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50 CFR Part 17

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

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RIN 1018–AV24

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Bay Checkerspot Butterfly (Euphydryas editha bayensis)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to revise currently designated critical habitat for the bay checkerspot butterfly (*Euphydryas editha bayensis*) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 19,746 acres (ac) (7,990 hectares (ha)) fall within the boundaries of the proposed revised critical habitat designation. The proposed revision to critical habitat is located in San Mateo and Santa Clara Counties, California.

DATES: We will accept comments from all interested parties until October 22, 2007. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by October 9, 2007.

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

1. You may mail or hand-deliver written comments and information to Susan Moore, Field Supervisor, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W–2605, Sacramento, CA 95825.

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

3. You may fax your comments to the attention of Susan Moore, Field Supervisor at 916–414–6712.

4. You may go to the Federal Rulemaking Portal: *http://www.regulations.gov.* Follow the instructions for submitting comments.

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

FOR FURTHER INFORMATION CONTACT: Field Supervisor, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Room W–2605, Sacramento, CA 95825; telephone 916–414–6600; facsimile 916–414–6712. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Public Comments Solicited

We intend that any final action resulting from this proposal to revise the critical habitat designation for the bay checkerspot butterfly will be as accurate and as effective as possible. Therefore, we request comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party on this proposed rule. We particularly seek comments concerning:

(1) The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 et seq.), including whether there are areas we previously designated, but are not proposing for revised designation here, that should be designated as critical habitat.

(2) Specific information on the amount and distribution of bay checkerspot butterfly habitat.

(3) Specific information whether the features we have proposed as essential for the conservation of the species (Primary Constituent Elements) are adequate, and if not, what alternatives should be considered (see also item (13)).

(4) The reason why any areas that were occupied at the time of listing and that contain the features that are essential for the conservation of the species should or should not be included in the designation.

(5) The reason why any areas that were not occupied at the listing may be essential to the conservation of the species, and why such areas should or should not be designated as critical habitat.

(6) Specific information on dispersal areas important for habitat connectivity, in particular areas between Units 1 and 2 and between Unit 4 and the Santa Clara County Units, their role in the conservation and recovery of the species, and reasons why such areas should or should not be included in the critical habitat designation.

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

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

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

(10) Specific comments regarding occupancy and habitat quality of the proposed Pulgas Ridge Unit 2.

(11) The relative benefits of designation or exclusion of any lands from proposed revised critical habitat such as Habitat Conservation Plans (HCPs), Safe Harbor Agreements (SHA), or other areas that have management plans in place that provide for bay checkerspot butterfly conservation. We especially seek specific comments regarding the potential exclusion of areas within the final San Bruno Mountain HCP (proposed Unit 1), and areas within the planned Stanford HCP (proposed Unit 4), and the Santa Clara County HCP (proposed Units 5–12).

(12) Specific comments regarding population sizes of the bay checkerspot butterfly within those areas proposed for designation as revised critical habitat.

(13) Specific documentation regarding the use of water sources by the bay checkerspot butterfly, particularly to support or refute our proposed primary constituent element of water features (Primary Constituent Element 4), and whether water sources are essential for the conservation of the subspecies.

You may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES**). If you use e-mail to submit your comments, please include ''Attn: [species]'' in your e-mail subject header, preferably with, your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your e-mail, contact us directly by calling our Sacramento Fish and Wildlife Office at 916–414–6600. Please note that we must receive comments by the date specified in the **DATES** section in order to consider them in our final determination and that the e-mail address *bcb_pch@fws.gov* will be closed out at the termination of the public comment period.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us to withhold your personal identifying information from

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

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

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on the bay checkerspot butterfly, refer to the listing rule and previous determination of critical habitat published in the **Federal Register** on September 18, 1987 (52 FR 35366) and April 30, 2001 (66 FR 21450), respectively.

The September 18, 1987, final listing rule (52 FR 35366) described the bay checkerspot butterfly as occupying seven areas in San Mateo and Santa Clara counties: (1) San Bruno Mountain; (2) Pulgas Ridge; (3) Edgewood Park; (4) Jasper Ridge; (5) Coyote Ridge (referred to in the listing rule as a portion of the east face of Coyote Creek Valley between Metcalf Road and the Anderson Lake outlet); (6) Calero Reservoir; and (7) San Martin. Subsequent to listing, five additional populations were identified: (1) Tulare Hill; (2) Santa Teresa Hills; (3) Kalana Hills; (4) Morgan Hill; and (5) Bear Ranch. Of these additional populations, four will be considered occupied at the time of listing because they were known from published literature at the time of listing, but they were not specifically mentioned in the listing rule. The fifth population (Bear Ranch) was mentioned in the listing rule as extirpated; however, in 1994 thousands of bay checkerspot butterflies were observed at this location (CNDDB 2006 p. 15). In addition to the locations known at the time of listing, the subspecies was historically known from near Berkeley, California; at Joaquin Miller Park in Alameda County; in San Francisco County from Twin Peaks and Mount Davidson; and in Contra Costa County near Morgan Territory Road (Murphy and Ehrlich 1980, p. 318). However, these populations disappeared as a result of a variety of factors including highway and subdivision construction, drought, overgrazing, and invasion of nonnative plants (Murphy and Ehrlich 1980, p. 319).

Distribution and Population Trends

The population size of the bay checkerspot butterfly is primarily determined by the survival rate of prediapause larvae (Singer 1972, p. 77; Weiss et al. 1988, p. 1486). Prediapause larva experience mortality rates upwards of 95 percent (Murphy 1988, p. 46; Weiss et al. 1988, p. 1487; Cushman et al. 1994, p. 198; Murphy et al. 2004, p. 26). Larval survivorship is dependent upon the timing of host plant senescence, which in turn is dependent on environmental conditions such as rainfall. Rainfall in the San Francisco Bay area is known to vary dramatically (Weiss et al. 1988, p. 1495). The further a particular location is from another, the greater the likelihood each will receive dramatically different rainfall, so plants in areas that experience the same environmental conditions (i.e., those in close proximity and on similar topography) would result in larvae in those locations likely experiencing the same fate.

Since listing in 1987, the distribution and population size of the bay checkerspot butterfly has changed substantially. In San Mateo County, the subspecies' population numbers have declined dramatically. The populations at San Bruno Mountain, Pulgas Ridge, and Jasper Ridge have not been detected in limited surveys, and reintroduction efforts were initiated at Edgewood Park to ensure the San Mateo County populations remain viable. Approximately 1,000 postdiapause larvae were reintroduced to Edgewood Park in February and March 2007. Prior to reintroductions between February and March 2007, the bay checkerspot butterfly had not been observed at Edgewood Park since 2002 (CNDDB 2006). Limited surveys on a small southeastern portion of Pulgas Ridge, dated 1989–1993 and 1994, failed to detect any individual bay checkerspot butterflies (CNDDB 2007). However, these surveys covered only a small portion of the available habitat that was historically occupied.

In Santa Clara County, population trends for the bay checkerspot butterfly are only available for portions of Coyote Ridge (identified as units 8, 10, 11, and 12 in the 2001 designation (66 FR 21450)), Tulare Hill, and Bear Ranch. On Coyote Ridge, south of Metcalf Road (2001 unit 8) bay checkerspot butterfly numbers increased from approximately 20,000 individuals in 1997 to 700,000 individuals in 2004, but fell to approximately 100,000 individuals in 2005 (Weiss 2006, p. 1). On Coyote Ridge, north of Metcalf Road (2001 unit 10), bay checkerspot butterfly numbers increased from approximately 200,000 in 2000 to 400,000 in 2004, but then declined to 45,000 in 2006 (Weiss 2006, p. 1).

Larval estimates from Silver Creek Hills (2001 unit 12), also on Coyote Ridge, increased from 75,000 in 1992 to 128,000 in 1993, but then fell to an estimated 58,000 in 1994 following the removal of grazing from portions of the area (Weiss 1996, p. 93; Weiss 1999, p. 1480), and no larvae or adults were observed in 1998 (Weiss 1999, p. 1480). Annual surveys at Silver Creek Hills since the construction of a residential subdivision and reintroduction of grazing over portions of the area in 2000–2001, showed a slight increase from a low of 11 adults in 2001 to 51 in 2005 (WRA 2006, p. 10). Forty adult bay checkerspot butterflies were observed in the Silver Creek Hills area in 2006, but no larvae were observed (WRA 2006, p. 10).

Post-diapause larvae on Tulare Hill (2001 unit 15) numbered approximately 2,000 individuals in 2002; the population declined significantly in 2003, with only 1 post-diapause larvae observed (CH2M Hill 2004, p. 8–6). Five adult bay checkerspot butterflies were observed on Tulare Hill in 2004 (CH2M Hill 2005, p. 8–2). According to Weiss (2007, p. 1), based on the number of individuals observed on Tulare Hill in 2004, the population size was estimated at approximately 100 individuals. Seven adult bay checkerspot butterflies were observed on Tulare Hill in 2005; however, no post-diapause larvae were observed (CH2M Hill 2006, p. 8–2).

According to California Natural Diversity Database CNDDB (2006) records, thousands of adult bay checkerspot butterflies were observed at Bear Ranch in 1994, 6 adults were observed in 1997, and 1 adult was observed in 1999. The Service is unaware of any other surveys regarding the status of the subspecies within this unit.

Population Dynamics

Studies of the bay checkerspot butterfly's population dynamics characterize it as having a metapopulation dynamic. These studies were influential in the formulation of the metapopulation concept (Ehrlich et al. 1975, pp. 221–228; Harrison 1994, pp. 111–128). A metapopulation is a group of spatially distinct populations that can occasionally exchange dispersing individuals. The populations in a metapopulation are usually thought of as having interdependent extinction and colonization processes, where individual populations may be extirpated from a local area and later be

recolonized from another population that is still extant. The frequency of local extirpation and time until recolonization vary widely from population to population, depending on numerous demographic and environmental factors, such as the size and quality of the habitat, distance from other populations, size of other populations, mobility of the species, and weather. At the time of listing, two metapopulations were known to occur; one in San Mateo County and the other in Santa Clara County.

The current bay checkerspot butterfly range is much reduced, and the butterfly is patchily distributed. Because it occurs as a metapopulation, the exact distribution of the butterfly varies through time: Sites that are unoccupied one year may be occupied the next, and vice versa (Wilcox and Murphy 1985, p. 882; Harrison 1994, p. 114).

Previous Federal Actions

For information on previous Federal actions concerning the bay checkerspot butterfly, refer to the final listing rule published in the **Federal Register** on September 18, 1987 (52 FR 35366), and the designation of critical habitat published in the **Federal Register** on April 30, 2001 (66 FR 21450). On September 30, 1998, we published a recovery plan for Serpentine Soil Species of the San Francisco Bay Area that included the bay checkerspot butterfly. On April 30, 2001, we designated critical habitat on approximately 23,903 acres (9,673 hectares) of land in San Mateo and Santa Clara Counties, California. On March 30, 2005, the Home Builders Association of Northern California filed suit against the Service challenging critical habitat for bay checkerspot butterfly and other species (*Home Builders Association of Northern California* v. *U.S. Fish and Wildlife Service cv–01363–LKK–JFM.*) On February 24, 2006, a settlement agreement was reached that requires the Service to reevaluate the final critical habitat rule in light of the standards for designating critical habitat set forth in *Home Builders Association of Northern California* v. *U.S. Fish and Wildlife Service, 268 F. Supp. 2d 1197* (E.D. Cal 2002) and any other applicable law. As a result, we propose revisions to the rule. The settlement stipulated that any proposed revisions to the bay checkerspot butterfly designation be submitted to the **Federal Register** for publication on or before August 14, 2007.

Critical Habitat

Critical habitat is defined in section 3 of the Act as: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

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

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7 of the Act requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Section 7 of the Act is a purely protective measure and does not require implementation of restoration, recovery, or enhancement measures.

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at time of listing must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Occupied habitat that contains the features essential to the conservation of the species meets the definition of critical habitat only if its essential features may require special management considerations or protection.

We can designate unoccupied areas as critical habitat. However, when the best available scientific data do not demonstrate that the conservation needs of the species require additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species.

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 designation represent 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 to propose as critical habitat, our primary source of information is generally the listing package 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 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 be required for recovery.

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

plans (HCPs), or other species conservation planning efforts if new information available to these planning efforts calls for a different outcome.

Methods

As required by section 4(b) of the Act, we used the best scientific data available in determining areas that contain the features essential to the conservation of the bay checkerspot butterfly, and areas unoccupied at the time of listing that are essential to the conservation of the bay checkerspot butterfly or both. This includes information used to prepare the 2001 designation of critical habitat (66 FR 21450), the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area, the CNDDB, published and unpublished papers, reports, academic theses and surveys, Geographic Information System (GIS) data (such as species occurrence, soil data, land use, topography, and ownership maps), correspondence to the Service from recognized experts, and other information as available.

We have also reviewed available information that pertains to the habitat requirements of this species including:

- Data in reports submitted during section 7 consultations and submitted by biologists holding section 10(a)(1)(A) recovery permits;
- Research published in peer-reviewed articles and presented in academic theses and agency reports;
- Information from species experts; and
- Information gathered during site visits to bay checkerspot butterfly habitat in Santa Clara County.

Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as revised critical habitat within areas occupied by the species at the time of listing, we consider the primary constituent elements (PCEs) to be those physical and biological features that are essential to the conservation of the species and that may require special management considerations and protection. These include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing (or development) of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The specific PCEs required for the bay checkerspot butterfly are derived from the biological needs of the bay checkerspot butterfly as described in the Background sections of this proposal and in the final listing rule published in the **Federal Register** on September 18, 1987 (52 FR 35366).

Space for Individual and Population Growth and for Normal Behavior

The bay checkerspot butterfly occurs in open grassland habitats of the San Francisco Bay in Santa Clara and San Mateo counties. Prior to European settlement, California grasslands are believed to have been comprised of perennial bunchgrasses with both annual and perennial forbs (Jackson 1985, p. 349; Huenneke et al. 1990, p. 478; Corbin and D'Antonio 2004, p. 1273). Today, grassland habitats in California are almost entirely composed of Eurasian annual grasses and forbs (Jackson 1985, p. 349; Huenneke et al. 1990, p. 478; Seabloom et al. 2003, p. 13384; Malmstrom et al. 2005, p. 154) where classical succession does not occur (Huenneke et al. 1990, p. 478; Kie 2005, p. 2). Plant density in nonnative grasslands is extremely high compared to plant density in native grasslands (Malmstrom et al. 2005, p. 154). Dyer and Rice (1997, pp. 484, 490) estimated that pre-settlement densities of some native species was between 1–7 mature individuals per square meter. This is in sharp contrast to densities of several nonnative grasses and forbs; a study by Biswell and Graham (1958, p. 116–117) found densities of some nonnative species, such as *Bromus hordeaceus, Erodium botrys,* and *Festuca megalura*, to be 20,000 to 78,000 mature individuals per square meter. Heady (1958, p. 405) observed somewhat lower densities than Biswell and Graham (1958) of the same species with densities ranging from 4,750 to 28,370 mature individuals per square meter. This suggests that grasslands with nonnative species have large numbers of individuals, but few species (i.e., low diversity). According to Malmstrom et al. (2005, p. 154), California native grasslands, prior to the introduction of Eurasian vegetation, were likely a mix of forbs and grasses, but today these species are out-competed by nonnative grasses.

Serpentine or serpentine-like soils are characterized as shallow, nutrient poor (typically lacking in nitrogen and calcium), containing high magnesium (and other heavy metals), and with low water holding capacity. All currently occupied habitats of the bay checkerspot butterfly occur on serpentine or serpentine-like grasslands that support at least two of the subspecies' larval host plants. Due to poor nutrient availability, as well as other soil characteristics, serpentine and serpentine-like grasslands are, for the most part, inhospitable to the nonnative grasses and forbs that dominate other California grassland ecosystems; these areas are essentially isolated patches where native grassland vegetation is capable of persisting in a landscape, otherwise dominated by nonnative and invasive species. These soils support many rare plant species including populations of the bay checkerspot butterfly's larval host plants *Plantago erecta, Castilleja densiflora,* and *Castilleja exserta*. However, these remnant native grasslands are being invaded and crowded out by nonnative species and are under increased pressure as a result of nitrogen deposition primarily caused by air pollution (Weiss 1999, p. 1477). The enrichment of these soils with nitrogen has allowed nonnative grasses to invade these traditionally nutrient poor habitats, and the result is a thick mat of standing vegetation (thatch). Dense thatch has been reported to inhibit the growth of native forbs (Huenneke et al. 1990, p. 488). Huenneke et al. (1990, p. 489) found that treatment areas that were fenced to prevent grazing resulted in an increase in native perennial and nonnative annual grasses, but in grazed treatments forbs continued to represent an important component. Low and moderate grazing regimes, approximately one cow per 10 acres, have been implemented on portions of Tulare Hill and Coyote Ridge. Because cattle tend to select nonnative grasses over native forbs (Weiss 1999, p. 1484), the result of these grazing regimes has been local increases of the bay checkerspot butterfly's larval host plants.

The bay checkerspot butterfly requires areas with topographic diversity (warm south and west slopes as well as cool north and east slopes), because some slopes become unfavorable depending on annual weather conditions and time of year. Fleishman et al. (2000, p. 34) defined warm and very warm slopes as south- and west-facing slopes with a tilt greater than 11 and 17 degrees, respectively, with cool and very cool slopes defined as those facing north or east with a tilt greater than 11 and 17 degrees, respectively. Harrison et al. (1988, p. 365) defined warm slopes as those facing south, southwest, and southeast with a tilt greater than 7 degrees and cool slopes as those facing north or northeast with a tilt greater than 7 and 12 degrees, respectively. In

hot, dry years, north- and east-facing slopes remain cool and moist longer and larval host plants tend to senesce (reach later maturity; grow old) later than those on other slopes (Weiss et al. 1988, p. 1493; Fleishman et al. 2000, p. 33). The delayed senescence of plants on cool/moist slopes allows larvae to reach their fourth instar (larval development stage/molt) and enter diapause (dormancy) before host plants become inedible. Larvae that are not able to enter diapause prior to host plant senescence starve and die (Singer and Ehrlich 1979, p. 54; White 1987, p. 209; Weiss 1996, p. 6). Because host plants on cool slopes can flower and senesce three or more weeks after those on warmer slopes (Weiss et al. 1988, p. 1493), cool slopes are especially important during extremely dry years (i.e., droughts). However, larval feeding and growth tends to increase on warm slopes because they receive more solar exposure than other slopes; this allows post-diapause larvae to grow quickly and pupate earlier than those on cool slopes. Individuals that pupate earlier have a much greater chance of reproductive success (Weiss et al. 1988, pp. 1493–94).

In addition to weather, slope is important relative to the timing of egg laying. As the adult mating season (referred to as the flight season) progresses, females tend to lay more eggs on cool slopes than on warm slopes (Weiss et al. 1988, p. 1493). The timing of the adult flight season varies with weather, but can generally be described as occurring from late February to early May (Murphy et al. 2004, p. 25). Larvae that hatch late in the flight season have a greater chance of reaching diapause on cooler slopes than those laid at the same time on warm slopes, because host plants mature later on cool slopes. The pattern of larval survivorship across different slopes changes from one year to the next as well as within years; therefore, it becomes important that a variety of slopes and aspects are present to support the butterfly and its host plants.

Food

The primary larval host plant for the bay checkerspot butterfly is a small, annual, native plantain (*Plantago erecta*). The bay checkerspot butterfly also requires the presence of a secondary host plant, either purple owl's-clover (*Castilleja densiflora*) or exserted paintbrush (*Castilleja exserta*) (Singer 1972, p. 76; Murphy and Ehrlick 1980, p. 316; Fleishman et al. 1997, p. 32; Weiss 1999, p. 1478; Hellman 2002, pp. 926, 931). The need for a secondary host plant is related to the timing of senescence of the primary host plant. In many years, the primary host plant dries up before larvae have reached their fourth instar and entered diapause. Because purple owl's-clover and exserted paintbrush tend to senesce later than the plantain, larvae that switch to these plants may extend their feeding season long enough to reach their fourth instar.

Adult bay checkerspot butterflies utilize nectar from a variety of plants associated with serpentine grasslands. Commonly used nectar plants include desert parsley (*Lomatium spp.*), California goldfields (*Lasthenia californica*), tidy-tips (*Layia platyglossa*), sea muilla (*Muilla maritima*), scytheleaf onion (*Allium falcifolium*), false babystars (*Linanthus androsaceus*), and intermediate fiddleneck (*Amsinckia intermedia*). Egg production (both size of individual eggs and number of eggs) significantly increases with the intake of nutrients (Murphy et al. 1983, p. 261; Boggs 1997a, pp. 181, 184). Murphy et al. (1983, p. 261) observed increased longevity and reduced weight loss in adult bay checkerspot butterflies that were fed sugar. Murphy et al. (1983, p. 261) also observed that amino acid intake produced heavier eggs and that larvae from these eggs had an increased likelihood of survival. A study by O'Brien et al. (2004, p. 286), which examined egg production and adult diet in three species of butterflies in the family Nymphalidae, found the percent of carbon in eggs, derived from adult diets, increased with time (up to 80 percent in one species). Currently there is no information regarding nectar usage on adult male longevity or reproduction.

All of the host plants have ranges greater than that of the bay checkerspot butterfly and the larval plants may be found in areas that do not meet the life-history requirements of the bay checkerspot butterfly. For example, *Castilleja densiflora* historically occurred throughout California, *Plantago erecta* occurred throughout California and Oregon, and *Castilleja exserta* occurred in California, Arizona, New Mexico, Hawaii, and Massachusetts (USDA 2007). In addition, the range of many of the nectar sources is also much greater than the geographic range of the bay checkerspot butterfly.

Water

Launer et al. (1993, p. 45) observed large numbers (hundreds) of checkerspots, predominately females, ''puddling'' at a creek in 1990. Puddling is a behavior observed in some butterfly species in which adults take up moisture from saturated soils. Launer et al. (1993, pp. 48–50) provided several alternative hypotheses for explaining the observed puddling behavior, since the bay checkerspot butterfly was not traditionally believed to be a puddling species. One hypothesis was that because the observation was made during an extremely dry period (third year of a drought), the creek was providing resources that were otherwise unavailable (or only in low quantities), and that moist areas may provide an increased chance of survival during drought periods (Launer et al. 1993, p. 49). Murphy et al. (1983, p. 261) observed that under laboratory conditions female bay checkerspot butterflies lived longer when provided water. Checkerspots are not generally considered puddling butterflies, and some researchers consider it very unusual for members of the genus *Euphydryas* to exhibit puddling behavior (Emmel 2007, p. 1). However, the observation of large numbers of bay checkerspot butterflies taking water from the banks of a creek provides evidence for a need for aquatic features (i.e., water).

