3612088; 554644, 3612135; 554616, 3612172; 555239, 3612178; thence returning to 555235, 3612703. 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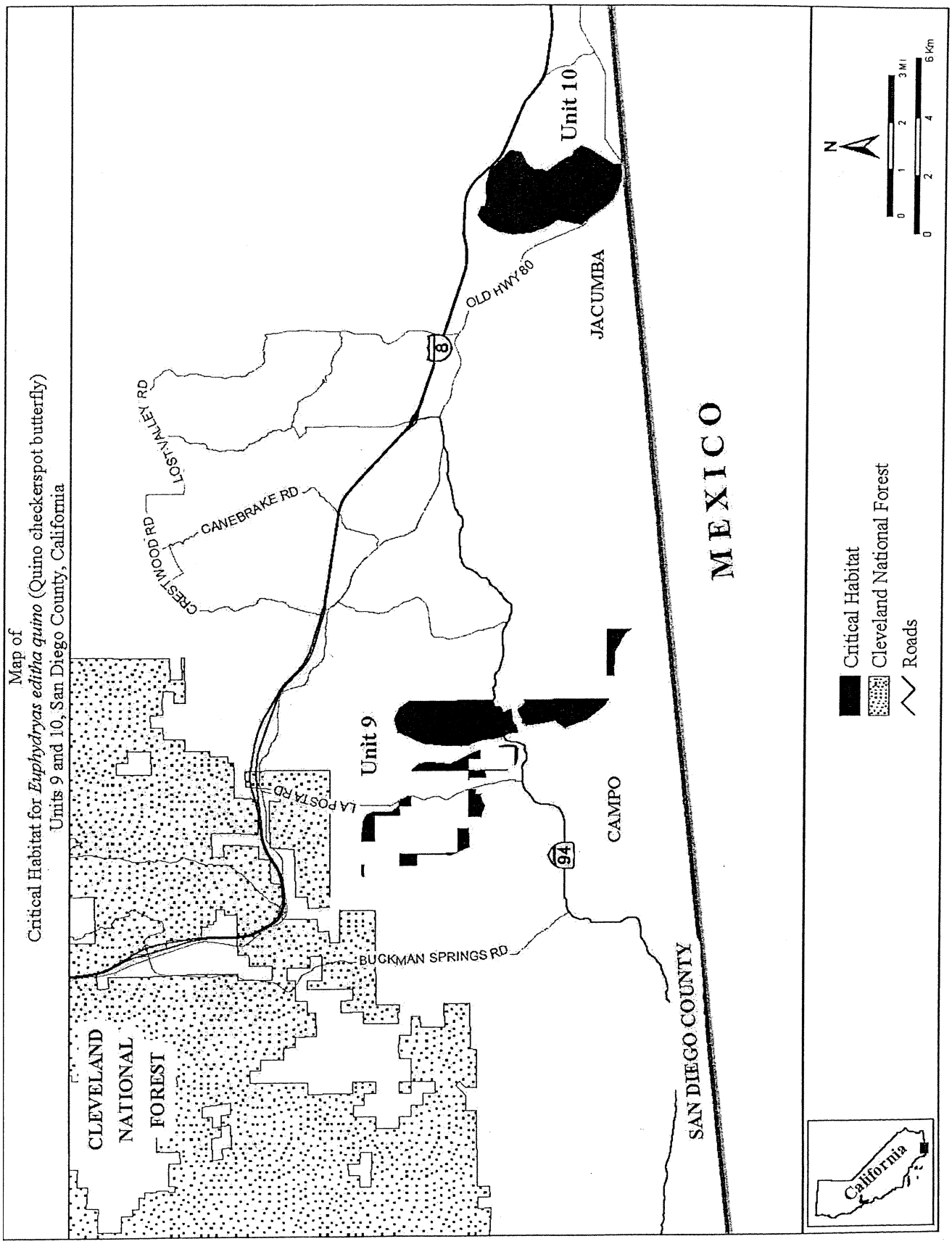
(ii) *Note*: Map of Unit 9 (La Posta/Campo) follows:

BILLING CODE 4310–55–S



BILLING CODE 4310–55–C

(14) 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 1983 (NAD83) coordinates (E, N): 573863, 3613297; 574023, 3613274; 574161, 3613286; 574253, 3613292; 574396, 3613303; 574510, 3613303; 574638, 3613245; 574759, 3613218; 574955, 3613176; 575272, 3612817; 575656, 3612485; 575643, 3612410; 575643, 3612410; 575586, 3612080; 575458, 3612014; 575458, 3612014; 575439, 3612004; 575439, 3612004; 575245, 3611903; 575131, 3611815; 575017, 3611638; 575017, 3611608; 575017, 3611608; 575017, 3611404; 574935, 3611182; 575207, 3610803; 575428, 3610462; 575453, 3610310; 575637, 3610253; 575798, 3610029; 575798, 3610029; 575801, 3610025; 575696, 3609704; 575637, 3609610; 575634, 3609606; 575431, 3609284; 575322, 3609111; 575204, 3608925; 575204, 3608842; 575204, 3608780; 575204, 3608757; 575204, 3608606; 575204, 3608573; 575204, 3608558; 575172, 3608561; 574790, 3608586; 574711, 3608610; 574601, 3608645; 574490, 3608679; 574390, 3608710; 574377, 3608716; 574203, 3608800; 574198, 3608803; 574018, 3608889; 573950, 3608954; 573770, 3609124; 573586, 3609379; 573412, 3609620; 573227, 3609838; 573109, 3609978; 573149, 3610253; 573259, 3610819; 573038, 3611122; 573002, 3611221; 572980, 3611281; 572926, 3611429; 572872, 3611577; 572831, 3611688; 572824, 3611763; 572807, 3611925; 572803, 3611958; 572762, 3612351; 572770, 3612391; 572850, 3612772; 572860, 3612821; 573028, 3613163; 573037, 3613182; 573049, 3613205; 573238, 3613440; 573433, 3613566; 573668, 3613480; 573731, 3613440; 573737, 3613337; thence returning to 573863, 3613297.

(ii) *Note*: Unit 10 (Jacumba) for the Quino checkerspot butterfly is depicted on the map in paragraph (13)(ii) of this entry.

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Dated: June 8, 2009,

Jane Lyder,

Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. E9–13800 Filed 6–16–09; 8:45 am]

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