Soils

The bay checkerspot butterfly inhabits areas with soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar non-serpentine soils (such as Inks, Candlestick, Los Gatos, Fagan, and Barnabe soil series). Serpentine soils are characterized as having low amounts of nutrients (such as nitrogen and calcium); high concentrations of magnesium; low water-holding capacity; and patches of heavy metals. These characteristics create a refuge for many rare native plants, because other plant species are not capable of surviving in these soils (nitrogen is often a limiting factor in plant growth). The nonserpentine soils mentioned above have characteristics that allow them to support grassland communities similar to those on serpentine soils, such as low water-holding capacity, slight to moderate acidity (pH 5.8), and varied topography (slopes ranging from 5 to 75 percent). Together, these soils provide the last remaining habitat within the geographic range of the bay checkerspot butterfly where the larval host plants are capable of persisting and not be outcompeted or crowded out by introduced annuals. Some researchers have hypothesized that the bay checkerspot butterfly once occurred widely in nonserpentine grasslands throughout the San Francisco Bay area prior to the invasion of nonnative invasive grasses and forbs

(Murphy and Weiss 1988, p. 197), but have subsequently been relegated to these fragmented habitats due to plant competition.

Cover

Larval bay checkerspot butterflies enter diapause in order to survive the summer dry period, once their host plants senesce. Diapause is an obligatory dormancy period that begins once larvae reach their fourth instar, which takes approximately three weeks, but may vary considerably depending on abiotic factors (non-living components of the biosphere) (Kuussaari, et al. 2004, p. 140). Evidence suggests that larvae may be capable of entering diapause more than once (White and Levin 1981, p. 355; Harrison 1989, p. 1242; Kuussaari et al. 2004, pp. 139–140; Mattoni et al. 1997, p. 106). Diapause continues until the summer dry period is broken by the onset of the rainy season, generally some time in November-January (Weiss 1996, p. 6). The larvae pass through diapause in holes and cracks in the soil and under rocks (White 1987, p. 209; Weiss 1996, p. 7) that provide protection from weather, predation, and parasitism. White (1986, p. 58) observed that pupal mortality rates, as well as cause of mortality (i.e., predation, parasitism, crushing, or disease), varied significantly depending on location, with significant differences in mortality between microhabitat types. For example, crushing was most likely in areas of bare ground, whereas pupae in areas with dense vegetation had a higher rate of mortality due to mold and viruses.

Primary Constituent Elements for the Bay Checkerspot Butterfly

Within the geographical area we know to be occupied by the bay checkerspot butterfly, we must identify the PCEs that may require special management considerations or protections.

Based on the above needs and our current knowledge of the life history, biology, and ecology of the species, we have determined that bay checkerspot butterfly PCEs are:

(1) The presence of annual or perennial grasslands with little to no overstory that provide north/south and east/west slopes with a tilt of more than 7 degrees for larval host plant survival during periods of atypical weather (e.g., drought). Common grassland species include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), California oatgrass (*Danthonia californica*), purple needlegrass (*Nassella pulchra*), and Idaho fescue (*Festuca idahoensis*); less abundant in these grasslands are annual and perennial forbs such as filaree (*Erodium botrys*), true clovers (*Trifolium* sp.), dwarf plantain (*Plantago erecta*), and turkey mullein (*Croton setigerus*).

(2) The presence of the primary larval host plant, dwarf plantain (*Plantago erecta*) and at least one of the secondary host plants, purple owl's-clover (*Castilleja densiflora*) or exserted paintbrush (*Castilleja exserta*), are required for reproduction, feeding, and larval development.

(3) The presence of adult nectar sources for feeding. Common nectar sources include desertparsley (*Lomatium* spp.), California goldfields (*Lasthenia californica*), tidy-tips (*Layia platyglossa*), sea muilla (*Muilla maritima*), scytheleaf onion (*Allium falcifolium*), false babystars (*Linanthus androsaceus*), and intermediate fiddleneck (*Amsinckia intermedia*).

(4) Aquatic features such as wetlands, springs, seeps, streams, lakes, and ponds and their associated banks, that provide moisture during periods of spring drought; these features can be ephemeral, seasonal, or permanent.

(5) Soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar soils (Inks, Candlestick, Los Gatos, Fagan, and Barnabe soil series) that provide areas with fewer aggressive, nonnative plant species for larval host plant and adult nectar plant survival and reproduction.

(6) The presence of stable holes and cracks in the soil, and surface rock outcrops that provide shelter for the larval stage of the bay checkerspot butterfly during summer diapause.

We have designed this proposed revision to the critical habitat designation for the conservation of PCEs necessary to support the life-history functions that were the basis for our proposal and the areas containing those PCEs. Because not all life-history functions require all the PCEs, not all proposed critical habitat will contain all the PCEs.

We propose units for designation based on sufficient PCEs being present to support one or more of the species' life-history functions. Some units contain all PCEs and support multiple life processes, while some units contain only a portion of the PCEs necessary to support the species' particular use of that habitat.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas determined to be occupied at the time of listing and contain the primary constituent elements may require special management considerations or protections. Threats to those features that define the PCEs for the bay checkerspot butterfly include habitat loss and fragmentation, invasion of exotic/invasive plants, nitrogen deposition (including NO_X and ammonia), pesticide application (including drift), illegal collecting, fire, overgrazing, and gopher control.

Critical habitat units 1, 2, and 5–10 may require special management due to threats posed by habitat loss and fragmentation resulting from urban and suburban growth. Development pressure in Santa Clara County is likely to increase in the foreseeable future. The City of San Jose has developed a General Plan to guide development in the area into the year 2020 and is not part of the proposed Santa Clara County HCP. Portions of the general plan share boundaries with critical habitat units, including Units 5, 6, 7, and 9. Some currently or proposed projects include the Coyote Valley Specific Plan, which includes residential and industrial developments, the Coyote Valley Research Park, numerous projects currently proposed for inclusion under the Santa Clara Habitat Conservation Plan, as well as numerous single family residential units and road grading projects. In 1997, the California Court of Appeals 6th District found that the City of San Jose's zoning did not have to be consistent with the City's General Plan (*Juarez et al.* v. *City of San Jose et al.* (6th District, Case No. CV736436 H014755)); this may result in areas not currently within the urban growth boundary still being proposed for development, including those areas that are environmentally sensitive such as critical habitat units. In addition, portions of Unit 10 are within the planning boundaries of the City of Morgan Hill's General Plan.

All proposed revised critical habitat units would likely require special management due to the threats posed by the invasion of nonnative vegetation that result from air pollution (primarily nitrogen deposition) (Weiss 1999, p. 1477). Nitrogen deposition enriches serpentine and serpentinelike soils that are usually nutrient poor. Increased nitrogen (typically a limiting factor in plant growth) in these areas has resulted in the accumulation of a thick carpet of vegetative material (thatch) each year. Dense thatch has been reported to inhibit the growth of native forbs (Huenneke et al. 1990, p. 488). The increased density of nonnative vegetation would negatively affect the bay checkerspot butterfly's host plant through competition and crowding (Weiss 1999, p. 1481).

All proposed revised critical habitat units may require special management due to the threats posed by pesticide use. Use of pesticides (i.e., insecticides, and herbicides) in or adjacent to critical habitat may affect populations of butterflies within these units. Populations adjacent to areas where there is intensive use of pesticides may be at risk as a result of drift and runoff. In at least one instance, larvae appeared to have survived a direct application of malathion by the California Department of Food and Agriculture; however, the application was conducted in the fall of 1981 when larvae were still in diapause.

All proposed revised critical habitat units may require special management due to the threat posed by fire. No bay checkerspot butterflies were seen on San Bruno Mountain after a wildfire swept across portions of the mountain in 1986. However, only about 50 adult butterflies were observed on the mountain in 1984 (CNDDB 2006), so their subsequent disappearance may not have been solely related to the 1986 fire. The use of fire as a management regime in serpentine grasslands has not been well studied. Studies that have been conducted are primarily monitoring opportunities made possible after wildfires.

Use of prescribed burns may be an effective management tool depending on timing, intensity, and size of the area burned. Prescribed burns are widely used as a land management tool to counter the invasion of nonnative and invasive plant species and to stimulate growth and reproduction of those species adapted to disturbance. An experimental prescribed burn was conducted over a small portion of Coyote Ridge in 2006, but the results are not yet known.

All proposed revised critical habitat units may require special management due to the threat posed by over or under grazing. Although grazing is frequently used as a management tool to reduce standing biomass of nonnative vegetation, overgrazing can be a potential threat if grazing densities are not appropriately managed. Huenneke et al. (1990, p. 489) and Weiss (1999, p. 1480) found that areas that were fenced to prevent grazing or sites where grazing had been removed, resulted in an increase in annual grasses, which crowd out forbs including those that are essential to the bay checkerspot butterfly. Forbs continued to be an important component in areas that included limited grazing. Therefore, we consider a limited amount of grazing to be beneficial to bay checkerspot habitat.

All proposed revised critical habitat units may require special management due to the threats posed by gopher control. Larval host plants have been observed to stay green and edible longer when located on or near soils recently tilled by gophers (*Thomomys bottae*) (Singer 1972, p. 75; Murphy et al. 2004, p. 26). Huenneke et al. (1990, p. 490) hypothesized that soil disturbance by gophers may limit the performance of grasses similar to results caused by grazing, with grazers reducing the standing grass biomass in a system, which allowed the persistence of small forbs. Larval host plants that stay green longer into the dry season may allow prediapause larva to reach the fourth instar.

Criteria Used To Identify Critical Habitat

All proposed revised critical habitat units are within areas that we have determined were occupied at the time of listing or are currently occupied, and that contain sufficient PCEs to support life history functions essential for the conservation of the subspecies. Lands were proposed for designation based on sufficient PCEs being present to support the life processes. Some lands contain only a portion of the PCEs necessary to support the particular use of that habitat.

We have defined occupied critical habitat as: (1) Those grasslands on serpentine or serpentine-like soils containing the PCEs that were occupied by the bay checkerspot butterfly at the time of listing in 1987 or (2) those grasslands on serpentine or serpentine-like soils containing the PCEs that have been occupied since the time of listing. Units did not have to contain all PCEs. We used information compiled for the proposed and final listing rules, reports prepared by San Mateo County Parks, Santa Clara County Parks, the CNDDB, researchers, consultants, and published and unpublished literature to identify the specific locations occupied by the bay checkerspot butterfly at the time of listing and currently occupied.

The currently occupied habitat for the bay checkerspot butterfly is highly fragmented and isolated; the majority of all extant occurrences are within an approximate 9 mile (mi) (14.5 kilometer (km)) radius in Santa Clara County, California. The population estimates in San Mateo County are extremely small and those in Santa Clara County have declined significantly in recent years. As a result of population declines and fragmented habitats, all areas currently known to support the bay checkerspot butterfly are being proposed for designation.

Several areas occupied by the bay checkerspot butterfly at the time of listing are not currently occupied. Some of these areas have been surveyed since listing and no bay checkerspot butterflies were observed; however, not all of the units have been recently surveyed and, due to the metapopulation dynamics of the subspecies, it is possible that the subspecies has recolonized some of these areas. The metapopulation dynamics of the subspecies has shown that population fluctuations occur and extirpation and recolonization is a normal occurrence for the bay checkerspot butterfly (Ehrlich et al. 1975, pp. 221–228; 1980; Harrison 1994, pp. 111–128). The units that have been surveyed since the time of listing without observations of the subspecies include San Bruno Mountain, Pulgas Ridge, and Jasper Ridge Biological Preserve in San Mateo County, California. These areas are proposed for designation as critical habitat because they were all occupied at the time of listing and designation of these units will reduce the likelihood of extinction by providing source/sink (larger patches of high-quality habitat/small patches of marginal habitat/) areas and ''stepping stone'' (often smaller, unconnected areas that bridge the distance between larger blocks of suitable habitat) habitats for the subspecies. Since the bay checkerspot butterfly is susceptible to extreme weather events these additional units in San Mateo County will also reduce the risk of extinction from stochastic natural events, extreme weather conditions, and help to ensure survival of the subspecies by providing potential dispersal habitat for individuals that were reintroduced to Edgewood Park early in 2007.

The distribution of proposed critical habitat areas (occupied and currently unoccupied) was selected to help reduce the level of habitat fragmentation within the geographic range of the bay checkerspot butterfly by providing dispersal and recolonization opportunities for the subspecies. The butterfly is considered relatively sedentary (Ehrlich 1965, p. 333; Harrison 1989, p. 50–51; Singer and Hanski 2004, p. 187) and reduced fragmentation should facilitate movements between habitat patches. McKechnie et al. (1975, p. 561) observed that out of several years of mark recapture studies only 1.7 percent of males and 4.8 percent of females moved a distance of approximately 1,600 feet (ft.) (500 meter (m)). These figures are consistent with observations made by Weiss (1996, p. 93) who reported that adult movement declined with increasing distance with only about 5

percent moving between 656 to 984 ft (200 to 300 m).

Although the butterfly is considered sedentary, long-distance movements have been documented. The longest documented movements observed by Harrison (1989, p. 1239) were 3.5 mi (5.6 km) for one male and 2 mi (3.2 km) for one female. Murphy (Service 2001, p. 21451) reported movement of bay checkerspot butterflies of 4.7 mi (7.6 km). Harrison et al. (1988, p. 371) hypothesized that habitats greater than 4.3 to 5.0 mi (7 to 8 km) from a source population (Coyote Ridge in the study) were unlikely to ever sustain populations of the bay checkerspot butterfly. This hypothesis was based on the presence or absence of adult bay checkerspot butterflies in Santa Clara County in apparently suitable habitat and their relative distance from Coyote Ridge. The study was not designed to predict the bay checkerspot butterfly's upper limit of dispersal. Harrison (1989, p. 371) hypothesized that the rate of colonization, relative to the rate of extinction, was too low to maintain populations of the bay checkerspot butterfly on distant habitat patches (distant from a source patch). Given the subspecies' historical distribution, its metapopulation dynamics, and its sedentary tendencies, reducing habitat fragmentation, by designating occupied and currently unoccupied habitat that provide quality stepping stone habitat, will increase the likelihood of recolonization of more distant patches of suitable habitat.

We have determined that, due to the limited availability of habitat for the subspecies, its limited distribution, and its generally low dispersal tendencies, the long-term conservation of the bay checkerspot butterfly is dependent upon the protection of habitat that was occupied at the time of listing as well as habitat that is currently occupied. The presence of all six PCEs was not a requirement to designating a unit as critical habitat; however, all twelve units currently support all six PCEs.

Mapping

Geospatial datasets were used within ArcGIS/ArcMap 9.2 (Environmental Systems Research Institute, Redlands, California) and analyzed to define the areas that best contain the features that are essential to the conservation of the bay checkerspot butterfly. To delineate the proposed units of occupied critical habitat, we plotted all occurrence records of bay checkerspot butterfly known at the time of listing or currently known on maps as polygons. We then examined whether these areas supported the PCEs.

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

We are proposing to revise the critical habitat designation on lands that we have determined were occupied at the time of listing or are currently occupied and contain sufficient primary constituent elements to support life-history functions essential for the conservation of the subspecies.

The units being proposed for revised designation are based on sufficient PCEs being present to support bay checkerspot butterfly life processes. Some units contain all PCEs and support multiple life processes. Some units contain only a portion of the PCEs necessary to support the bay checkerspot butterfly particular use of that habitat. Where a subset of the PCEs is present (such as presence of larval host plants, adult nectar plants, and grasslands with varied topography), it has been noted that only PCEs present at designation would be protected.

Section 10(a)(1)(B) of the Act authorizes us to issue permits for the take of listed animal species incidental to otherwise lawful activities. An incidental take permit application must be supported by a habitat conservation plan (HCP) that identifies conservation measures that the permittee agrees to implement to minimize and mitigate the impacts on the species by the requested incidental take. We often exclude non-Federal public lands and private lands that are covered by an existing operative HCP and executed implementation agreement (IA) under section 10(a)(1)(B) of the Act from designated critical habitat because the benefits of exclusion outweigh the benefits of inclusion as discussed in section 4(b)(2) of the Act. To date, Pacific Gas and Electric's Metcalf Evendale/Monta Vista Line is the only HCP that has been completed that includes the bay checkerspot butterfly as a covered species. The HCP was issued in 1998 and was in effect for a period of 3 years, and covered approximately 4 ac (1.6 ha). Because the HCP has expired, we are not proposing to exclude lands once covered under this HCP. The San Bruno Mountain HCP (SBMHCP) Amendment 5 would add the Callippe silverspot butterfly (*Speyeria callippe callippe*) and the bay checkerspot butterfly to the existing HCP. The Callippe silverspot butterfly shares some habitat requirements similar to the bay checkerspot butterfly, specifically the use of open grasslands. We are proposing to exclude Unit 1 from critical habitat based on the development of amendment 5 of the SBMHCP (See *Application of Section 4(b)(2) of the Act*). Stanford University is in the process of developing an HCP for lands owned by Stanford University, which includes the Jasper Ridge Biological Preserve (Unit 4); however as currently proposed, this HCP would not include the bay checkerspot butterfly or any other butterfly species, so this HCP is not being proposed for exclusion. Santa Clara County is currently in the early stages of developing a regional HCP that would encompass the majority of Santa Clara County, including all proposed critical habitat units in the county (Units 5 through 12); this HCP is still in the early stages of development, but as proposed would include the bay checkerspot butterfly. However, the Santa Clara County HCP is not expected to be finalized for several years. We are seeking comments regarding areas that have management plans or HCPs that may potentially be excluded from the critical habitat designation (see Public Comments Solicited section above).

Summary of Changes From Previously Designated Critical Habitat

The areas identified in this proposed rule constitute a proposed revision from the areas we designated as critical habitat for bay checkerspot butterfly on April 30, 2001 (66 FR 21450). The primary differences include the following:

(1) The 2001 critical habitat rule (66 FR 21450) consisted of 15 units comprising a total of 23,903 ac (9,673 ha). This proposed revision includes 12 units comprising a total of 19,746 ac (7,990 ha). The majority of the proposed units correspond to those in the 2001 designation. However, we have refined the units to eliminate areas that are unlikely to support the PCEs such as areas that are forested or have since been developed. The unit formerly designated as Communications Hill (2001 unit 6) is not included in this

proposed rule because that unit has since been developed to a large degree and the remaining habitat has been degraded by the invasion of nonnative and invasive grasses and is unlikely to support sufficient PCEs to meet one or more of the life-history requirements of the subspecies. In addition, the Pulgas Ridge unit (proposed unit 2) is new in this proposed designation and is included because it represents an area that was historically known to support the subspecies, is currently undeveloped, is expected to serve as a ''stepping stone'' between the two southern units in San Mateo County (proposed units 4 and 5) and the San Bruno Mountain unit (proposed Unit 1), and can provide additional habitat to support a core population in San Mateo County. Currently the distance between proposed Unit 1 and proposed Unit 2 is greater than the published dispersal distance of the bay checkerspot butterfly; however, a number of small and fragmented patches of intervening grasslands occur along the Interstate 280 corridor between proposed Unit 1 and 2 that would be expected to serve as additional stepping stones to potentially allow for movement between these two units. The numerous small patches of grassland habitat between units are not proposed to be designated as critical habitat because the Service has no information regarding the presence of sufficient PCEs within these areas.

(2) We propose to revise the PCEs and exclude ''pollinators of the bay checkerspot butterfly's food and nectar plants'' because the specific pollinators of each host and nectar plant are not known and the presence of the plants themselves implies their successful reproduction. We clarify ''topography with varied slopes and aspects'' by defining those slope aspects that were important as well as defining warm versus cool slopes. We expand the previous PCE regarding ''wetlands that provide moisture'' to reflect the range of water sources that may be used by the subspecies, such as the banks of streams and lakes. To provide for greater specificity we remove ''space for dispersal between habitable areas'' and include ''annual and perennial grasslands'' along with a description of that habitat type and plant species commonly found in them. We replace ''stands of'' the larval host plants with ''presence of'' because the density of host plants needed to support the subspecies has not been widely researched and does not appear in the literature, and thus is difficult to quantify at this time. Finally, to provide for greater specificity, we expand the previous PCE regarding soils to include a list of soils that are associated with serpentine or serpentine-like habitats.

(3) We updated areas that are currently known to support populations of the bay checkerspot butterfly, as well as areas where the subspecies has since become extirpated. The number of known occurrences has continued to decline since the 2001 designation of critical habitat.

Proposed Revisions to the Critical Habitat Designation

We are proposing 12 units as critical habitat for the bay checkerspot butterfly. These units, which generally correspond to those units in the 2001 designation, if finalized, would entirely replace the current critical habitat designation for the bay checkerspot butterfly in 50 CFR 17.95(i). The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for the bay checkerspot butterfly. The 12 areas designated as critical habitat are: (1) San Bruno Mountain, (2) Pulgas Ridge, (3) Edgewood Park, and (4) Jasper Ridge in San Mateo County; and (5) Coyote Ridge (A and B), (6) Tulare Hill, (7) Santa Teresa Hills, (8) Calero Reservoir, (9) Kalana Hills (A and B), (10) Morgan Hill, (11) Bear Ranch, and (12) San Martin in Santa Clara County. The approximate area encompassed within each proposed critical habitat unit is shown in Table 2. Of the 19,746 ac (7,990 ha) being proposed as revised critical habitat, we are proposing to exclude approximately 775 ac (314 ha) from the final critical habitat designation under section 4(b)(2) of the Act. See Exclusions Under Section 4(b)(2) of the Act section for a detailed discussion.

The approximate area (ac, ha) encompassed within each proposed revised critical habitat unit, land ownership, areas proposed for exclusion from the final critical habitat designation, and occupancy of units are shown in Tables 1, 2, and 3.

TABLE 1.—OCCUPANCY OF PROPOSED REVISED CRITICAL HABITAT UNITS FOR THE BAY CHECKERSPOT BUTTERFLY

Unit	Occupied at time of listing	Currently occupied	Acres (hectares)
Unit 1: San Bruno Mt	Yes	No	775 (314)
Unit 2: Pulgas Ridge	Yes	No	179 (72)
Unit 3: Edgewood Park	Yes	Yes	409 (166)
Unit 4: Jasper Ridge	Yes	No	329 (133)
Unit 5: Coyote Ridge	Yes	Yes	10,148 (4,107)
Unit 6: Tulare Hill	Yes	Yes	747 (302)
Unit 7: Santa Teresa Hills	Yes	Yes	3,987 (1,613)
Unit 8: Calero Reservoir	Yes	Yes	1,543 (624)
Unit 9: Kalana Hills:			
Subunit 9A	Yes	Yes	170 (69)
Subunit 9B	Yes	Yes	56 (23)
Unit 10: Morgan Hill	Yes	Yes	507 (205)
Unit 11: Bear Ranch	No	Yes	393 (159)
Unit 12: San Martin	Yes	Yes	502 (203)
Total			19,746 (7,990)

TABLE 2.—CRITICAL HABITAT UNITS PROPOSED FOR THE BAY CHECKERSPOT BUTTERFLY

[Area estimates reflect all land within critical habitat unit boundaries (in acres and hectares)]

Unit	Federal	State/local	Private	Total
Unit 1: San Bruno Mt	0	577 (234)	198 (80)	775 (314)
Unit 2: Pulgas Ridge	0	179 (72)	0	179 (72)
Unit 3: Edgewood Park	0	303 (123)	106 (43)	409 (166)
Unit 4: Jasper Ridge	0	0	329 (133)	329 (133)
Unit 5: Coyote Ridge	0	110 (45)	10,148 (4,107)	10,148 (4,107)
Unit 6: Tulare Hill	0	102 (41)	645 (261)	747 (302)
Unit 7: Santa Teresa Hills	0	1,100 (445)	2,888 (1,169)	3,987 (1,613)
Unit 8: Calero Reservoir	0	1,543 (624)	0	1,543 (624)
Unit 9: Kalana Hills:				
Subunit 9A	0	0	170 (69)	170 (69)
Subunit 9B	0	0	56 (23)	56 (23)
Unit 10: Morgan Hill	0	0	507 (205)	507 (205)
Unit 11: Bear Ranch	0	393 (159)	0	393 (159)
Unit 12: San Martin	0	0	502 (203)	502 (203)
Total	0	4,308 (1,743)	15,438 (6,248)	19,746 (7,990)

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

Unit 1: San Bruno Mountain

Unit 1 consists of 775 ac (314 ha) in San Mateo County. The unit is primarily within San Bruno Mountain State and County Park, and is inside the boundaries of the San Bruno Mountain Area Habitat Conservation Plan. This unit was occupied at the time of listing and contains all the features essential for the conservation of the subspecies; however, the bay checkerspot butterfly has not been observed in this unit since a wildfire in 1986 and is currently unoccupied. Unit 1 represents the most northerly part of the subspecies' range on the San Francisco peninsula. Unit 1 is necessary as a supporting element of the San Mateo metapopulation because it represents the largest area of contiguous native grassland habitat that can support the bay checkerspot butterfly's host and nectar plants within San Mateo County. This unit currently supports populations of the federally endangered Callippe silverspot butterfly (*Speyeria callippe callippe*), endangered San Bruno elfin butterfly (*Callophrys mossii bayensis*), and endangered Mission blue butterfly (*Icaricia icarioides missionensis*), which all share similar habitat requirements as the bay checkerspot butterfly (including native grasslands). The majority of this unit, approximately 577 ac (233 ha), is within the boundaries of the San Bruno Mountain State and County Park, while the rest of the unit is privately owned (198 ac (80 ha)). As stated above, the distance between Unit 1 and the most proximate Unit 2 is greater than the published dispersal distance of the bay checkerspot butterfly; however, numerous small patches of intervening grasslands would be expected to serve as additional stepping stones to potentially allow for movement between these two units. These patches of grassland habitat are not proposed to be designated as critical habitat because the Service has no information regarding the presence of sufficient PCEs within these areas.

Unit 2: Pulgas Ridge

Unit 2 consists of 179 ac (72 ha) in San Mateo County. The unit is located north of the intersection of Interstate 280 and Highway 92, east of Crystal Springs Reservoir. This unit was occupied at the time of listing and contains all the features essential for the conservation of the subspecies. Since listing, bay checkerspot butterflies in this unit have been extirpated, and the unit is currently unoccupied. However, the bay checkerspot butterfly formerly inhabited this unit, and the unit still contains all the PCEs. The land within this unit is owned by San Francisco Public Utilities Commission (SFPUC) and is part of the Peninsula watershed and not subject to development. This unit provides habitat for the subspecies, especially in years with particularly favorable weather conditions that support expanding populations of the bay checkerspot butterflies; represents a stepping stone location to nearby units; and secures the metapopulation dynamics of the subspecies by providing adjacent or dispersal habitat for the subspecies. According to the Peninsula watershed management plan (SFPUC 2002, p. 2–11), portions of the watershed currently support populations of the endangered San Bruno elfin butterfly and the endangered Mission blue butterfly that share similar habitat requirements as the bay checkerspot butterfly (including native grasslands). In addition, according to the environmental impact statement for the Peninsula watershed management plan (SFPD 2001, p. XLB–7), portions of the watershed have a high probability of supporting the bay checkerspot butterfly and is designated as being serpentine grassland habitat.

Unit 3: Edgewood Park

Unit 3 consists of 409 ac (166 ha) in San Mateo County. This unit is comprised primarily of the Edgewood Park and Natural Preserve, a San Mateo County park located east of the junction of Edgewood Road and Interstate 280. A portion of the unit, approximately 66 ac (27 ha), is owned by the San Francisco Public Utilities Commission and is part of the Peninsula watershed. This unit was occupied at the time of listing, is currently occupied, and contains all the features essential to the conservation of the subspecies. Until recently, this unit supported the main population of bay checkerspot butterflies within the San Mateo metapopulation. However, the subspecies was last observed here in 2002, after a steady decline beginning in the late 1990s. Larval bay checkerspot butterflies were reintroduced to this unit in early 2007. The population of bay checkerspot butterflies within this unit has been described as the only core population in San Mateo County, and without bay checkerspot butterflies in this unit, the subspecies in San Mateo is unlikely to persist, which would leave only the one metapopulation in Santa Clara County and would constitute a significant range reduction for the subspecies.

Unit 4: Jasper Ridge

Unit 4 consists of 329 ac (133 ha) in San Mateo County. The unit is entirely

contained within Stanford University's Jasper Ridge Biological Preserve. The unit is 4 mi (7 km) southeast of Unit 3 and 23 mi (37 km) west-northwest of Unit 5, and represents the closest connection to the Santa Clara County metapopulation. This unit was occupied at the time of listing and contains all the features essential to the conservation of the subspecies. Decades of data and dozens of published scientific papers about the Jasper Ridge population of the bay checkerspot butterfly exist. The population was almost extirpated by prolonged drought in the late 1970s and again in the late 1980s. The unit was occupied at the time of listing; however the last known observation of the bay checkerspot butterfly in this unit was in 1997; the unit is currently unoccupied. The unit is managed as a biological preserve by Stanford University and suitable habitat, containing all the PCEs, continues to be present. Unit 4 is the closest unit in San Mateo County to populations of the bay checkerspot butterfly in Santa Clara County. While currently not known to be occupied, metapopulation dynamics may allow for natural recolonization to occur by bay checkerspot butterflies from Santa Clara County through the stepping stones of grassland habitat. There are numerous small patches of grassland habitat (potential stepping stones) between the units in San Mateo and Santa Clara Counties, although Unit 4 is the closest known area with sufficient PCEs. The numerous small patches of grassland habitat between units are not proposed to be designated as critical habitat because the Service has no information regarding the presence of sufficient PCEs within these areas. Unit 4 is also the closest suitable habitat with sufficient PCEs to the recently reintroduced Edgewood Park population and is necessary to support and maintain the Edgewood Park population (Unit 3), which in turn support the metapopulation dynamics of the bay checkerspot butterfly in San Mateo County by providing the necessary dispersal habitat and connectivity between the San Mateo and Santa Clara County populations.

Unit 5: Coyote Ridge

This unit consists of 10,149 ac (4,107 ha) in Santa Clara County. The unit encompasses Units 8, 10, 11, and 12 as identified in the 2001 designation. The unit is comprised almost entirely of the ridgeline known as Coyote Ridge, the majority of which is in private ownership, although approximately 110 ac (45 ha) are owned by Santa Clara County Parks for off-road vehicle recreation. To the north the unit is bordered by Yerba Buena Road near its intersection with U.S. Highway 101 and Metcalf Road divides the unit almost in half. The unit was occupied at the time of listing and contains all the features essential to the conservation of the subspecies represents the only remaining core population of the bay checkerspot butterfly. Other units in Santa Clara County depend on this core population as a source for recolonization. The unit represents the largest, most contiguous, and highest quality habitat containing the largest population of bay checkerspot butterflies.

Researchers historically referred to the bay checkerspot butterflies within this unit as four populations: Kirby, Metcalf, San Felipe, and Silver Creek Hills and our previous designation identified them as separate units. The Kirby population is the southernmost of the four and has consistently had the largest numbers of bay checkerspot butterflies. The Kirby area had an estimated 700,000 individuals in 2004, but declined to 100,000 individuals in 2005 (Weiss 2006, p. 1). Although still under private ownership, approximately 291 ac (118 ha) of the Kirby area is under some form of protection or management for special status species, including the bay checkerspot butterfly. In addition, a 250-ac (101-ha) butterfly preserve is being managed by Waste Management Incorporated (WMI) as compensation for adverse effects to the bay checkerspot butterfly in association with its landfill. However, the protection afforded the butterfly preserve is not permanent, and the land the preserve is on is not owned by WMI. The Metcalf population supported an estimated 400,000 individuals in 2004, but has suffered a significant decline down to an estimated 45,000 individuals in 2006 (Weiss 2006, p. 1). The Metcalf population is within the limits of the City of San Jose and is located on private land. The San Felipe population is also located on private lands and within the limits of the City of San Jose. The Service is unaware of any recent surveys of the San Felipe population; however, the population was estimated at 100,000 individuals in 1999 (Weiss 2006, p. 1). The Silver Creek Hills population is the last of the four populations within the Coyote Ridge unit. The population was considered relatively large, with approximately 115,000 individuals in 1993 (Weiss 2006, p. 1). This population was significantly affected by the development of a residential area and associated golf course (Ranch on Silver Creek) in the late 1990s. As a result of formal consultation on the Ranch on Silver Creek, approximately 473 ac (191 ha) owned by William Lyon Homes were preserved and are being managed for the bay checkerspot butterfly. Approximately 40 adults were observed at the Silver Creek Preserve in 2006 (WRA 2006, p. i).

Unit 6: Tulare Hill

Unit 6 consists of 747 ac (302 ha) in Santa Clara County. The unit is located in the middle of the Santa Clara Valley, south of San Jose, and west of the crossing of Metcalf Road and Highway 101. The unit was occupied by the bay checkerspot butterfly at the time of listing and is noted as one of the locations occupied in Harrison et al. (1988, p. 362). The unit is currently occupied, contains all the features essential to the conservation of the subspecies, and is essential to the conservation of the subspecies because it acts as a population center and because it provides a dispersal corridor across Coyote Valley. This unit is the closest suitable intervening habitat between the Coyote Ridge core population and most of the other populations in Santa Clara County, primarily those on the western side of Coyote Valley. Hundreds of butterflies have been observed on the southern half of the unit from 2001–2006 (Weiss 2006, p. 1). We have determined that the long-term viability of the bay checkerspot butterfly in Santa Clara County depends on the presence of corridors for dispersal of adults between Coyote Ridge and the other units in Santa Clara County. Tulare Hill is an ideal location for such a corridor because of the narrowness of the valley at this location, the limited amount of development currently present, the presence of high elevations on the hill that may attract butterflies over the highways and developed areas, and the presence of suitable habitat on Tulare Hill itself. Migrant butterflies from either Santa Teresa Hills or Coyote Ridge may settle on Tulare Hill, contributing individuals to the population within this unit, and adults from Tulare Hill may migrate to the adjacent habitat areas. Public lands within this unit include parts of Coyote Creek Park, Metcalf Park, and Santa Teresa County Park. Roughly half of Tulare Hill itself is within the limits of the City of San Jose; the remainder is on private lands in unincorporated Santa Clara County. Approximately 114 ac (46 ha) of the unit is currently protected under a conservation easement and is managed for the bay checkerspot butterfly by the Land Trust for Santa Clara County. The unit is bisected by transmission lines from Pacific Gas &

Electric (PG&E), and the operations and maintenance of these lines are the subject of a proposed Safe Harbor Agreement and Habitat Conservation Agreement for the bay checkerspot butterfly.

Unit 7: Santa Teresa Hills

Unit 7 consists of 3,987 ac (1,613 ha) in Santa Clara County. The unit lies north of Bailey Avenue, McKean Road, and Almaden Road; south of developed areas of the city of Santa Clara; and west of Santa Teresa Boulevard. The unit abuts Unit 6. This unit was not specifically mentioned in the listing rule, but an unspecified number of bay checkerspot butterflies were observed in this unit in 1988 (CNDDB 2006, p. 26). The unit is currently occupied (Arnold 2007, p. 1; and H.T. Harvey and Associates 1998, p. 11), and contains the physical and biological features essential to the conservation of the subspecies. Further, it includes the largest block of undeveloped habitat containing all the PCEs west of U.S. Route 101 in Santa Clara County. In addition, due to the prevailing winds, Unit 7 may experience less air pollution (i.e., nitrogen and ammonia deposition) than the units on the east side of Coyote Valley.

Unit 8: Calero Reservoir

Unit 8 consists of 1,543 ac (624 ha) in Santa Clara County. The unit is south of McKean Road and east of the town of New Almaden, Almaden Road, and Alamitos Creek. This unit was occupied at the time of listing (CNDDB 2006, p. 26), is currently occupied, and contains all the features essential for the conservation of the subspecies. The unit is less than 0.5 mi (0.8 km) south of Unit 7 and 1 mi (1.6 km) east of Unit 9. It is also 3.3 mi (5.3 km) southwest of the core population in Unit 5, and this distance is well within the dispersal capabilities of the subspecies; therefore, Unit 8 is an important component of the species' Santa Clara County metapopulation. The unit is comprised of over 1,400 ac (567 ha) of mapped serpentine soils on public land. The majority of the unit is within the Calero County Park and managed by Santa Clara County Department of Parks and Recreation. The remainder is owned and managed by the Santa Clara Valley Water District.

Unit 9: Kalana Hills

Unit 9 consists of two separate subunits: Subunit 9A (170 ac (69 ha)) and Subunit 9B (56 ac (22 ha)), totaling 226 ac (91 ha) in Santa Clara County. The unit is located on the southwest side of the Santa Clara Valley between Laguna Avenue and San Bruno Avenue. The unit (both 9A and 9B) was occupied by the bay checkerspot butterfly at the time of listing and is noted as one of the locations occupied in Harrison et al. (1988, p. 362), and adults were again observed during the last survey of the unit in 1997 (CNDDB 2006, p. 23). The two subunits include four hilltop, serpentine outcrops, which contain all the features essential for the conservation of the species, and some intervening grassland. The intervening grassland does not contain the larval host plants or serpentine or similar soils, but does contain PCEs 1, 3, and 4 and connects the four serpentine outcrops. Unit 5 lies about 2.1 mi (3.2 km) to the northeast, Unit 7 is 1 mi (1.6 km) to the northwest, the Unit 8 is 1 mi (1.6 km) to the west, and Unit 10 about 2.2 mi (3.5 km) to the southeast. The essential physical and biological features in Unit 9 assist in maintaining the metapopulation dynamics of the subspecies by providing habitat for the subspecies within dispersal distance of adjacent or nearby critical habitat units. Because of its proximity to several other large population centers for the bay checkerspot butterfly, we expect the Kalana Hills subunits to be regularly occupied by the subspecies and assist in maintaining the metapopulation dynamics for the subspecies. If, as is possible given the bay checkerspot butterfly's large population swings, the butterfly's population in these subunits were to become extirpated, it is likely to be reestablished by bay checkerspot butterflies immigrating from adjacent sites. These subunits act as a ''stepping stone'' to adjacent or nearby units. A portion of the largest and northernmost serpentine outcrop within subunit 9A is within the limits of the City of San Jose; the remainder of the subunit is on private lands in unincorporated Santa Clara County. Subunit 9A's northeast boundaries are bordered by the proposed Coyote Valley Specific Plan.

Unit 10: Morgan Hill

Unit 10 consists of 507 ac (205 ha) in Santa Clara County. The unit is northwest of the City of Morgan Hill, east of Willow Springs Road, and south of Hale Avenue. This unit was historically occupied in the late 1980s and is described in the CNDDB as an ''active site'' (CNDDB 2006) for the subspecies. The unit was occupied at the time of listing and is noted as one of the locations occupied in Harrison et al. (1988, p. 362); adult butterflies were observed in the unit in 1997 (CNDDB 2006). Unit 10 is essential to the conservation of the subspecies because it has large areas of serpentine soils and grassland with a variety of slope exposures, contains all the PCE's, and serves as a ''stepping stone'' between the southernmost occurrences of the subspecies (Unit 12) and the populations to the north. The unit is 1.5 mi (2.4 km) southwest Unit 5 and 2.2 mi (3.5 km) southeast of the Unit 9, provides dispersal habitat from adjacent critical habitat units, and provides habitat during years with particularly favorable weather conditions that support expanding populations of the bay checkerspot butterfly. This unit is comprised mostly of private property, a portion of which is within the limits of the City of Morgan Hill and the rest in unincorporated Santa Clara County. Murphy Springs Park, a small city park, is within this unit.

Unit 11: Bear Ranch

Unit 11 consists of 393 ac (159 ha) in Santa Clara County. The unit is adjacent to Coyote Reservoir and is entirely contained within the Coyote Lake—Harvey Bear Ranch County Park. The bay checkerspot butterfly was known to occur within this unit in the mid-1970s, but was considered extirpated in the listing rule; however, bay checkerspot butterflies were observed in this unit in 1994, 1997, and 1999 (CNDDB 2006, p. 15; Launer 2000, p. 1). This unit is currently occupied and is the most southern occurrence of the bay checkerspot butterfly on the east side of Coyote Valley. Unit 11 is essential for the conservation of the subspecies because it assists in maintaining the metapopulation dynamics of the subspecies by providing adjacent or nearby habitat for bay checkerspot butterflies to disperse to or use as foraging or resting habitat during longer dispersal events. The unit contains all the features essential for the conservation of the species. This unit is underlined by both serpentine and serpentine-like soils. There are two patches of serpentine soils separated north/south by intermittent woody vegetation; these patches are surrounded by grasslands underlined by serpentine-like soils that provide adequate dispersal corridors between the two patches.

Unit 12: San Martin

Unit 12 consists of 502 ac (203 ha) in Santa Clara County. The unit is located in the western foothills of the Santa Clara Valley. This unit was occupied at the time of listing, is currently occupied, and contains all the features essential for the conservation of the subspecies. The unit has extensive areas of serpentine soils interspersed with grasslands that have PCEs 1, 3, 4, and

5. These areas are important for dispersal between higher-quality habitats within the unit that contain all the necessary features essential for conservation. The unit lies entirely on private lands in unincorporated Santa Clara County, about 4 mi (6.4 km) west-southwest of Unit 11, 4 mi (6.4 km) southeast of Unit 10, and 6 mi (9.6 km) south of Unit 5's core area. This unit is the southernmost occurrence of the bay checkerspot butterfly. The adjacent Cordevalle Golf Club has purchased approximately 298 ac (121 ha) of property within the unit and has developed a management plan for the property and are currently working to establish a conservation easement for preservation as open space. A portion of the proposed open space, approximately 42.3 ac (17.1 ha) will be managed to benefit serpentine species including the bay checkerspot butterfly.

Table 3 below provides approximate areas (ac, ha) of lands that meet the definition of critical habitat but that we are proposing to exclude from the final critical habitat rule. Table 3 also provides our reasons for the proposed exclusion.

TABLE 3.—AREA (IN ACRES (AC), HECTARES (HA)) BEING PROPOSED FOR EXCLUSION FROM THE FINAL CRITICAL HABITAT DESIGNATION FOR THE BAY CHECKERSPOT BUTTERFLY IN SAN MATEO AND SANTA CLARA COUNTIES, CALIFORNIA

[Area estimates reflect all land within proposed critical habitat unit boundaries]

Critical habitat unit	Specific reason	Land ownership	Areas meeting the definition of critical habitat	Area proposed for exclusion
1. San Bruno Mountain, San Mateo County.	HCP; Amendment 5 will add the bay checkerspot.	Local	577 ac (234 ha)	577 ac (234 ha).
		Private	198 ac (80 ha)	198 ac (80 ha).
Total			775 ac (314 ha)	775 ac (314 ha).

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. Decisions by the 5th and 9th Circuit Court 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, 442 (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, destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the PCEs to be functionally established) to serve its intended conservation role for the species.

Section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action that is likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. This is a procedural requirement only, as any conservation recommendations in a conference report or opinion are strictly advisory. However, once a species proposed for listing becomes listed, or proposed critical habitat is designated as final, the full prohibitions of section 7(a)(2) apply to any discretionary Federal action.

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

We generally provide the results of an informal conference in a conference report, while we provide the results of a formal conference in a conference opinion. We typically prepare conference opinions on proposed species or critical habitat in accordance with procedures contained at 50 CFR 402.14, as if the proposed species were already listed or the proposed critical habitat was already designated. We may adopt the conference opinion as the biological opinion when the species is listed or the critical habitat is designated, if no substantial new information or changes in the proposed action alter the content of the opinion (see 50 CFR 402.10(d)).

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the procedural requirements of section 7(a)(2) through our issuance of:

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

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat, we also provide reasonable and prudent alternatives to the project, if any are identifiable. We define ''Reasonable and prudent alternatives'' at 50 CFR 402.02 as alternative actions identified during consultation that:

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

Reasonable and prudent alternatives can vary from slight project

modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to 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, some Federal agencies may request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions may affect subsequently listed species or designated critical habitat.

Federal activities that may affect the bay checkerspot butterfly or its designated critical habitat 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 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 also subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or permitted, do not require section 7 consultations.

Application of the ''Adverse Modification'' Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or would retain its current ability for the primary constituent elements to be functionally established and maintained. 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 bay checkerspot butterfly.

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

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore should result in consultation for the bay checkerspot butterfly include, but are not limited to:

(1) Actions that would cause ground disturbance, including, but not limited to, trenching, grading, and discing. Ground disturbance would likely result in the loss of larval and adult food plants and in an increased mortality of larvae as a result of starvation. Individual bay checkerspot butterfly larvae, pupae, and eggs could be crushed during any of these activities. A reduction in adult nectar sources could result in reduced fecundity and longevity of females, and possibly reduced longevity of males. Ground disturbance may also result in a reduction in the number of stable holes and cracks that larvae use during diapause, which would result in an increased risk of predation.

(2) Actions which would remove, destroy, or alter vegetation, including, but not limited to, changes in grazing regimes, prescribed burns, or other vegetation management strategies. These actions would have similar effects as those associated with ground disturbance, such as loss of larval and adult food plants. Prescribed burns may also result in direct injury or mortality to larvae, pupae, and eggs if conducted during the fall or early spring. Grazing is likely to result in some individual larvae, eggs, and pupae being trampled or inadvertently eaten.

(3) Construction activities that destroy, degrade, or fragment critical habitat, such as urban and suburban development (i.e., subdivisions, road building, placement of utilities, golf courses, trail construction, off-road vehicle use, etc.) These activities could result in the permanent loss of habitat or create barriers to movement between patches of habitat. Construction activities could result in crushing of both larval and adult food plants as well as larvae, pupae, and eggs. Adults may be injured or killed as a result of collisions with vehicles. In addition, larvae crossing open areas of construction sites in search of edible host plants could be trampled. Urban development could also cause changes in hydrology of bay checkerspot butterfly habitat. The presence of unseasonal water could result in an alteration in the life cycle of larval and adult food plants, such that plant growth and blooming are out of phase with the life cycle of the subspecies, resulting in increased mortality of both larvae and adults. Artificially wet conditions may also result in an increase in parasites or diseases that could reduce larval and adult survival. In addition, changes in hydrology that result in reduced water levels in nearby creeks could result in increased mortality of adults during periods of prolonged spring drought. Activities that result in direct loss of habitat would also result in direct loss of individuals of all life stages of the bay checkerspot butterfly. Loss of habitat patches that are ''stepping stone'' habitats would result in increased distances between other patches of suitable habitat and reduce the likelihood of distant patches being colonized, thus disrupting the metapopulation dynamics of the subspecies, resulting in a decrease in the stability of core populations and possible extinction of the bay checkerspot butterfly.

(4) Direct application on, or drift onto, critical habitat of pesticides, herbicides, fertilizers, or other chemicals or biological agents. Drift or runoff of chemicals, pesticides, and other biological agents could kill or injure bay checkerspot butterflies through direct toxicity or by harming their food plants.

(5) Deposition or release onto critical habitat of nitrogen compounds, such as NO_X and ammonia. Nitrogen deposition (i.e., NO_X and ammonia), in and around bay checkerspot butterfly habitat would result in nutrient enrichment of serpentine and serpentine-like soils. This enrichment allows for the successful invasion of exotic and invasive plants, which out-compete native forbs and grasses, into serpentine grasslands, resulting in lower densities of larval and adult food plants. Lower densities of both larval and adult food plants would result in fewer larval and adult bay checkerspot butterflies.

We consider all of the units proposed as revised critical habitat, as well as those that have been proposed for exclusion, to contain features essential to the conservation of the bay checkerspot butterfly. All units are within the geographic range of the species, all were occupied by the species at the time of listing or are currently occupied (based on most recent observations made), and are likely to be used by the bay checkerspot butterfly. Federal agencies already consult with us on activities in areas currently occupied by the bay checkerspot butterfly, as well as unoccupied critical habitat units to ensure that their actions do not jeopardize the continued existence of the bay checkerspot butterfly or result in adverse modification of critical habitat.

Exemptions or Exclusions

Application of 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 Congressional record is clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If we consider an exclusion then we must determine whether excluding the area would result in the extinction of the species.

In the following sections, we address a number of general issues that are relevant to the exclusions we have considered. In addition, we are conducting an economic analysis of the impacts of the proposed revised critical habitat designation and related factors, which will be available for public review and comment when it is complete. Based on public comment on that document, the proposed revised designation itself, and the information in the final economic analysis, the Secretary may exclude from critical habitat additional areas beyond those identified in this assessment under the provisions of section 4(b)(2) of the Act. This is also addressed in our implementing regulations at 50 CFR 424.19.

Portions of proposed Units 5, 6, and 12 are currently protected or proposed for protection under conservation easements (see unit descriptions above for acreages). Some easements were established for the protection of the California red-legged frog (*Rana aurora draytonii*) or the California tiger salamander (*Ambystoma californiense*), while others were established for the bay checkerspot butterfly. These areas were considered for exclusion, but not proposed because some of them do not have management plans and some only provide management plans for the tiger salamander or the California red-legged frog. Those areas with conservation easements that specifically provide protection for the bay checkerspot butterfly were not considered for exclusion because the easements are not believed to be sufficiently funded to adequately deal with nonnative invasive plants, such as the recent invasion of barbed goat grass (*Aegilops triuncialis*). A conservation easement that has been proposed for a portion of Unit 12 has not been finalized and is therefore also not proposed for exclusion.

Benefits of Designating Critical Habitat

Regulatory Benefits

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

For 30 years prior to the Ninth Circuit court's decision in *Gifford Pinchot,* we combined the jeopardy standard with the standard for destruction or adverse modification of critical habitat when evaluating Federal actions that affected currently occupied critical habitat. However, the court ruled that the two standards are distinct and that adverse modification evaluations require consideration of impacts on species recovery. Thus, critical habitat designations may provide greater benefits to the recovery of a species than would listing alone.

There are two limitations to the regulatory effect of critical habitat. First, a consultation is required only where there is a Federal nexus (an action authorized, funded, or carried out by any Federal agency)—if there is no Federal nexus, designation 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 no degradation of those areas that contain the physical and biological features essential to the conservation of the species or of unoccupied areas that are essential to the conservation of the species. Critical habitat designation alone, however, does not require specific steps toward recovery.

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

For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not suggest the implementation of any reasonable and prudent alternative. We suggest reasonable and prudent alternatives to the proposed Federal action only when our biological opinion results in an adverse modification conclusion.

We believe that in many instances the regulatory benefit of critical habitat is low when compared to voluntary conservation efforts or management plans. The conservation achieved through implementing HCPs or other habitat management plans can be greater than what we achieve through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Such habitat management plans may commit resources to implement long-term management and protection to particular habitat for at least one and possibly additional listed or sensitive species. Section 7 consultations commit

Federal agencies to preventing adverse modification of critical habitat caused by the particular project only, and not to providing conservation or long-term benefits to areas not affected by the proposed project. Thus, any HCP or other habitat management plan that considers enhancement or recovery as the management standard may often provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

In providing the framework for the consultation process, the previous section applies to all the following discussions of benefits of inclusion or exclusion of critical habitat.

Educational Benefits

A benefit of including lands in critical habitat is that designation of critical habitat serves to educate landowners, state and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for the bay checkerspot butterfly. In general, critical habitat designation always has educational benefits; however, in some cases, they may be redundant with other educational efforts. For example, HCPs have significant public input and may largely duplicate the educational benefits of a critical habitat designation. A second benefit of including lands in critical habitat is that the designation of critical habitat would inform state agencies and local governments about areas that could be conserved under state laws or local ordinances.

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

Recovery Benefits

The process of designating critical habitat as described in the Act requires that the Service identify those lands on which are found the physical or biological features essential to the conservation of the species that may require special management considerations or protection. In identifying those lands, the Service must consider the recovery needs of the species, such that the habitat that is identified, if managed, could provide for the survival and recovery of the species. Furthermore, once critical habitat has been designated, Federal agencies must consult with the Service under section 7(a)(2) of the Act to ensure that their actions will not adversely modify designated critical habitat or jeopardize the continued existence of the species. As noted in the Ninth Circuit's *Gifford Pinchot* decision, the Court ruled that the jeopardy and adverse modification standards are distinct, and that adverse modification evaluations require consideration of impacts to the recovery of species. Thus, through the section 7(a)(2) consultation process, critical habitat designations provide recovery benefits to species by ensuring that Federal actions will not destroy or adversely modify designated critical habitat.

It is beneficial to identify those lands that are necessary for the conservation of the species and that, if properly managed, would further recovery measures for the species, which is beneficial. The process of proposing and finalizing a critical habitat rule provides the Service with the opportunity to determine which lands are essential for conservation of the species, as well as allowing for the identification of the primary constituent elements or features essential for conservation of the species on those lands. The designation process includes peer review and public comment on the identified features and lands proposed for designation and/or exclusion. This process is valuable to land owners and managers in developing conservation management plans for identified lands, as well as any other occupied habitat or other suitable habitat that may not have been included in the Service's determination of essential habitat.

However, the designation of critical habitat does not require that any management or recovery actions take place on the lands included in the designation. Even in cases where consultation has been initiated under section 7(a)(2) of the Act, the end result of consultation is to avoid jeopardy to the species and/or adverse modification of its critical habitat, but not per se to manage remaining lands or institute recovery actions on remaining lands. Conversely, 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 and therefore implement recovery actions. We believe that the movement towards the conservation of a species and/or its habitat that could be achieved through the designation of critical habitat, in some cases, is less than the movement towards conservation that could be achieved through the implementation of a management plan, which includes species-specific provisions and considers enhancement or recovery of listed species as the management standard over the same lands. Consequently, implementation of any HCP or management plan that considers enhancement or recovery as the management standard will often provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

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

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without the cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995, 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 our understanding the status of species on non-Federal lands, and necessary for us to implement recovery actions such as reintroducing listed species and restoring and protecting habitat.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. We promote these private-sector efforts through the Department of the Interior's Cooperative Conservation philosophy. Conservation agreements with non-Federal landowners (HCPs, safe harbor agreements, other conservation agreements, easements, and State and local regulations) enhance species conservation by extending species protections beyond those available through section 7 consultations. In the past decade, we have encouraged non-Federal landowners to enter into conservation agreements, based on the

view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through regulatory methods (61 FR 63854; December 2, 1996).

Many private landowners, however, are wary of the possible consequences of attracting endangered species to their property. Mounting evidence suggests that some regulatory actions by the Federal Government, while well-intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove et al. 1996, 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 use of excluding specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation than critical habitat alone.

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7 of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus the benefits of excluding areas that are covered by effective partnerships or other conservation commitments can often be high.

Benefits of Excluding Lands With Approved Management Plans

The benefits of excluding lands with approved long-term management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by a critical habitat designation. Most HCPs and other conservation plans take many years to develop and, upon completion, are consistent with the recovery objectives for listed species that are covered within the plan area. Many conservation plans also provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine these conservation efforts and partnerships designed to proactively protect species to ensure that listing under the Act will not be necessary. Designation of critical habitat within the boundaries of management plans that provide conservation measures for a species could be viewed as a disincentive to those entities currently developing these plans or contemplating them in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species will be affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning. In fact, designating critical habitat in areas covered by a pending HCP or conservation plan could result in the loss of some species' benefits if participants abandon the planning process, in part because of the strength of the perceived additional regulatory compliance that such designation would entail. The time and cost of regulatory compliance for a critical habitat designation do not have to be quantified for them to be perceived as additional Federal regulatory burden sufficient to discourage continued participation in plans targeting listed species' conservation.

A related benefit of excluding lands within management plans from critical habitat designation is the unhindered, continued ability 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. If lands within approved management plan areas are designated as critical habitat, it would likely have a negative effect on our ability to establish new partnerships to develop these plans, particularly plans that address landscape-level conservation of species and habitats. By preemptively excluding these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

Furthermore, both HCP and Natural Community Conservation Planning (NCCP) HCP applications require a consultation, which would review the effects of all HCP-covered activities that might adversely impact the species under a jeopardy standard, including possibly significant habitat modification (see definition of ''harm'' at 50 CFR 17.3), even without the critical habitat designation. In addition, Federal actions not covered by the HCP in areas occupied by listed species would still require consultation under section 7(a)(2) of the Act, and we would review these actions for possibly significant habitat modification, in accordance with the definition of harm referenced above.

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

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

After consideration under section 4(b)(2) of the Act, we are proposing to exclude the following area of habitat from final revised critical habitat for the bay checkerspot butterfly: Lands covered under the San Bruno Mountain Habitat Conservation Plan. We believe that the lands' value for conservation has been addressed by existing protective actions and is appropriate for exclusion under the provisions of section 4(b)(2). We specifically solicit comment, however, on the proposed exclusion of these areas. A detailed analysis of our proposed exclusion of these lands under section 4(b)(2) of the Act is provided in the paragraphs that follow.

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

We consider a current plan to provide adequate management or protection if it meets the following criteria: (1) The plan is complete and provides the same or better level of protection from adverse modification or destruction than that provided through a consultation under section 7(a)(2) of the Act; (2) there is a reasonable expectation that the conservation management strategies and actions will be implemented based on past practices, written guidance, or regulations; and (3) the plan provides conservation strategies and measures consistent with

currently accepted principles of conservation biology. We believe that the plan described below fulfills these criteria, and we are considering the exclusion from critical habitat of non-Federal lands covered by this plan that provide for the conservation of the bay checkerspot butterfly. We are requesting comments on the benefit to the bay checkerspot butterfly from conservation measures established by the San Bruno Mountain Habitat Conservation Plan.

San Bruno Mountain Habitat Conservation Plan (SBMHCP)

The SBMHCP was originally completed in November 1982, and we issued a 30-year section 10(a)(1)(B) permit to the permittees on March 4, 1983. The permit (PRT 2–9818) expires on March 4, 2013, unless it is renewed (Jones and Stokes 2007, p. 1–2). San Bruno Mountain is located on the northern end of the San Francisco Peninsula, south of the San Mateo-San Francisco County line, and is bordered to the north by Daly City, to the east by the City of Brisbane, to the south by the City of South San Francisco, and to the west by the City of Colma. The SBMHCP is comprised of 3,600 ac (1,457 ha) of which approximately 3,500 ac (1,416 ha) are open space. To date, there have been four amendments to the SBMHCP. Amendment five is currently in development with a draft expected to be published in the **Federal Register** near the end of 2007 or early 2008. We expect a finalized amendment in 2008.

Participants in Amendment five of the SBMHCP include the City of Brisbane and the County of San Mateo. The existing incidental take permit covers 3,380 ac (1,368 ha) of San Bruno Mountain and includes the following species: Mission blue butterfly, San Bruno elfin butterfly, and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (Jones and Stokes 2007, p. 1–2). Unit 1 of proposed revised critical habitat is completely contained within the SBMHCP, with the majority of Unit 1 in San Bruno Mountain County Park. Amendment five would add the bay checkerspot butterfly and Callippe silverspot butterfly to the incidental take permit of the SBMHCP and would reconfigure the development plan on the Northwest Ridge to allow take of covered species on approximately 26 ac (11 ha) on the Northwest Ridge. Amendment five would also increase funding for management and monitoring activities throughout the Mountain with the establishment of an endowment. The Northeast Ridge covers 228 ac (92 ha) located in the northeast corner of San Bruno Mountain. The majority, approximately 90 percent, of the site is annual grassland, while the surrounding land use includes single-family neighborhoods across Guadalupe Canyon Parkway to the north, undeveloped open space to the east, multi-family residential development to the south, and the State and County Park to the west (Jones and Stokes 2007, p. 2–3). The Northeast Ridge does not include areas historically occupied by the bay checkerspot butterfly.

Amendment five to the SBMHCP includes proposed and ongoing conservation actions designed to benefit both the bay checkerspot butterfly and Callippe silverspot butterfly. Conservation actions include: (1) Vegetation management (i.e., prescribed fire, herbicide application, mowing, and grazing); (2) replanting and restoration; and (3) monitoring. The Service expects Amendment five will provide substantial protection for all of the primary constituent elements (PCEs) for the bay checkerspot butterfly, and that protected lands will receive the special management required through funding mechanisms that will be implemented under Amendment five of the SBMHCP.

Benefits of Inclusion

The primary benefit to designation of critical habitat is the requirement that federal agencies consult with the Service to ensure that their actions are not likely to result in the destruction or adverse modification of critical habitat. If critical habitat were designated in this area, PCEs in the area would be protected from destruction or adverse modification by federal actions using a conservation standard based on the Ninth Circuit's decision in *Gifford Pinchot*. This requirement would be in addition to the requirement that proposed Federal actions would not be likely to jeopardize the species' continued existence. However, since the SBMHCP area is not currently occupied by the species, consultation for activities that may adversely affect the bay checkerspot butterfly, including possibly significant habitat modification (see definition of ''harm'' at 50 CFR 17.3) would not be required under section 7. Therefore, inclusion of portions of the SBMHCP in critical habitat would require consultation if Federal actions would result in adverse modification of critical habitat.

As discussed above, Amendment five of the SBMHCP is expected to provide substantial protection of the PCEs and special management of essential habitat for the bay checkerspot butterfly on SBMHCP conservation lands. We expect the SBMHCP to provide a greater level of management for the bay checkerspot butterfly on private lands than would designation of critical habitat on private lands because the management activities associated with the addition of the bay checkerspot butterfly and Callippe silverspot butterfly within the SBMHCP will improve habitat for both species within the SBMHCP. Moreover, inclusion of these non-Federal lands as critical habitat would not necessitate additional management and conservation activities that would exceed the approved SBMHCP and its implementing agreement. As a result, we do not anticipate that any action on these lands would destroy or adversely modify the areas proposed as revised critical habitat. Therefore, we do not expect that including those areas in the final designation would lead to any changes to actions on the conservation lands to avoid destroying or adversely modifying that habitat.

A benefit of including an area in critical habitat is the education of landowners and the public regarding the potential conservation value of these areas. The inclusion of an area in critical habitat may focus and contribute to conservation efforts by other parties by clearly delineating areas of high conservation values for certain species. However, we believe that this conservation benefit has largely been achieved for the bay checkerspot butterfly through listing of the species, the previous critical habitat designation, and the ongoing preparation of the Santa Clara County HCP.

Benefits of Exclusion

The benefits of excluding lands within HCPs from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by a critical habitat designation. Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery objectives for listed species that are covered within the plan area. In fact, designating critical habitat in areas covered by a pending HCP could result in the loss of species' benefits if participants abandon the voluntary HCP process, in part because of the strength of the perceived additional regulatory compliance that such designation would entail. The time and cost of regulatory compliance for a critical habitat designation do not have to be quantified for them to be perceived as additional Federal regulatory burden sufficient to discourage continued voluntary participation in plans targeting the conservation of listed species.

Furthermore, an HCP application must itself be consulted upon. Such a consultation would review the effects of all activities covered by the HCP that may adversely affect the species, including possibly significant habitat modification (see definition of ''harm'' at 50 CFR 17.3), even without the critical habitat designation. In addition, Federal actions not covered by the HCP in areas occupied by listed species would still require consultation under section 7 of the Act and would be reviewed for possibly significant habitat modification in accordance with the definition of harm referenced above. This standard also would apply to all consultation conducted in the interim period prior to finalization of an HCP, whether incidental take exemption is provided under section 7 or section 10 of the Act.

Benefits of Exclusion Outweigh Benefits of Inclusion

We have reviewed and evaluated the conservation measures identified in the SBMHCP. Based on this evaluation, we currently find that the benefits of exclusion of the lands essential to the conservation of the bay checkerspot butterfly in the planning area for the SBMHCP outweigh the benefits of including Unit 1 in our final critical habitat designation. Our final determination will be made after we receive public comment on this proposed revised critical habitat designation.

The exclusion of these lands from critical habitat will help preserve the partnerships that we have developed with local jurisdictions and project proponents in the development of the SBMHCP. The educational benefits of critical habitat, including informing the public of areas that are essential for the long-term conservation of the species, are still accomplished from material provided on our Web site and through public notice and comment procedures required to establish the Santa Clara County HCP. The public also has been informed through the public participation that occurs during the development of each amendment to the SBMHCP. For these reasons, we believe that designating critical habitat has little benefit in areas covered by the SBMHCP.

Exclusion Will Not Result in Extinction of the Species

We believe that exclusion of these lands would not result in the extinction of the bay checkerspot butterfly as:

(1) The area is not currently occupied;

(2) The lands Unit 1 are in are within the boundaries of the SBMHCP; and

(3) Ongoing and new conservation measures designed for the bay checkerspot butterfly and Callippe silverspot butterfly will enhance and protect the majority of habitat for the bay checkerspot butterfly on San Bruno Mountain.

Actions that may adversely affect the subspecies within Unit 1 are expected to be covered under the SBMHCP. In addition, if the bay checkerspot butterfly becomes established within Unit 1, it will be protected from take under section 9 of the Act. The exclusion leaves these protections unchanged from those that would exist if the excluded areas were to be designated as critical habitat.

Critical habitat is being proposed for the bay checkerspot butterfly in other areas that will be accorded the protection from adverse modification by Federal actions using the conservation standard based on the Ninth Circuit 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; this factor, in concert with the other protections provided under the Act for these lands absent designation of critical habitat and in concert with protections afforded the species by the other lands proposed for designation as critical habitat, leads us to find that exclusion of these lands would not result in extinction of the bay checkerspot butterfly. We do not believe that this exclusion would result in the extinction of the subspecies because the SBMHCP will: (1) Preserve approximately 3,500 ac (1,416 ha) of open space, which includes the vast majority of bay checkerspot butterfly habitat within the SBMHCP; (2) incorporate a range of habitat management and enhancement measures; and (3) include a monitoring program for several listed butterfly species including the bay checkerspot butterfly.

Economics

An analysis of the economic impacts of proposing revised critical habitat for the bay checkerspot butterfly is being prepared. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. When completed, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.fws.gov/sacramento/,* or by contacting the Sacramento Fish and Wildlife Office directly (see **ADDRESSES**).

Peer Review

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

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

Public Hearings

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

Clarity of the Rule

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

Send a copy of any comments on how we could make this proposed rule easier

to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may e-mail your comments to this address: *Exsec@ios.doi.gov.*

Required Determinations

Regulatory Planning and Review

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

Further, Executive Order 12866 directs Federal agencies promulgating regulations to evaluate regulatory alternatives (Office of Management and Budget, Circular A–4, September 17, 2003). Pursuant to Circular A–4, once it has been determined that the Federal regulatory action is appropriate, then the agency will need to consider alternative regulatory approaches. Since the determination of critical habitat is a statutory requirement under the Act, we must then evaluate alternative regulatory approaches, where feasible, when promulgating a designation of critical habitat.

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

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

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

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

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

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

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

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

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical

habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

(b) Due to current public knowledge of the species' protection, the prohibition against take of the species both within and outside of the designated areas, the fact that the majority of the areas are already designated as critical habitat, and the fact that critical habitat provides no incremental restrictions, we do not anticipate that this rule will significantly or uniquely affect small governments. As such, Small Government Agency Plan is not required. However, we will further evaluate this issue as we conduct our economic analysis and revise this assessment if appropriate.

Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. While this proposed rule to designate revised critical habitat for the bay checkerspot butterfly is a significant regulatory action under Executive Order 12866 in that it may raise novel legal and policy issues, it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required. However, we will, further evaluate this issue as we conduct our economic analysis and review and revise this assessment as warranted.

Takings

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

Federalism

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

Civil Justice Reform

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed revised critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the PCEs within the designated areas to assist the public in understanding the habitat needs of the bay checkerspot butterfly.

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

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

National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.)

It is our position that, outside the jurisdiction of the Tenth Federal Circuit, we do not need to prepare environmental analyses as defined by the NEPA 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 Ninth Circuit Court of Appeals (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996)).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997, ''American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act,'' we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes. We have determined that there are no tribal lands occupied at the time of listing that contain the features essential for the conservation, and no Tribal lands that are unoccupied areas that are essential for the conservation, of the bay checkerspot butterfly. Therefore, revised critical habitat for the bay checkerspot butterfly has not been proposed on Tribal lands.

References Cited

A complete list of all references cited in this proposed rulemaking is available upon request from the Field Supervisor,

Sacramento Fish and Wildlife Office (see **ADDRESSES**).

Author(s)

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

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. In § 17.95(i), revise the entry for ''Bay checkerspot butterfly (*Euphydryas editha bayensis*)'' to read as follows:

§ 17.95 Critical habitat—wildlife.

* * * * *

(i) Insects.

* * * * *

Bay Checkerspot Butterfly (*Euphydryas editha bayensis*)

(1) Critical habitat units are depicted for San Mateo and Santa Clara Counties, California, on the maps below.

(2) The primary constituent elements of critical habitat for the bay checkerspot butterfly are the habitat components that provide:

(i) The presence of annual or perennial grasslands with little to no overstory that provide north/south and east/west slopes with a tilt of more than 7 degrees for larval host plant survival during periods of atypical weather (e.g., drought). Common grassland species include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), California oatgrass (*Danthonia californica*), purple needlegrass (*Nassella pulchra*), and Idaho fescue (*Festuca idahoensis*); less abundant in these grasslands are annual and perennial forbs such as filaree (*Erodium botrys*), true clovers (*Trifolium* sp.), dwarf plantain (*Plantago erecta*), and turkey mullein (*Croton setigerus*).

(ii) The presence of the primary larval host plant, dwarf plantain (*Plantago erecta*) and at least one of the secondary host plants, purple owl's-clover (*Castilleja densiflora*) or exserted paintbrush (*Castilleja exserta*), are required for reproduction, feeding, and larval development.

(iii) The presence of adult nectar sources for feeding. Common nectar sources include desertparsley (*Lomatium* spp.), California goldfields (*Lasthenia californica*), tidy-tips (*Layia platyglossa*), sea muilla (*Muilla maritima*), scytheleaf onion (*Allium falcifolium*), false babystars (*Linanthus androsaceus*), and intermediate fiddleneck (*Amsinckia intermedia*).

(iv) Aquatic features such as wetlands, springs, seeps, streams, lakes, and ponds and their associated banks, that provide moisture during periods of spring drought; these features can be ephemeral, seasonal, or permanent.

(v) Soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar soils (Inks, Candlestick, Los Gatos, Fagan, and Barnabe soil series) that provide areas with fewer aggressive, nonnative plant species for larval host plant and adult nectar plant survival and reproduction.

(vi) The presence of stable holes and cracks in the soil, and surface rock outcrops that provide shelter for the larval stage of the bay checkerspot butterfly during summer diapause.

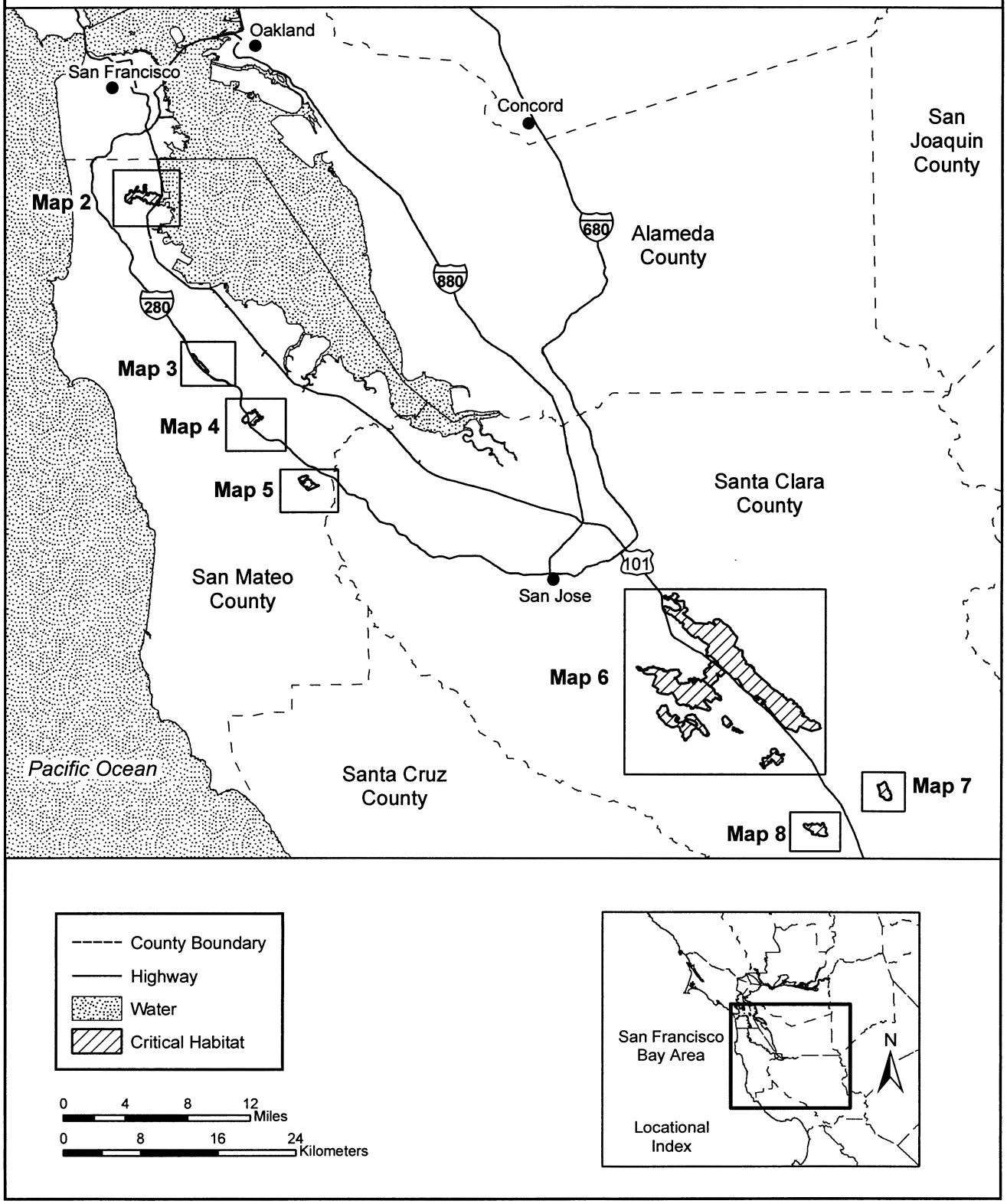
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat map units. Data layers defining map units were created on a base of USGS 7.5′ quadrangles using USDA National Agricultural Imagery Program (NAIP) county-wide MrSID compressed mosaics of 1 meter resolution and natural color aerial photography from summer 2005. Critical habitat units were then mapped using Universal Transverse Mercator (UTM) zone 10, North American Datum (NAD) 1983 coordinates.

(5) Note: Index map for bay checkerspot butterfly critical habitat units (Map 1) follows:

BILLING CODE 4310–55–P

Map 1. Index Map of Critical Habitat for the Bay Checkerspot Butterfly



(6) Unit 1 for bay checkerspot butterfly: San Bruno Mountain, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Francisco South.

(i) Unit 1: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N):; 52853, 4170062; 52856, 4170038; 52862, 4170043; 52866, 4170045; 52889, 4170061; 52915, 4170074; 52940, 4170084; 52970, 4170091; 52991, 4170102; 53010, 4170112; 53036, 4170134; 53057, 4170130; 53070, 4170151; 53089, 4170171; 53112, 4170170; 53135, 4170154; 53153, 4170109; 53184, 4170104; 53203, 4170081; 53207, 4170041; 53201, 4169958; 53214, 4169958; 53241, 4169938; 53257, 4169970; 53281, 4169974; 53303, 4169965; 53323, 4169971; 53344, 4169964; 53355, 4169943; 53374, 4169943; 53402, 4169930; 53404, 4169906; 53428, 4169900; 53458, 4169913; 53489, 4169909; 53527, 4169898; 53563, 4169900; 53592, 4169902; 53627, 4169892; 53656, 4169877; 53671, 4169859; 53713, 4169856; 53710, 4169804; 53665, 4169711; 53618, 4169606; 53604, 4169575; 53559, 4169488; 53521, 4169481; 53492, 4169479; 53478, 4169457; 53474, 4169413; 53454, 4169388; 53434, 4169364; 53387, 4169340; 53357, 4169322; 53336, 4169300; 53317, 4169269; 53301, 4169264; 53287, 4169242; 53260, 4169178; 53235, 4169105; 53164, 4169029; 53100, 4169010; 53101, 4168943; 53069, 4168920; 53013, 4168954; 52936, 4168954; 52882, 4169005; 52824, 4169051; 52752, 4169071; 52718, 4169074; 52650, 4169066; 52628, 4169020; 52610, 4168977; 52552, 4168965; 52580, 4169045; 52440, 4169117; 52362, 4169110; 52352, 4169041; 52235, 4169066; 52242, 4169257; 52198, 4169347; 52168, 4169354; 52159, 4169382; 52152, 4169426; 52142, 4169428; 52127, 4169422; 52107, 4169432; 52094, 4169445; 52088, 4169459; 52083, 4169491; 52068, 4169488; 52054, 4169493; 52049, 4169483; 52049, 4169465; 52046, 4169432; 52038, 4169413; 52024, 4169400; 52010, 4169390; 51996, 4169388; 51993, 4169373; 51990, 4169352; 51989, 4169338; 51977, 4169310; 51954, 4169295; 51930, 4169292; 51912, 4169296; 51896, 4169310; 51876, 4169332; 51849, 4169369; 51827, 4169382; 51815, 4169391; 51792, 4169390; 51759, 4169390; 51747, 4169402; 51752, 4169424; 51760, 4169437; 51769, 4169458; 51771, 4169481; 51797, 4169559; 51721, 4169595; 51695, 4169469; 51667, 4169464; 51647, 4169469; 51623, 4169501; 51589, 4169527; 51592, 4169674; 51570, 4169677; 51550, 4169674; 51508, 4169668; 51477, 4169671; 51435, 4169674; 51423, 4169719; 51419, 4169736; 51408, 4169731; 51394, 4169713; 51379, 4169697; 51354, 4169691; 51341, 4169690; 51337, 4169681; 51315, 4169681; 51303, 4169689; 51279, 4169713; 51229, 4169810; 51184, 4169770; 51171, 4169745; 51155, 4169731; 51135, 4169723; 51129, 4169719; 51129, 4169710; 51129, 4169690; 51127, 4169669; 51118, 4169651; 51104, 4169629; 51086, 4169609; 51061, 4169598; 51035, 4169591; 50999, 4169589; 50967, 4169591; 50935, 4169599; 50913, 4169616; 50896, 4169638; 50882, 4169668; 50844, 4169623; 50831, 4169611; 50810, 4169588; 50792, 4169588; 50777, 4169590; 50760, 4169600; 50748, 4169602; 50738, 4169589; 50731, 4169574; 50731, 4169561; 50736, 4169542; 50740, 4169517; 50741, 4169495; 50736, 4169475; 50729, 4169463; 50723, 4169447; 50722, 4169430; 50718, 4169415; 50710, 4169399; 50701, 4169385; 50690, 4169374; 50679, 4169365; 50674, 4169349; 50664, 4169330; 50655, 4169312; 50635, 4169299; 50623, 4169292; 50613, 4169284; 50613, 4169268; 50597, 4169255; 50583, 4169239; 50580, 4169215; 50583, 4169191; 50613, 4169153; 50665, 4169090; 50650, 4169068; 50617, 4169048; 50572, 4169043; 50542, 4169042; 50519, 4169048; 50498, 4169052; 50483, 4169061; 50461, 4169073; 50444, 4169085; 50387, 4169124; 50362, 4169151; 50346, 4169178; 50322, 4169174; 50297, 4169175; 50279, 4169181; 50235, 4169183; 50203, 4169194; 50169, 4169217; 50139, 4169238; 50122, 4169250; 50104, 4169267; 50081, 4169290; 50073, 4169317; 50068, 4169345; 50069, 4169377; 50070, 4169388; 50068, 4169402; 50068, 4169418; 50076, 4169438; 50087, 4169455; 50087, 4169464; 50068, 4169486; 50054, 4169509; 50044, 4169534; 50035, 4169557; 50033, 4169584; 50034, 4169608; 50040, 4169631; 50045, 4169650; 50050, 4169664; 50055, 4169673; 50059, 4169686; 50068, 4169712; 50078, 4169734; 50090, 4169776; 50096, 4169811; 50117, 4169844; 50136, 4169877; 50152, 4169904; 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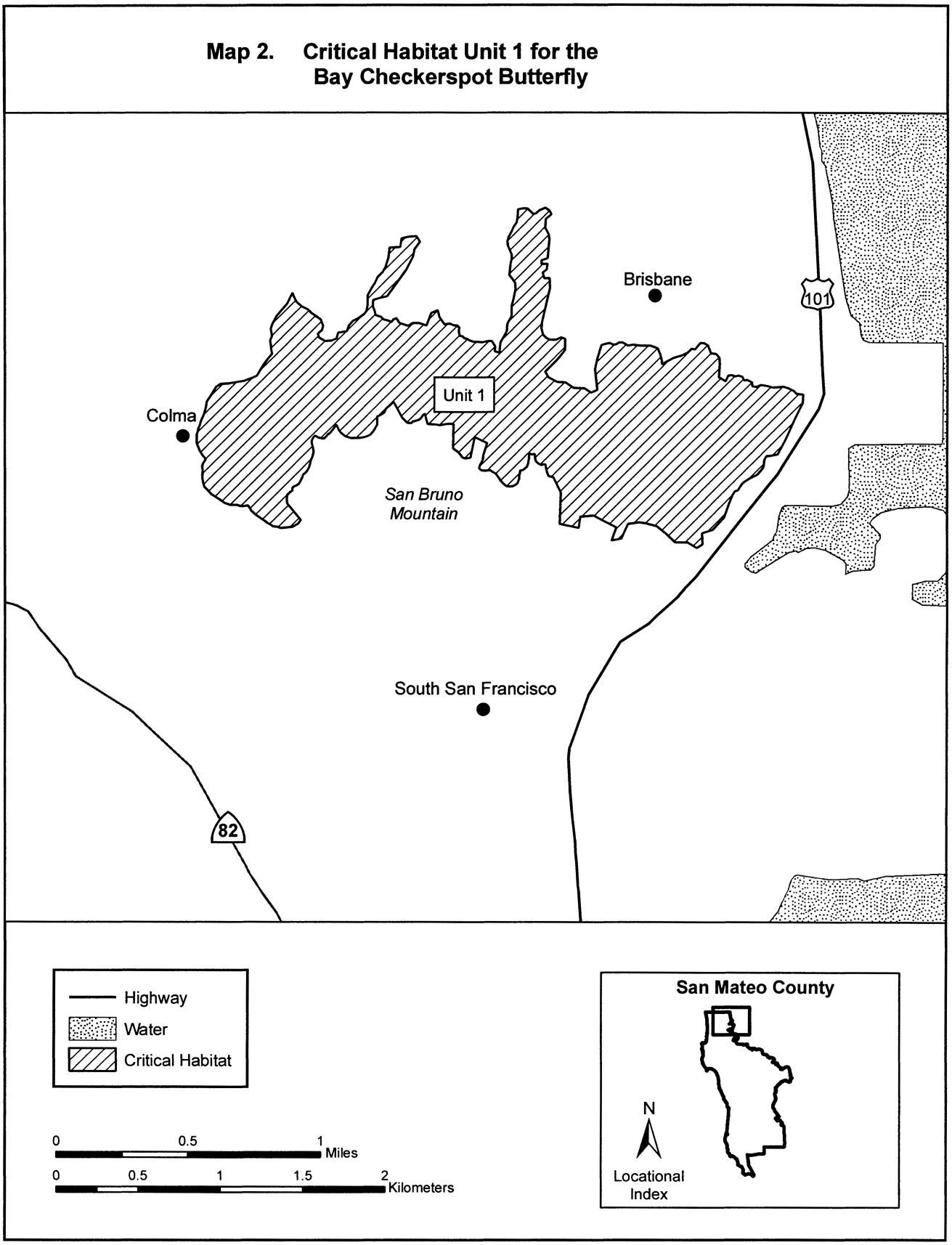
51113, 4170364; 51119, 4170341; 51150, 4170331; 51167, 4170314; 51187, 4170309; 51214, 4170298; 51227, 4170315; 51243, 4170321; 51262, 4170291; 51287, 4170284; 51316, 4170276; 51343, 4170291; 51382, 4170291; 51427, 4170277; 51455, 4170354; 51495, 4170371; 51506, 4170328; 51536, 4170284; 51569, 4170288; 51589, 4170279; 51614, 4170278; 51628, 4170264; 51622, 4170249; 51626, 4170230; 51629, 4170215; 51643, 4170211; 51657, 4170201; 51673, 4170196; 51689, 4170185; 51711, 4170180; 51736, 4170180; 51767, 4170176; 51793, 4170180; 51823, 4170182; 51845, 4170150; 51843, 4170122; 51871, 4170112; 51874, 4170144; 51879, 4170178; 51893, 4170205; 51914, 4170246; 51916, 4170287; 51943, 4170335; 51944, 4170395; 51956, 4170442; 51967, 4170500; 51964, 4170535; 51947, 4170559; 51929, 4170584; 51937, 4170647; 51943, 4170683; 51944, 4170710; 51919, 4170764; 51916, 4170789; 51925, 4170815; 51944, 4170850; 51955, 4170879; 51974, 4170905; 51980, 4170939; 51981, 4170982; 51997, 4170985; 52017, 4170989; 52040, 4170986; 52056, 4170972; 52076, 4170953; 52091, 4170957; 52113, 4170977; 52150, 4170992; 52173, 4170975; 52186, 4170953; 52150, 4170924; 52147, 4170872; 52166, 4170834; 52169, 4170799; 52160, 4170686; 52125, 4170673; 52125, 4170651; 52160, 4170651; 52157, 4170619; 52131, 4170600; 52141, 4170564; 52173, 4170564; 52176, 4170503; 52128,

4170295; 52125, 4170263; 52134, 4170222; 52153, 4170202; 52176, 4170190; 52214, 4170190; 52243, 4170206; 52266, 4170196; 52266, 4170129; 52236, 4170086; 52202, 4170051; 52145, 4169994; 52165, 4169960; 52221, 4169933; 52269, 4169930; 52319, 4169895; 52385, 4169894; 52425, 4169868; 52461, 4169881; 52449, 4170010; 52462, 4170073; 52488, 4170158; 52518, 4170166; 52539, 4170168; 52560, 4170160; 52575, 4170162; 52596, 4170173; 52616, 4170174; 52651, 4170154; 52683, 4170159; 52723, 4170154; 52754, 4170155; 52782, 4170155; 52805, 4170147; 52831, 4170134; 52847, 4170094; returning to 52853, 4170062.

(ii) Note: Map of Unit 1 for bay checkerspot butterfly (Map 2) follows:

BILLING CODE 4310–55–P



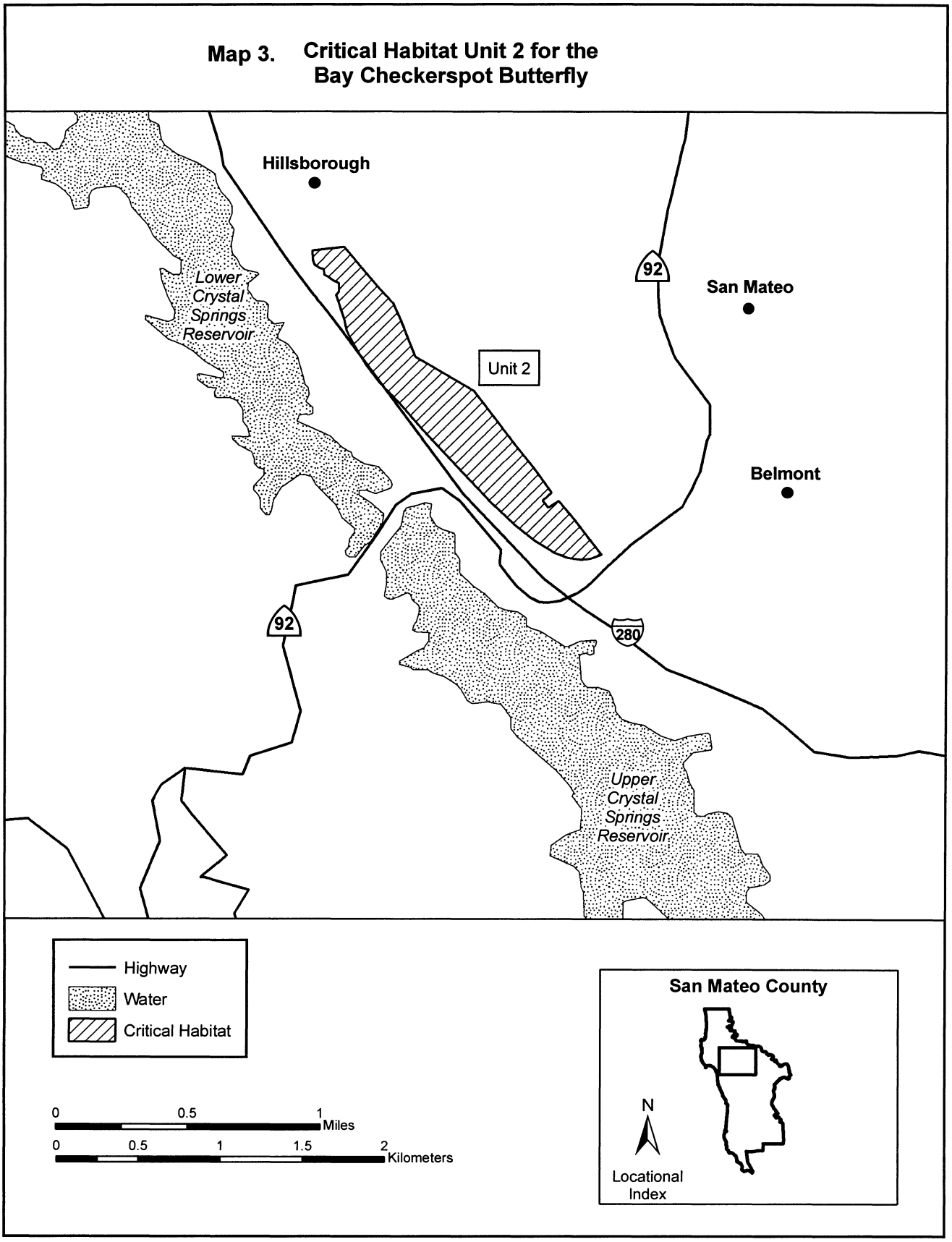
(7) Unit 2 for bay checkerspot butterfly: Pulgas Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle San Mateo.

(i) Unit 2: Land bounded by the following UTM zone 10, NAD 1983

coordinates (E,N): 558502, 4151442; 558422, 4151451; 558339, 4151484; 558223, 4151555; 558094, 4151656; 557957, 4151788; 557745, 4152013; 557545, 4152228; 557398, 4152392; 557274, 4152523; 557191, 4152632; 557123, 4152751; 557076, 4152838; 557061, 4152902; 557012, 4153060; 557027, 4153077; 557027, 4153130; 556994, 4153145; 556961, 4153171; 556939, 4153182; 556936, 4153216; 556913, 4153220; 556880, 4153242; 556868, 4153273; 556867, 4153329; 557060, 4153350; 557277, 4153095; 557358, 4153009; 557407, 4152900; 557494, 4152681; 557576, 4152631; 557851, 4152470; 558104, 4152134; 558210, 4152004; 558320, 4151850; 558268, 4151803; 558302, 4151758; 558363, 4151800; 558474, 4151666; 558625, 4151470; 558602, 4151463; 558557, 4151448; returning to 558502, 4151442.

(ii) Note: Map of Unit 2 for bay checkerspot butterfly (Map 3) follows:

BILLING CODE 4310–55–P

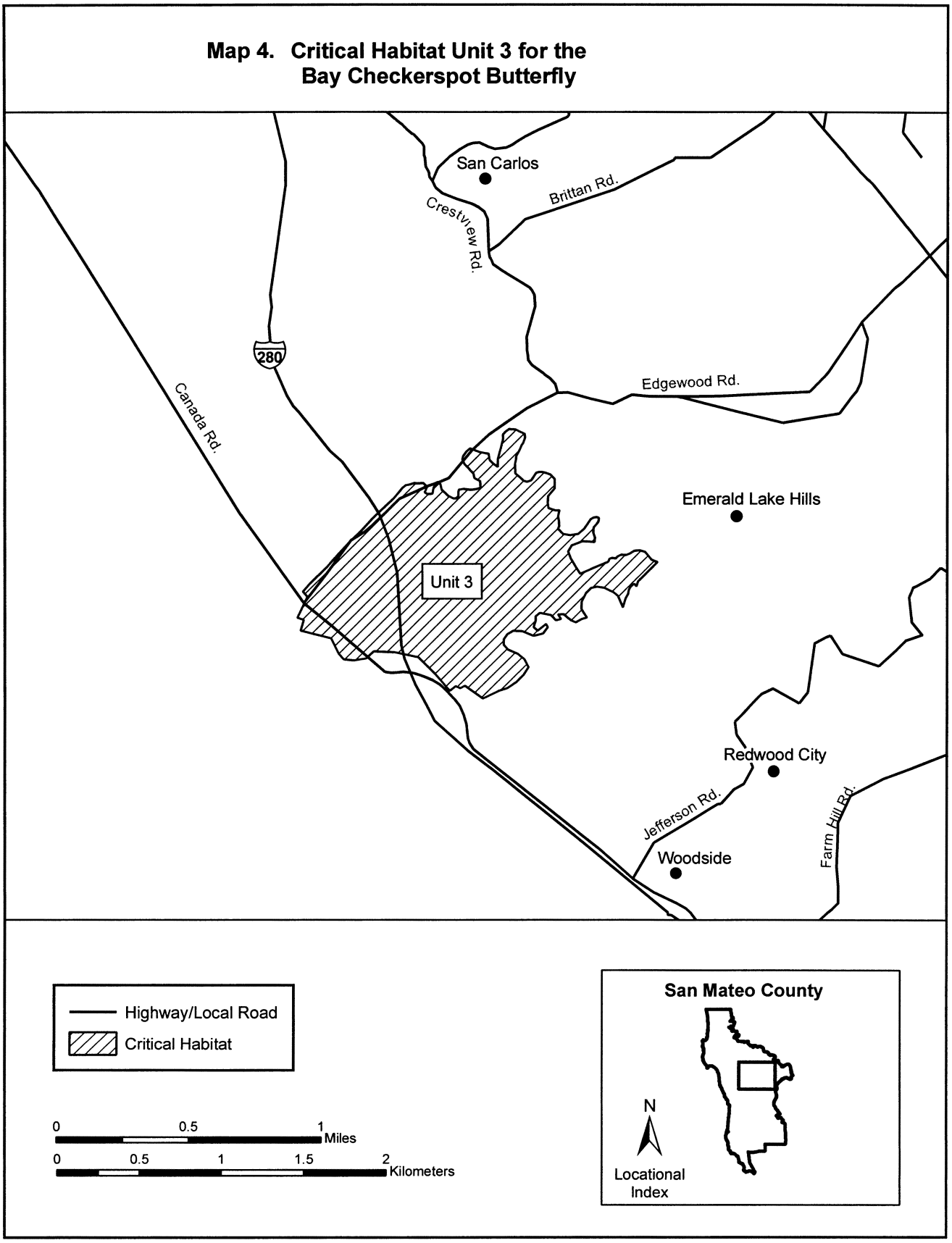

Map 3. Critical Habitat Unit 2 for the Bay Checkerspot Butterfly
Hillsborough
San Mateo
Belmont
Lower Crystal Springs Reservoir
Upper Crystal Springs Reservoir
Unit 2
92
280
Highway
Water
Critical Habitat
0 0.5 1 Miles
0 0.5 1 1.5 2 Kilometers
San Mateo County
N
Locational Index

(8) Unit 3 for bay checkerspot butterfly: Edgewood Park, San Mateo County, California. From USGS 1:24,000 scale quadrangle Woodside.

(i) Unit 3: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 564162, 4146806; 564197, 4146796; 564234, 4146748; 564270, 4146731; 564196, 4146657; 564182, 4146642; 564169, 4146630; 564154, 4146615; 564142, 4146585; 564128, 4146601; 564108, 4146585; 564097, 4146565; 564092, 4146540; 564078, 4146514; 564061, 4146457; 564032, 4146525; 564003, 4146549; 563949, 4146575; 563903, 4146582; 563868, 4146576; 563834, 4146542; 563809, 4146492; 563808, 4146448; 563842, 4146394; 563811, 4146384; 563774, 4146364; 563747, 4146377; 563726, 4146394; 563702, 4146416; 563668, 4146413; 563684, 4146384; 563656, 4146377; 563626, 4146409; 563555, 4146423; 563533, 4146403; 563533, 4146374; 563520, 4146338; 563543, 4146316; 563596, 4146356; 563604, 4146338; 563576, 4146297; 563520, 4146284; 563450, 4146312; 563396, 4146314; 563360, 4146293; 563338, 4146263; 563340, 4146229; 563365, 4146198; 563424, 4146176; 563464, 4146140; 563488, 4146094; 563459, 4146043; 563420, 4146003; 563361, 4145965; 563305, 4145945; 563215, 4145902; 563106, 4145980; 563077, 4145966; 563050, 4145976; 563014, 4145948; 562923, 4146053; 562820, 4146153; 562674, 4146184; 562550, 4146190; 562503, 4146146; 562432, 4146134; 562367, 4146141; 562337, 4146177; 562290, 4146269; 562106, 4146315; 562126, 4146380; 562087, 4146395; 562148, 4146523; 562121, 4146554; 562162, 4146602; 562260, 4146697; 562284, 4146723; 562369, 4146818; 562418, 4146870; 562467, 4146918; 562548, 4147005; 562667, 4147115; 562724, 4147186; 562744, 4147200; 562771, 4147206; 562796, 4147214; 562816, 4147212; 562849, 4147216; 562862, 4147203; 562874, 4147191; 562858, 4147160; 562876, 4147148; 562907, 4147149; 562915, 4147187; 562936, 4147221; 562955, 4147207; 562963, 4147174; 563001, 4147137; 563034, 4147121; 563052, 4147122; 563063, 4147135; 563063, 4147160; 563070, 4147174; 563098, 4147180; 563141, 4147173; 563179, 4147179; 563199, 4147187; 563196, 4147227; 563164, 4147243; 563156, 4147274; 563140, 4147290; 563124, 4147308; 563103, 4147329; 563087, 4147356; 563093, 4147379; 563113, 4147405; 563138, 4147424; 563196, 4147403; 563228, 4147396; 563247, 4147392; 563256, 4147354; 563275, 4147334; 563304, 4147313; 563304, 4147357; 563312, 4147395; 563324, 4147437; 563329, 4147458; 563336, 4147478; 563334, 4147508; 563354, 4147530; 563371, 4147543; 563411, 4147539; 563440, 4147526; 563465, 4147513; 563468, 4147488; 563457, 4147462; 563446, 4147441; 563436, 4147420; 563429, 4147405; 563422, 4147390; 563415, 4147377; 563414, 4147360; 563406, 4147327; 563408, 4147272; 563443, 4147244; 563457, 4147229; 563480, 4147222; 563502, 4147229; 563517, 4147251; 563534, 4147276; 563553, 4147283; 563569, 4147282; 563595, 4147274; 563623, 4147264; 563646, 4147239; 563645, 4147181; 563608, 4147135; 563604, 4147096; 563609, 4147060; 563647, 4147048; 563675, 4147047; 563668, 4147013; 563671, 4146982; 563673, 4146964; 563675, 4146954; 563669, 4146934; 563697, 4146903; 563739, 4146896; 563788, 4146903; 563825, 4146934; 563853, 4146979; 563862, 4146993; 563882, 4147004; 563902, 4147007; 563915, 4147002; 563912, 4146981; 563900, 4146963; 563883, 4146944; 563881, 4146913; 563889, 4146885; 563888, 4146855; 563858, 4146857; 563817, 4146861; 563749, 4146833; 563727, 4146798; 563744, 4146751; 563776, 4146699; 563799, 4146661; 563863, 4146689; 563971, 4146735; 563979, 4146753; 563997, 4146758; 564017, 4146756; 564030, 4146769; 564048, 4146778; 564080, 4146775; 564099, 4146784; 564131, 4146803; returning to 564162, 4146806.

(ii) Note: Map of Unit 3 for bay checkerspot butterfly (Map 4) follows:

BILLING CODE 4310–55–P


Map 4. Critical Habitat Unit 3 for the Bay Checkerspot Butterfly
San Carlos
Brittan Rd.
Crestview Rd.
280
Canada Rd.
Edgewood Rd.
Emerald Lake Hills
Unit 3
Redwood City
Jefferson Rd.
Farm Hill Rd.
Woodside
Highway/Local Road
Critical Habitat
0 0.5 1 Miles
0 0.5 1 1.5 2 Kilometers
San Mateo County
N
Locational Index

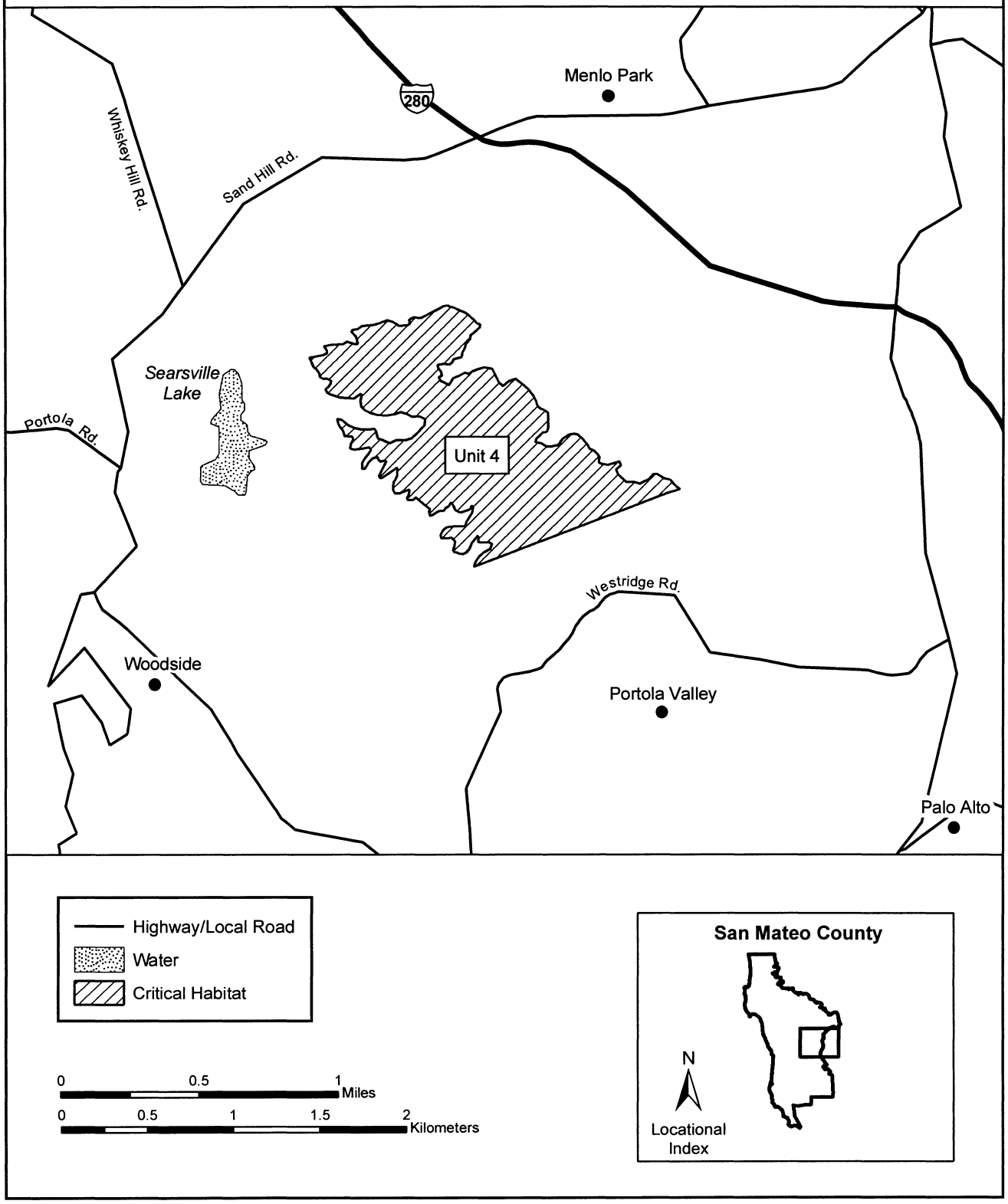
(9) Unit 4 for bay checkerspot butterfly: Jasper Ridge, San Mateo County, California. From USGS 1:24,000 scale quadrangle Palo Alto.

(i) Unit 4: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 569513, 4139881; 569524, 4139862; 569550, 4139849; 569569, 4139829; 569580, 4139812; 569578, 4139791; 569578, 4139780; 569605, 4139771; 569631, 4139770; 569696, 4139789; 569703, 4139764; 569676, 4139743; 569686, 4139716; 569736, 4139668; 569782, 4139670; 569815, 4139659; 569839, 4139671; 569869, 4139687; 569893, 4139716; 569915, 4139714; 569954, 4139692; 569993, 4139680; 570014, 4139658; 570027, 4139642; 570046, 4139627; 569983, 4139608; 568859, 4139177; 568865, 4139205; 568889, 4139237; 568921, 4139265; 568951, 4139280; 568962, 4139308; 568947, 4139319; 568908, 4139319; 568882, 4139319; 568882, 4139327; 568885, 4139340; 568885, 4139353; 568876, 4139355; 568869, 4139342; 568848, 4139319; 568831, 4139278; 568816, 4139261; 568797, 4139250; 568775, 4139252; 568758, 4139261; 568747, 4139261; 568736, 4139274; 568745, 4139299; 568749, 4139323; 568728, 4139344; 568702, 4139342; 568674, 4139342; 568666, 4139342; 568664, 4139362; 568676, 4139387; 568698, 4139407; 568743, 4139411; 568771, 4139411; 568805, 4139411; 568816, 4139441; 568846, 4139490; 568852, 4139520; 568852, 4139527; 568844, 4139531; 568833, 4139507; 568788, 4139495; 568771, 4139495; 568749, 4139505; 568741, 4139527; 568730, 4139548; 568724, 4139548; 568713, 4139531; 568694, 4139518; 568685, 4139503; 568674, 4139501; 568657, 4139501; 568642, 4139495; 568627, 4139484; 568603, 4139473; 568597, 4139499; 568603, 4139512; 568520, 4139578; 568505, 4139565; 568475, 4139565; 568470, 4139574; 568479, 4139595; 568485, 4139621; 568481, 4139625; 568462, 4139617; 568425, 4139604; 568400, 4139604; 568389, 4139623; 568389, 4139641; 568391, 4139668; 568404, 4139688; 568410, 4139705; 568410, 4139722; 568412, 4139741; 568417, 4139746; 568408, 4139752; 568389, 4139737; 568361, 4139718; 568325, 4139694; 568314, 4139694; 568307, 4139703; 568322, 4139737; 568335, 4139765; 568348, 4139791; 568335, 4139793; 568315, 4139789; 568305, 4139799; 568296, 4139814; 568270, 4139808; 568246, 4139783; 568225, 4139748; 568210, 4139748; 568210, 4139778; 568221, 4139803; 568247, 4139836; 568261, 4139857; 568252, 4139870; 568210, 4139863; 568165, 4139858; 568142, 4139865; 568145, 4139890; 568159, 4139919; 568152, 4139934; 568108, 4139937; 568099, 4139966; 568083, 4139989; 568070, 4140011; 568066, 4140038; 568090, 4140032; 568131, 4139998; 568168, 4139984; 568203, 4139975; 568250, 4139976; 568279, 4139979; 568289, 4139967; 568294, 4139945; 568303, 4139922; 568324, 4139914; 568345, 4139906; 568371, 4139896; 568407, 4139913; 568461, 4139913; 568495, 4139923; 568526, 4139951; 568571, 4140000; 568574, 4140034; 568543, 4140051; 568497, 4140049; 568467, 4140066; 568430, 4140076; 568397, 4140063; 568353, 4140055; 568300, 4140059; 568250, 4140072; 568225, 4140087; 568205, 4140107; 568200, 4140141; 568207, 4140177; 568200, 4140183; 568163, 4140157; 568082, 4140161; 568023, 4140180; 568005, 4140193; 567998, 4140211; 568015, 4140225; 568027, 4140241; 568028, 4140259; 568006, 4140269; 567984, 4140271; 567967, 4140280; 567962, 4140301; 567948, 4140320; 567930, 4140339; 567915, 4140373; 567904, 4140392; 567938, 4140398; 567980, 4140405; 568008, 4140418; 568001, 4140442; 567988, 4140457; 568031, 4140467; 568098, 4140470; 568123, 4140484; 568166, 4140471; 568183, 4140472; 568180, 4140494; 568172, 4140517; 568147, 4140543; 568153, 4140554; 568184, 4140561; 568209, 4140577; 568249, 4140579; 568285, 4140585; 568318, 4140597; 568356, 4140608; 568383, 4140600; 568423, 4140577; 568471, 4140580; 568488, 4140590; 568483, 4140612; 568507, 4140625; 568551, 4140623; 568572, 4140632; 568606, 4140653; 568658, 4140676; 568681, 4140691; 568705, 4140693; 568723, 4140687; 568741, 4140684; 568762, 4140673; 568807, 4140653; 568830, 4140634; 568862, 4140607; 568873, 4140591; 568894, 4140584; 568891, 4140566; 568881, 4140556; 568856, 4140536; 568838, 4140520; 568834, 4140499; 568812, 4140474; 568803, 4140445; 568791, 4140422; 568786, 4140395; 568739, 4140382; 568733, 4140366; 568719, 4140353; 568682, 4140355; 568648, 4140350; 568651, 4140331; 568668, 4140312; 568672, 4140286; 568653, 4140278; 568668, 4140256; 568713, 4140235; 568736, 4140273; 568769, 4140284; 568805, 4140303; 568827, 4140297; 568848, 4140312; 568872, 4140321; 568918, 4140335; 568964, 4140327; 569000, 4140248; 569024, 4140226; 569058, 4140256; 569097, 4140267; 569129, 4140244; 569166, 4140211; 569186, 4140185; 569202, 4140165; 569217, 4140136; 569219, 4140119; 569228, 4140106; 569240, 4140094; 569260, 4140088; 569282, 4140073; 569286, 4140045; 569284, 4140017; 569286, 4139986; 569279, 4139961; 569254, 4139955; 569242, 4139943; 569217, 4139920; 569211, 4139900; 569246, 4139893; 569275, 4139877; 569305, 4139877; 569342, 4139883; 569367, 4139919; 569404, 4139945; 569434, 4139949; 569455, 4139945; 569485, 4139917; returning to 569513, 4139881.

(ii) Note: Map of Unit 4 for bay checkerspot butterfly (Map 5) follows:

BILLING CODE 4310–55–P

Map 5. Critical Habitat Unit 4 for the Bay Checkerspot Butterfly



(10) Unit 5 for bay checkerspot butterfly: Coyote Ridge, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 5: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 607067, 4127789; 607267, 4127710; 607475, 4127729; 607713, 4127722; 607817, 4127626; 607733, 4127426; 607803, 4127314; 607825, 4127248; 607762, 4127173; 607740, 4127113; 607808, 4127063; 607894, 4127046; 608043, 4127019; 608116, 4126921; 608123, 4126707; 608000, 4126634; 607880, 4126543; 607769, 4126507; 607654, 4126497; 607668, 4126413; 607779, 4126408; 607805, 4126324; 608058, 4126129; 608255, 4125992; 608610, 4125722; 608893, 4125417; 609482, 4125417; 609838, 4125398; 610196, 4125396; 610302, 4125557; 610370, 4125506; 610487, 4125492; 610584, 4125439; 610692, 4125442; 610769, 4125405; 610827, 4125316; 610877, 4125249; 610937, 4125251; 610947, 4125345; 610759, 4125562; 610815, 4125701; 610858, 4125797; 610945, 4125841; 611101, 4125858; 611199, 4125833; 611308, 4125853; 611356, 4125884; 611424, 4125805; 611461, 4125744; 611542, 4125723; 611602, 4125671; 611673, 4125610; 611808, 4125456; 611970, 4125331; 612147, 4125249; 612322, 4125103; 612539, 4124931; 612515, 4124823; 612590, 4124756; 612648, 4124664; 612753, 4124575; 612773, 4124506; 612879, 4124335; 612972, 4124219; 613073, 4124178; 613129, 4124085; 613251, 4123917; 612901, 4123110; 612999, 4123014; 613100, 4122932; 613193, 4122893; 613280, 4122832; 613351, 4122715; 613426, 4122657; 613489, 4122657; 613563, 4122662; 613669, 4122607; 613741, 4122596; 613761, 4121952; 613847, 4121872; 613918, 4121781; 613988, 4121649; 614098, 4121520; 614145, 4121459; 614160, 4121384; 614120, 4121332; 614113, 4121264; 614125, 4121201; 614245, 4121185; 614310, 4121161; 614342, 4121127; 614393, 4121110; 614418, 4121079; 614433, 4121039; 614479, 4121095; 614513, 4121108; 614547, 4121103; 614579, 4121103; 614616, 4121102; 614628, 4121071; 614610, 4121032; 614633, 4121024; 614691, 4121025; 614737, 4121019; 614760, 4120988; 614750, 4120961; 614713, 4120939; 614711, 4120903; 614703, 4120876; 614718, 4120863; 614731, 4120832; 614743, 4120810; 614774, 4120852; 614784, 4120819; 614904, 4120878; 614919, 4120849; 614913, 4120812; 614919, 4120775; 614897, 4120730; 614874, 4120715; 614886, 4120686; 614891, 4120659; 614921, 4120671; 614969, 4120678; 614999, 4120664; 614999, 4120625; 614974, 4120593; 614980, 4120547; 614950, 4120517; 614942, 4120488; 614970, 4120470; 614986, 4120424; 614996, 4120339; 615037, 4120410; 615163, 4120270; 615782, 4119656; 615873, 4119555; 616483, 4119029; 616524, 4118999; 616548, 4118936; 616751, 4118743; 617140, 4118453; 617213, 4118434; 617322, 4118406; 617774, 4118066; 617873, 4118037; 617986, 4118057; 618040, 4118015; 617983, 4117993; 617934, 4117940; 617896, 4117916; 617930, 4117901; 617984, 4117896; 618000, 4117874; 618032, 4117863; 618054, 4117849; 618052, 4117820; 618027, 4117810; 618025, 4117766; 618067, 4117760; 618067, 4117728; 618144, 4117713; 618222, 4117720; 618262, 4117696; 618278, 4117655; 618256, 4117633; 618279, 4117591; 618286, 4117527; 618323, 4117503; 618317, 4117455; 618359, 4117439; 618413, 4117435; 618427, 4117461; 618457, 4117471; 618489, 4117476; 618489, 4117501; 618516, 4117516; 618545, 4117506; 618559, 4117469; 618589, 4117466; 618618, 4117430; 618642, 4117442; 618642, 4117477; 618684, 4117503; 618711, 4117527; 618730, 4117550; 618760, 4117564; 618797, 4117553; 618818, 4117545; 618836, 4117511; 618852, 4117500; 618877, 4117494; 618874, 4117457; 618894, 4117445; 618932, 4117427; 618932, 4117442; 618957, 4117445; 618976, 4117432; 618976, 4117393; 619062, 4117364; 619092, 4117373; 619113, 4117369; 619111, 4117323; 619145, 4117283; 619062, 4117188; 619058, 4117150; 619037, 4117123; 618984, 4117044; 619147, 4117114; 619236, 4117123; 619294, 4117077; 619329, 4117080; 619357, 4117092; 619387, 4117074; 619392, 4117037; 619382, 4117011; 619414, 4117004; 619446, 4116993; 619441, 4116938; 619469, 4116920; 619402, 4116823; 619440, 4116755; 619489, 4116757; 619515, 4116739; 619583, 4116708; 619659, 4116774; 619806, 4116613; 619745, 4116580; 619760, 4116519; 619876, 4116570; 619891, 4116539; 619874, 4116459; 619970, 4116340; 619915, 4116290; 619854, 4116284; 619808, 4116227; 619760, 4116188; 619866, 4116164; 619958, 4116213; 620004, 4116181; 619951, 4116136; 619968, 4116109; 620048, 4116152; 620070, 4116140; 620015, 4116025; 620025, 4115996; 620097, 4116077; 620139, 4116040; 620177, 4116007; 620101, 4115906; 619985, 4115879; 619949, 4115869; 619900, 4115865; 619923, 4115831; 619979, 4115805; 620021, 4115779; 620052, 4115780; 620086, 4115760; 620115, 4115725; 620141, 4115694; 620199, 4115750; 620290, 4115727; 620413, 4115661; 620583, 4115555; 620617, 4115454; 620788, 4115324; 620903, 4115266; 620995, 4115260; 621058, 4115374; 621097, 4115435; 621107, 4115413; 621122, 4115390; 621149, 4115374; 621156, 4115344; 621200, 4115254; 621608, 4115039; 621668, 4115004; 621715, 4114977; 621744, 4114932; 621789, 4114879; 621788, 4114836; 621788, 4114810; 621768, 4114773; 621773, 4114740; 621772, 4114662; 621773, 4114638; 621766, 4114618; 621782, 4114597; 621842, 4114600; 621857, 4114586; 621875, 4114583; 621881, 4114552; 621827, 4114518; 621800, 4114474; 621727, 4114441; 621038, 4114280; 620937, 4114292; 620831, 4114261; 620028, 4114564; 619674, 4114732; 619494, 4114297; 619385, 4114096; 619025, 4114273; 618895, 4114410; 618599, 4114424; 618361, 4114506; 618185, 4114530; 617740, 4115026; 617095, 4115754; 616662, 4116332; 616403, 4116568; 616244, 4116697; 616203, 4116810; 616126, 4117005; 615933, 4117032; 615789, 4117099; 615722, 4117186; 615933, 4117280; 616097, 4117217; 616167, 4117292; 616030, 4117460; 615914, 4117446; 615683, 4117614; 615229, 4117907; 615099, 4117854; 615457, 4117510; 615390, 4117438; 615003, 4117751; 614469, 4118133; 613965, 4118481; 613877, 4118533; 613865, 4118566; 613797, 4118629; 613843, 4118668; 613790, 4118831; 613636, 4118894; 613636, 4119149; 613557, 4119283; 613403, 4119531; 613254, 4119651; 613077, 4119606; 612893, 4119620; 612832, 4119665; 612853, 4119708; 612847, 4119729; 612784, 4119705; 612770, 4119740; 612715, 4119760; 612640, 4119824; 612618, 4119872; 612583, 4119977; 612062, 4120400; 611707, 4120758; 611686, 4120748; 611631, 4120824; 611294, 4121127; 611234, 4121214; 611301, 4121327; 611238, 4121402; 610975, 4121590; 610770, 4121774; 610611, 4121899; 610472, 4122085; 610310, 4122006; 610106, 4122145; 610077, 4122227; 610126, 4122316; 610217, 4122395; 610179, 4122447; 610133, 4122430; 610089, 4122512; 610125, 4122559; 610156, 4122607; 610157, 4122653; 610128, 4122660; 610058, 4122641; 610016, 4122607; 609977, 4122674; 610091, 4122763; 610187, 4122847; 610220, 4122921; 610249, 4122977; 610374, 4123102; 610254, 4123181; 610015, 4123335; 609613, 4123583; 609641, 4123630; 609399, 4123790; 609324, 4123843; 609182, 4124041; 608934, 4123924;

608736, 4124027; 608538, 4124145; 608423, 4124256; 608167, 4124471; 608065, 4124633; 608059, 4124666; 607803, 4124871; 607677, 4124973; 607615, 4125109; 607637, 4125224; 607756, 4125351; 607593, 4125474; 607351, 4125490; 607272, 4125663; 607018, 4125820; 606980, 4125845; 606948, 4125876; 606896, 4125972; 606890, 4125996; 606845, 4125998; 606796, 4126045; 606753, 4126055; 606663, 4126127; 606595, 4126178; 606463, 4126353; 606314, 4126287; 606282, 4126331; 606153, 4126428; 605939, 4126505; 605841, 4126533; 605785, 4126693; 605832, 4126844; 605701, 4126851; 605621, 4127118; 605715, 4127161; 605847, 4127159; 605992, 4127130; 606076, 4127058; 606215, 4127099; 606422, 4127010; 606465, 4126897; 606699, 4126796; 606886, 4126695; 607019, 4126736; 607190, 4126796; 607356, 4126935; 607437, 4127065; 607306, 4127251; 607149, 4127421; 607062, 4127440; 606910, 4127537; 606714, 4127727; 606521, 4127943; 606345, 4128015; 606227, 4128006; 606179, 4127924; 606131, 4127779; 606097, 4127827; 606067, 4127868; 605982, 4127883; 605953, 4128027; 605857, 4127996; 605761, 4128001; 605703, 4128063; 605662, 4128160; 605702, 4128211; 605770, 4128251; 605842, 4128289; 605912, 4128287; 605946, 4128220; 605992, 4128138; 606059, 4128152; 606148, 4128174; 606210, 4128152; 606324, 4128056; 606410, 4128049; 606321, 4128171; 606343, 4128210; 606614, 4128290; 606611, 4128519; 606706, 4128535; 606802, 4128525; 607015, 4128424; 607079, 4128412; 607069, 4128316; 607125, 4128227; 607190, 4128215; 607202, 4128263; 607252, 4128252; 606865, 4127849; returning to 607067, 4127789.

(ii) Note: Unit 5 for bay checkerspot butterfly is depicted on Map 6 in paragraph (15)(ii) of this entry.

(11) Unit 6 for bay checkerspot butterfly: Tulare Hill, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 6: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 611281, 4120978; 612010, 4120354; 611543, 4119895; 611200, 4120245; 611116, 4120132; 611229, 4119983; 611293, 4119653; 611241, 4119512; 610967, 4119335; 610463, 4118831; 609658, 4119568; 610117, 4119846; 609799, 4120229; 609915, 4120374; 609819, 4120430; 610113, 4120749; 610310, 4120833; 610459, 4120769; 610548, 4120910; 610294, 4121063; 610681, 4121486; returning to 611281, 4120978.

(ii) Note: Unit 6 for bay checkerspot butterfly is depicted on Map 6 in paragraph (15)(ii) of this entry.

(12) Unit 7 for bay checkerspot butterfly: Santa Teresa Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 7: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 602892, 4120825; 602923, 4120888; 602998, 4120912; 603046, 4120912; 603077, 4120894; 603120, 4120901; 603159, 4120888; 603185, 4120851; 603194, 4120824; 603233, 4120815; 603305, 4120824; 603337, 4120812; 603356, 4120775; 603336, 4120735; 603317, 4120709; 603299, 4120671; 603316, 4120645; 603371, 4120634; 603422, 4120632; 603481, 4120647; 603524, 4120628; 603599, 4120583; 603652, 4120583; 603668, 4120618; 603683, 4120664; 603766, 4120676; 603778, 4120651; 603798, 4120616; 603811, 4120597; 603829, 4120590; 603866, 4120610; 603887, 4120586; 603927, 4120563; 603991, 4120557; 604041, 4120556; 604041, 4120561; 604045, 4120581; 604039, 4120610; 604026, 4120620; 604024, 4120626; 603998, 4120656; 603973, 4120699; 603972, 4120727; 603976, 4120754; 604006, 4120769; 604040, 4120782; 604073, 4120807; 604119, 4120837; 604138, 4120855; 604160, 4120865; 604179, 4120865; 604194, 4120847; 604199, 4120818; 604200, 4120795; 604258, 4120790; 604294, 4120834; 604356, 4120869; 604368, 4120874; 604382, 4120874; 604397, 4120865; 604411, 4120855; 604429, 4120847; 604442, 4120832; 604453, 4120827; 604467, 4120819; 604475, 4120816; 604488, 4120800; 604510, 4120802; 604554, 4120827; 604549, 4120858; 604561, 4120889; 604564, 4120912; 604561, 4120952; 604572, 4120972; 604606, 4120977; 604622, 4120963; 604624, 4120946; 604628, 4120920; 604645, 4120904; 604680, 4120899; 604729, 4120910; 604729, 4120867; 604787, 4120831; 604810, 4120814; 604844, 4120783; 604890, 4120765; 604924, 4120799; 604948, 4120835; 604970, 4120831; 604986, 4120786; 605003, 4120742; 605064, 4120714; 605093, 4120722; 605132, 4120760; 605163, 4120770; 605185, 4120744; 605219, 4120689; 605272, 4120656; 605329, 4120668; 605395, 4120706; 605405, 4120671; 605424, 4120642; 605452, 4120646; 605473, 4120657; 605509, 4120656; 605548, 4120664; 605588, 4120656; 605614, 4120682; 605643, 4120689; 605647, 4120649; 605679, 4120645; 605711, 4120633; 605746, 4120610; 605728, 4120571; 605712, 4120545; 605685, 4120526; 605653, 4120525; 605613, 4120522; 605608, 4120506; 605619, 4120496; 605645, 4120487; 605709, 4120480; 605729, 4120443; 605749, 4120426; 605775, 4120431; 605792, 4120456; 605809, 4120473; 605836, 4120498; 605864, 4120508; 605879, 4120512; 605904, 4120506; 605928, 4120490; 605945, 4120465; 605949, 4120449; 605945, 4120432; 605953, 4120401; 605971, 4120390; 606001, 4120399; 606040, 4120411; 606076, 4120422; 606105, 4120433; 606133, 4120448; 606158, 4120474; 606200, 4120494; 606241, 4120516; 606272, 4120540; 606310, 4120548; 606353, 4120567; 606378, 4120587; 606394, 4120604; 606407, 4120596; 606422, 4120586; 606474, 4120580; 606521, 4120577; 606553, 4120566; 606589, 4120544; 606625, 4120524; 606653, 4120496; 606653, 4120520; 606626, 4120579; 606625, 4120607; 606650, 4120613; 606703, 4120612; 606736, 4120611; 606751, 4120586; 606748, 4120556; 606762, 4120552; 606804, 4120566; 606861, 4120594; 606917, 4120615; 606968, 4120624; 607030, 4120627; 607084, 4120614; 607139, 4120594; 607197, 4120614; 607194, 4120598; 607195, 4120569; 607195, 4120549; 607188, 4120521; 607174, 4120507; 607179, 4120472; 607191, 4120455; 607214, 4120443; 607247, 4120427; 607277, 4120408; 607280, 4120373; 607298, 4120340; 607305, 4120307; 607332, 4120290; 607364, 4120276; 607395, 4120272; 607414, 4120266; 607434, 4120261; 607453, 4120267; 607461, 4120254; 607462, 4120237; 607458, 4120220; 607449, 4120201; 607437, 4120184; 607421, 4120162; 607397, 4120136; 607370, 4120088; 607327, 4120023; 607297, 4119983; 607182, 4119926; 607113, 4119874; 607064, 4119832; 607020, 4119802; 606938, 4119784; 606848, 4119768; 606800, 4119732; 606822, 4119719; 606891, 4119713; 606982, 4119681; 607021, 4119632; 607033, 4119550; 607049, 4119507; 607064, 4119439; 607068, 4119404; 607099, 4119389; 607118, 4119342; 607152, 4119323; 607181, 4119286; 607199, 4119244; 607188, 4119204; 607229, 4119197; 607254, 4119192; 607258, 4119169; 607278, 4119158; 607304, 4119172; 607326, 4119155; 607367, 4119150; 607402, 4119175; 607454, 4119194; 607509, 4119213; 607702, 4119117; 607733, 4119120; 607774, 4119125; 607775, 4119165; 607814, 4119200; 607861, 4119222; 607909, 4119212; 607985, 4119188; 608024, 4119217; 607998, 4119236; 608004, 4119270; 608048, 4119275; 608100, 4119228; 608156, 4119215; 608213, 4119266; 608334, 4119277;

608348, 4119343; 608310, 4119427; 608238, 4119516; 608227, 4119572; 608242, 4119612; 608277, 4119624; 608310, 4119641; 608344, 4119670; 608363, 4119689; 608375, 4119702; 608395, 4119704; 608413, 4119696; 608439, 4119686; 608464, 4119677; 608477, 4119655; 608490, 4119640; 608512, 4119630; 608572, 4119618; 608626, 4119610; 608635, 4119589; 608624, 4119571; 608565, 4119580; 608500, 4119579; 608482, 4119564; 608474, 4119543; 608497, 4119516; 608575, 4119522; 608635, 4119479; 608569, 4119409; 608581, 4119330; 608647, 4119331; 608706, 4119356; 608749, 4119377; 608758, 4119360; 608746, 4119302; 608722, 4119196; 608695, 4119111; 608762, 4119101; 608846, 4119140; 608892, 4119222; 608913, 4119397; 608883, 4119569; 608848, 4119657; 608818, 4119677; 608789, 4119702; 608778, 4119727; 608781, 4119765; 608788, 4119783; 608807, 4119789; 608853, 4119782; 608898, 4119751; 608918, 4119731; 608924, 4119709; 608918, 4119681; 608944, 4119676; 609003, 4119655; 609001, 4119592; 609027, 4119500; 609059, 4119489; 609106, 4119530; 609133, 4119547; 609155, 4119553; 609176, 4119581; 609208, 4119588; 609214, 4119600; 609202, 4119624; 609194, 4119649; 609198, 4119661; 609212, 4119663; 609248, 4119640; 609263, 4119633; 609289, 4119634; 609298, 4119633; 609297, 4119609; 609293, 4119585; 609299, 4119555; 609313, 4119543; 609347, 4119543; 609374, 4119540; 609391, 4119530; 609411, 4119510; 609428, 4119507; 609440, 4119498; 609446, 4119470; 609454, 4119451; 609456, 4119415; 609476, 4119391; 609509, 4119359; 609534, 4119358; 609548, 4119366; 609549, 4119393; 609568, 4119444; 609582, 4119466; 609606, 4119520; 609628, 4119547; 609656, 4119568; 609751, 4119477; 609785, 4119449; 610381, 4118905; 610464, 4118833; 610521, 4118824; 610564, 4118822; 610592, 4118815; 610612, 4118795; 610617, 4118776; 610617, 4118756; 610624, 4118735; 610650, 4118729; 610669, 4118717; 610700, 4118710; 610723, 4118718; 610757, 4118723; 610773, 4118706; 610780, 4118658; 610790, 4118646; 610787, 4118598; 610775, 4118570; 610773, 4118536; 610771, 4118519; 610782, 4118517; 610822, 4118530; 610842, 4118528; 610864, 4118520; 610880, 4118508; 610899, 4118501; 610915, 4118487; 610914, 4118461; 610906, 4118446; 610889, 4118430; 610886, 4118417; 610902, 4118393; 610900, 4118367; 610896, 4118340; 610912, 4118330; 610934, 4118310; 610940, 4118282; 610932, 4118260; 610935, 4118251; 610949, 4118231; 610955, 4118207; 610957, 4118181; 610964, 4118176; 610991, 4118168; 610989, 4118152; 610992, 4118113; 611000, 4118109; 611019, 4118109; 611041, 4118121; 611066, 4118127; 611096, 4118122; 611114, 4118125; 611160, 4118145; 611185, 4118147; 611220, 4118143; 611254, 4118124; 611259, 4118093; 611250, 4118046; 611250, 4118012; 611247, 4117972; 611255, 4117966; 611276, 4117974; 611292, 4117975; 611331, 4117963; 611374, 4117922; 611421, 4117919; 611446, 4117915; 611462, 4117908; 611475, 4117891; 611511, 4117839; 611533, 4117814; 611554, 4117805; 611567, 4117772; 611556, 4117741; 611560, 4117712; 611562, 4117677; 611517, 4117611; 611572, 4117536; 611578, 4117500; 611570, 4117478; 611547, 4117451; 611503, 4117429; 611458, 4117422; 611405, 4117439; 611323, 4117480; 611291, 4117518; 611268, 4117566; 611230, 4117618; 611169, 4117625; 611114, 4117642; 611070, 4117668; 611029, 4117753; 610965, 4117724; 610983, 4117689; 610930, 4117568; 610751, 4117496; 610716, 4117445; 610717, 4117413; 610569, 4117220; 610494, 4117222; 610412, 4117262; 610370, 4117294; 610350, 4117341; 610281, 4117354; 610220, 4117381; 610179, 4117413; 610146, 4117441; 610127, 4117492; 610058, 4117531; 609834, 4117339; 609819, 4117309; 609851, 4117273; 609864, 4117239; 609877, 4117207; 609909, 4117203; 609953, 4117196; 609972, 4117166; 609984, 4117137; 610018, 4117122; 610053, 4117096; 610057, 4117069; 610042, 4117036; 610071, 4116966; 610146, 4116960; 610163, 4116923; 610160, 4116866; 610192, 4116829; 610241, 4116817; 610277, 4116801; 610280, 4116771; 610316, 4116759; 610333, 4116735; 610363, 4116715; 610406, 4116666; 610441, 4116619; 610471, 4116617; 610485, 4116593; 610463, 4116565; 610449, 4116508; 610398, 4116453; 610395, 4116401; 610255, 4116374; 609331, 4116659; 609272, 4116667; 609248, 4116696; 609243, 4116729; 609191, 4116694; 609145, 4116674; 609088, 4116665; 609059, 4116677; 609041, 4116735; 609019, 4116789; 609017, 4116848; 609010, 4116900; 608968, 4116871; 608980, 4116797; 608957, 4116761; 608908, 4116728; 608866, 4116734; 608828, 4116732; 608794, 4116709; 608767, 4116723; 608748, 4116706; 608763, 4116671; 608754, 4116626; 608731, 4116590; 608689, 4116582; 608642, 4116574; 608613, 4116607; 608583, 4116601; 608575, 4116571; 608535, 4116577; 608484, 4116576; 608459, 4116586; 608478, 4116635; 608495, 4116666; 608516, 4116692; 608507, 4116721; 608505, 4116759; 608505, 4116799; 608459, 4116780; 608429, 4116789; 608419, 4116757; 608374, 4116778; 608343, 4116816; 608330, 4116894; 608294, 4116905; 608267, 4116941; 608227, 4116912; 608170, 4116888; 608147, 4116869; 608125, 4116829; 608082, 4116819; 608044, 4116792; 608034, 4116830; 608046, 4116879; 608067, 4116945; 607973, 4116962; 607862, 4116986; 607811, 4117004; 607575, 4116987; 607512, 4116967; 607477, 4116922; 607403, 4116908; 607360, 4116925; 607286, 4116951; 607235, 4116993; 607189, 4117053; 607163, 4117101; 607132, 4117110; 607087, 4117095; 607056, 4117114; 607035, 4117167; 607011, 4117226; 606971, 4117268; 606961, 4117348; 606973, 4117424; 607013, 4117456; 607020, 4117494; 606999, 4117576; 606544, 4118248; 606457, 4118180; 606425, 4118183; 606179, 4118071; 605401, 4118117; 605247, 4118180; 605053, 4118269; 604965, 4118348; 605178, 4118600; 604548, 4118947; 604625, 4119145; 604788, 4119569; 604936, 4119955; 604817, 4119974; 604817, 4120089; 604555, 4120119; 604414, 4120139; 604263, 4120151; 604157, 4120145; 604024, 4120117; 603930, 4120140; 603827, 4120202; 603692, 4120233; 603621, 4120283; 603584, 4120418; 603491, 4120502; 603421, 4120536; 603323, 4120533; 603257, 4120527; 603186, 4120531; 603061, 4120582; 603033, 4120676; 602970, 4120751; returning to 602892, 4120825.

(ii) Note: Unit 7 for bay checkerspot butterfly is depicted on Map 6 in paragraph (15)(ii) of this entry.

(13) Unit 8 for bay checkerspot butterfly: Calero Reservoir, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 8: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 605493, 4116867; 605661, 4116896; 605718, 4116853; 605799, 4116844; 605856, 4116923; 605938, 4116906; 606045, 4116752; 606122, 4116520; 606156, 4116383; 606165, 4116288; 606051, 4116182; 606069, 4116127; 606132, 4116039; 606177, 4116025; 606230, 4116083; 606269, 4115997; 606336, 4116015; 606337, 4115938; 606300, 4115931; 606262, 4115861; 606326, 4115838; 606387, 4115849; 606433, 4115829; 606519, 4115734; 606574, 4115740; 606867, 4115901; 606937, 4115907; 606994, 4115890; 607043, 4115856; 607081, 4115818; 607068, 4115755; 607090, 4115693; 607144, 4115664;

607241, 4115643; 607290, 4115588; 607342, 4115554; 607159, 4115391; 607119, 4115368; 607073, 4115389; 607047, 4115495; 606903, 4115584; 606837, 4115586; 606861, 4115560; 606919, 4115549; 606944, 4115530; 606950, 4115482; 606978, 4115469; 606996, 4115393; 606975, 4115370; 606902, 4115402; 606901, 4115371; 606921, 4115339; 606904, 4115306; 606880, 4115337; 606861, 4115296; 606876, 4115251; 606935, 4115241; 606958, 4115263; 606986, 4115195; 607026, 4115199; 607027, 4115255; 607060, 4115266; 607082, 4115207; 607089, 4115149; 607179, 4115149; 607266, 4115115; 607415, 4115156; 607464, 4115136; 607555, 4115164; 607716, 4115136; 607712, 4115003; 607657, 4114850; 607604, 4114753; 607518, 4114686; 607611, 4114702; 607791, 4114919; 607826, 4114984; 607808, 4115366; 607972, 4115293; 608186, 4115186; 608470, 4115055; 608850, 4114830; 608992, 4114854; 609129, 4114812; 609117, 4115020; 608880, 4115233; 608512, 4115397; 608059, 4115492; 608029, 4115644; 607959, 4115592; 607880, 4115595; 607966, 4115726; 608052, 4115817; 608155, 4115878; 608258, 4115908; 608358, 4115910; 608437, 4115938; 608556, 4115906; 608545, 4115971; 608608, 4115990; 608682, 4115957; 608750, 4115901; 608776, 4115906; 608815, 4115934; 608892, 4115927; 608946, 4115873; 608948, 4115826; 608906, 4115731; 608967, 4115710; 609032, 4115647; 609481, 4115100; 609477, 4115025; 609577, 4114951; 609821, 4114856; 609866, 4114711; 609880, 4114582; 610030, 4114486; 610081, 4114398; 610120, 4114330; 610159, 4114322; 610155, 4114287; 610124, 4114240; 610287, 4114038; 610327, 4113965; 610319, 4113865; 610257, 4113742; 610202, 4113705; 610079, 4113729; 609993, 4113754; 609891, 4113813; 609798, 4113845; 609735, 4113885; 609737, 4113963; 609663, 4114035; 609563, 4114088; 609524, 4114248; 609455, 4114356; 609212, 4114403; 609004, 4114676; 608945, 4114439; 608774, 4114422; 608635, 4114302; 608547, 4114164; 608453, 4113729; 608135, 4113470; 608079, 4113433; 608043, 4113356; 608038, 4113230; 608012, 4113254; 607980, 4113238; 607947, 4113270; 607907, 4113243; 607855, 4113282; 607814, 4113362; 607802, 4113545; 607694, 4113606; 607526, 4113700; 607691, 4113754; 607691, 4114069; 607465, 4114176; 607326, 4114660; 606930, 4114755; 606709, 4114597; 606401, 4114641; 606250, 4114805; 605916, 4114924; 605715, 4115195; 605293, 4115604; 605224, 4115604; 605180, 4115755; 605224, 4115869; 605035, 4116101; 605042, 4116215; 605067, 4116309; 605123, 4116366; 605229, 4116454; 605338, 4116598; 605387, 4116705; returning to 605493, 4116867.

(ii) Note: Unit 8 for bay checkerspot butterfly is depicted on Map 6 in paragraph (15)(ii) of this entry.

(14) Unit 9 for bay checkerspot butterfly: Kalana Hills, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Subunit 9A: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 612463, 4115364; 612548, 4115283; 612611, 4115228; 612581, 4115190; 612560, 4115157; 612725, 4114962; 612697, 4114924; 612640, 4114916; 612512, 4114806; 612469, 4114770; 612456, 4114706; 612331, 4114635; 612276, 4114621; 612159, 4114668; 612036, 4114796; 611975, 4114842; 611928, 4114901; 611857, 4114927; 611811, 4114924; 611806, 4115198; 611735, 4115382; 611703, 4115487; 611772, 4115526; 611741, 4115600; 611742, 4115605; 612028, 4115820; returning to 612463, 4115364.

(ii) Subunit 9B: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 613292, 4114458; 613477, 4114328; 613645, 4114236; 613859, 4114112; 613800, 4114081; 613704, 4114080; 613628, 4114115; 613585, 4114092; 613570, 4114010; 613464, 4114059; 613430, 4114072; 613412, 4114118; 613349, 4114160; 613257, 4114211; 613194, 4114197; 613162, 4114145; 613100, 4114181; 613139, 4114270; 613039, 4114320; 612961, 4114257; 612887, 4114301; 612805, 4114303; 612782, 4114273; 612765, 4114285; 612767, 4114321; 612781, 4114386; 612835, 4114456; 612806, 4114528; 612760, 4114555; 612828, 4114608; 612909, 4114620; 613022, 4114548; 613029, 4114509; 612967, 4114492; 612953, 4114422; 612990, 4114368; 613090, 4114360; 613112, 4114463; 613178, 4114499; returning to 613292, 4114458.

(iii) Note: Unit 9 for bay checkerspot butterfly is depicted on Map 6 in paragraph (15)(ii) of this entry.

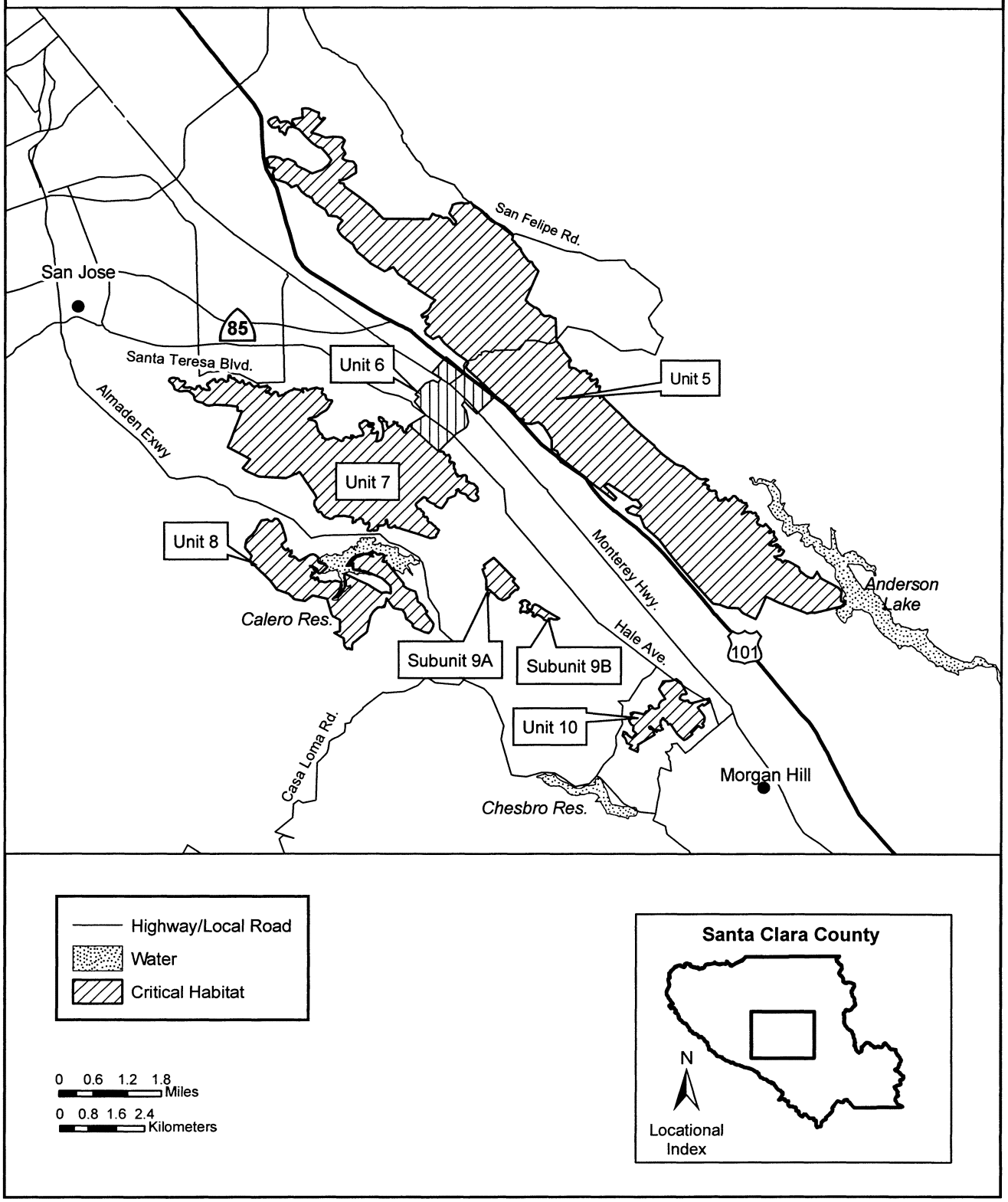
(15) Unit 10 for bay checkerspot butterfly: Morgan Hill, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Unit 10: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 617448, 4111989; 617422, 4111978; 617343, 4111978; 617295, 4111947; 617252, 4111862; 617269, 4111828; 617405, 4111774; 617445, 4111797; 617501, 4111797; 617512, 4111746; 617589, 4111729; 617733, 4111766; 618083, 4111853; 618116, 4111766; 618023, 4111705; 617936, 4111647; 617899, 4111684; 617764, 4111596; 617933, 4111368; 617964, 4111303; 617953, 4111188; 617891, 4111138; 617937, 4111083; 617919, 4111040; 617865, 4111014; 617798, 4111069; 617586, 4110876; 617618, 4110838; 617504, 4110738; 617459, 4110704; 617380, 4110673; 617197, 4110835; 617009, 4111119; 616981, 4111133; 616936, 4111110; 616925, 4111147; 616908, 4111187; 616885, 4111204; 616843, 4111232; 616817, 4111274; 616809, 4111303; 616781, 4111297; 616758, 4111257; 616724, 4111221; 616713, 4111159; 616744, 4111088; 616724, 4111060; 616730, 4111037; 616789, 4110983; 616702, 4110933; 616668, 4110952; 616620, 4110952; 616611, 4110901; 616436, 4111062; 616394, 4111037; 616410, 4110989; 616472, 4110988; 616532, 4110930; 616523, 4110872; 616555, 4110831; 616077, 4110537; 616073, 4110327; 615914, 4110402; 615846, 4110431; 615912, 4110524; 615761, 4110576; 615745, 4110646; 615715, 4110728; 615645, 4110790; 615684, 4110906; 615779, 4110867; 615779, 4110825; 615918, 4110725; 616038, 4110856; 615936, 4110930; 615947, 4111077; 615894, 4111105; 615830, 4111216; 615902, 4111306; 615866, 4111429; 615933, 4111449; 616044, 4111449; 616147, 4111428; 616225, 4111410; 616275, 4111430; 616313, 4111483; 616368, 4111489; 616399, 4111520; 616394, 4111579; 616380, 4111625; 616430, 4111650; 616484, 4111622; 616498, 4111585; 616555, 4111562; 616671, 4111591; 616659, 4111653; 616685, 4111715; 616741, 4111780; 616846, 4111829; 616677, 4112120; 616760, 4112261; 616792, 4112343; 617011, 4112356; 617160, 4112394; 617286, 4112306; 617433, 4112045; returning to 617448, 4111989.

(ii) Note: Map of Units 5, 6, 7, 8, 9, and 10 for bay checkerspot butterfly (Map 6) follows:

BILLING CODE 4310–55–P

Map 6. Critical Habitat Units 5, 6, 7, 8, 9, 10 for the Bay Checkerspot Butterfly



(16) Unit 11 for bay checkerspot butterfly: Bear Ranch, Santa Clara County, California. From USGS 1:24,000 scale quadrangle Gilroy.

(i) Unit 11: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 627973, 4108674; 627997, 4108657; 628036, 4108657; 628517, 4109013; 628547, 4108986; 628569, 4108953; 628609, 4108899; 628654, 4108810; 628675, 4108776; 628697, 4108753; 628708, 4108717; 628701, 4108687; 628683, 4108668; 628708, 4108618; 628719, 4108578; 628726, 4108557; 628743, 4108538; 628759, 4108514; 628766, 4108489; 628774, 4108448; 628776, 4108413; 628784, 4108394; 628817, 4108358; 628831, 4108330; 628826, 4108298; 628807, 4108267; 628805, 4108252; 628827, 4108246; 628860, 4108239; 628888, 4108215; 628898, 4108190; 628894, 4108156; 628900, 4108135; 628887, 4108097; 628904, 4108060; 628979, 4108058; 629013, 4108041; 629055, 4108005; 629077, 4107951; 629088, 4107915; 629087, 4107847; 629078, 4107807; 629067, 4107784; 629066, 4107756; 629091, 4107733; 629173, 4107654; 629175, 4107635; 629169, 4107615; 629169, 4107587; 629179, 4107557; 629175, 4107530; 629168, 4107503; 629165, 4107484; 629171, 4107459; 629187, 4107421; 629189, 4107417; 629202, 4107391; 629194, 4107359; 629201, 4107321; 629205, 4107280; 629212, 4107231; 629207, 4107184; 629180, 4107141; 629074, 4107086; 628673, 4107122; 628603, 4107130; 628601, 4107162; 628573, 4107168; 628532, 4107165; 628503, 4107198; 628506, 4107272; 628469, 4107287; 628445, 4107329; 628430, 4107404; 628394, 4107391; 628343, 4107380; 628308, 4107377; 628283, 4107408; 628271, 4107440; 628262, 4107475; 628245, 4107455; 628210, 4107426; 628174, 4107460; 628124, 4107465; 628093, 4107495; 628053, 4107491; 628029, 4107548; 628013, 4107667; 628012, 4107711; 627993, 4107768; 627991, 4107794; 628009, 4107788; 628016, 4107820; 628005, 4107861; 628010, 4107889; 628036, 4107929; 628033, 4107940; 628018, 4107951; 628013, 4107968; 628015, 4108010; 627996, 4108039; 627986, 4108074; 627971, 4108126; 627966, 4108194; 627951, 4108213; 627936, 4108263; 627899, 4108298; 627893, 4108347; 627914, 4108383; 627912, 4108399; 627808, 4108571; 627781, 4108644; 627779, 4108668; 627787, 4108683; 627818, 4108682; 627856, 4108676; 627906, 4108689; 627933, 4108694; returning to 627973, 4108674.

(ii) Note: Map of Unit 11 for bay checkerspot butterfly (Map 7) follows:

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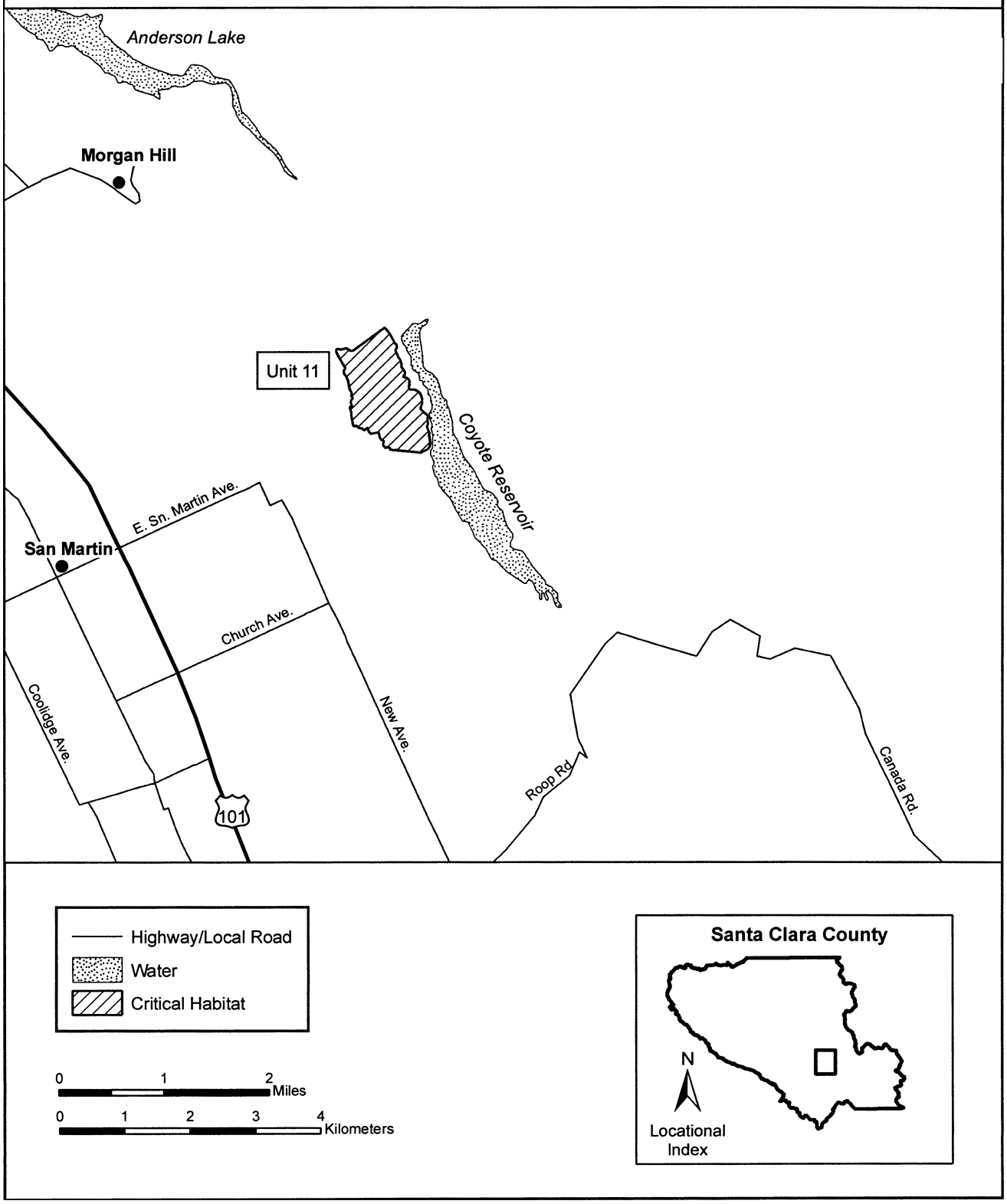
Map 7. Critical Habitat Unit 11 for the Bay Checkerspot Butterfly



(17) Unit 12 for bay checkerspot butterfly: San Martin, Santa Clara County, California. From USGS 1:24,000 scale quadrangles Mt. Madonna and Gilroy.

(i) Unit 12: Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 622117, 4104697; 622143, 4104673; 622172, 4104651; 622221, 4104573; 622271, 4104488; 622281, 4104444; 622254, 4104303; 622265, 4104278; 622317, 4104276; 622354, 4104249; 622389, 4104240; 622423, 4104196; 622439, 4104145; 622461, 4104090; 622457, 4104054; 622432, 4104015; 622411, 4103941; 622393, 4103859; 622404, 4103809; 622421, 4103769; 622421, 4103689; 622441, 4103649; 622487, 4103631; 622538, 4103599; 622557, 4103529; 622591, 4103461; 622575, 4103406; 622538, 4103358; 622441, 4103346; 622399, 4103363; 622352, 4103322; 622274, 4103300; 622206, 4103304; 622098, 4103341; 622020, 4103370; 621920, 4103382; 621843, 4103390; 621812, 4103362; 621779, 4103365; 621739, 4103372; 621700, 4103404; 621682, 4103449; 621705, 4103496; 621667, 4103560; 621569, 4103489; 621509, 4103489; 621463, 4103477; 621464, 4103459; 621411, 4103467; 621348, 4103472; 621288, 4103477; 621223, 4103476; 621183, 4103476; 621127, 4103476; 621079, 4103490; 621030, 4103508; 620988, 4103525; 620973, 4103571; 620996, 4103623; 621025, 4103666; 621055, 4103695; 621076, 4103707; 621079, 4103733; 621087, 4103764; 621112, 4103805; 621046, 4103796; 621009, 4103805; 620979, 4103791; 620922, 4103774; 620887, 4103775; 620871, 4103811; 620845, 4103873; 620806, 4103922; 620751, 4103944; 620702, 4103984; 620679, 4103961; 620627, 4103961; 620593, 4103979; 620591, 4104020; 620568, 4104053; 620542, 4104032; 620509, 4104030; 620482, 4104039; 620450, 4104073; 620393, 4104116; 620330, 4104174; 620283, 4104200; 620255, 4104240; 620230, 4104262; 620197, 4104288; 620191, 4104325; 620193, 4104362; 620203, 4104399; 620176, 4104412; 620126, 4104472; 620132, 4104499; 620211, 4104578; 620245, 4104578; 620329, 4104574; 620440, 4104541; 620510, 4104492; 620543, 4104480; 620529, 4104405; 620612, 4104386; 620646, 4104431; 620657, 4104489; 620672, 4104509; 620728, 4104541; 620794, 4104556; 620852, 4104539; 620909, 4104525; 620931, 4104568; 620942, 4104598; 620946, 4104627; 620968, 4104627; 620988, 4104586; 621013, 4104556; 621034, 4104566; 621046, 4104621; 621098, 4104634; 621083, 4104537; 621176, 4104528; 621262, 4104540; 621334, 4104549; 621398, 4104575; 621488, 4104622; 621559, 4104617; 621598, 4104563; 621688, 4104533; 621739, 4104536; 621811, 4104464; 621836, 4104417; 621908, 4104391; 621947, 4104386; 621930, 4104434; 621900, 4104474; 621915, 4104511; 621952, 4104544; 622003, 4104529; 622034, 4104556; 622021, 4104585; 622011, 4104596; 622029, 4104622; 622038, 4104647; 622064, 4104649; 622094, 4104646; 622113, 4104680; returning to 622117, 4104697.

(ii) Note: Map of Unit 12 for bay checkerspot butterfly (Map 8) follows:

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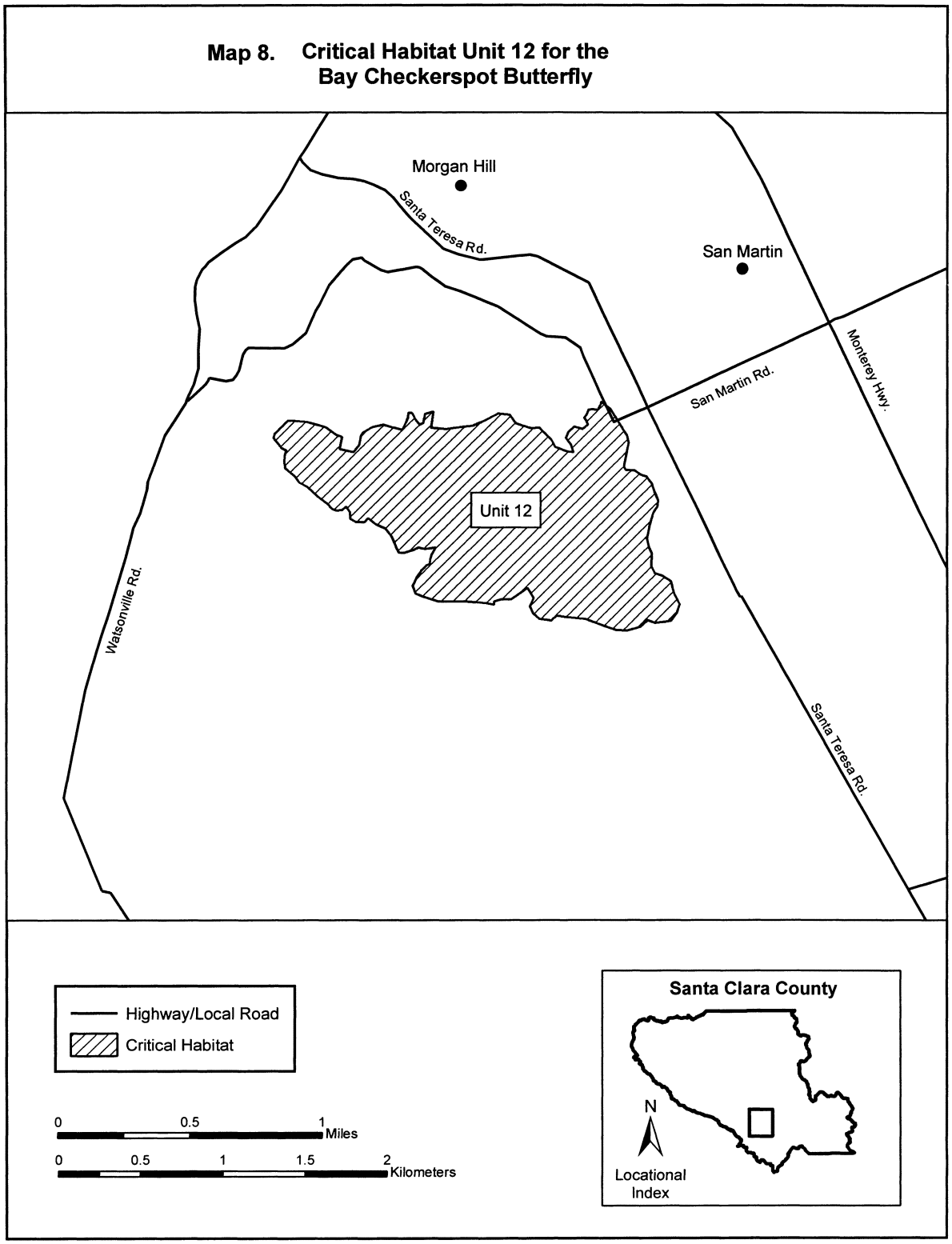

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Dated: August 13, 2007.

Todd Willens,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 07–4060 Filed 8–21–07; 8:45 am]

BILLING CODE 4310–55–C