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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*); Final Rule

DEPARTMENT OF THE INTERIOR

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[FWS-R8-ES-2008-0034; 92210-1117-0000-B4]

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: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are designating revised critical habitat for the Bay checkerspot butterfly (*Euphydryas editha bayensis*) under the Endangered Species Act of 1973, as amended (Act). In total, approximately 18,293 acres (ac) (7,403 hectares (ha)) fall within the boundaries of the revised critical habitat designation for the Bay checkerspot butterfly. The revision to critical habitat is located in San Mateo and Santa Clara Counties, California. This final revised designation therefore constitutes a reduction of 1,453 ac (588 ha) from our 19,746 ac (7,990 ha) proposed revised designation of critical habitat for the Bay checkerspot butterfly published on August 22, 2007.

DATES: This rule becomes effective on September 25, 2008.

ADDRESSES: The final rule, final economic analysis, and map of critical habitat will be available on the Internet at *http://www.regulations.gov* and *http://www.fws.gov/sacramento*. Comments and materials received, as well as supporting documentation used in the preparation of this final rule, are available for public inspection, by appointment, during normal business hours, at the Sacramento Fish and Wildlife Office, 2800 Cottage Way, Suite 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. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Background

This final rule addresses revised critical habitat for the Bay checkerspot butterfly. For additional information on the taxonomy, biology, and ecology of the Bay checkerspot butterfly, refer to the final listing rule and revised proposed critical habitat rule published in the **Federal Register** on September 18, 1987 (52 FR 35366) and August 22, 2007 (72 FR 48178), respectively. It is our intention to discuss only those topics directly relevant to the revised designation of critical habitat in this final rule.

Previous Federal Actions

On April 30, 2001 (66 FR 21450), we published a final rule designating approximately 23,903 ac (9,673 ha) of critical habitat for the Bay checkerspot butterfly 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 the 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 applicable law. In addition, the settlement stipulated that a revised proposed rule be submitted for publication on or before August 14, 2007, and a final revised rule be submitted for publication on or before August 14, 2008. This final designation is being completed and published in the **Federal Register** in compliance with that settlement agreement. On August 22, 2007 (72 FR 48178), we published a revised proposed rule to designate approximately 19,746 ac (7,990 ha) in San Mateo and Santa Clara Counties, California. On April 15, 2008 (73 FR 20237), we published a draft economic analysis (DEA) for the proposed rule to revise critical habitat.

Summary of Comments and Recommendations

We requested written comments from the public on the proposed rule to revise critical habitat for the Bay checkerspot butterfly and the associated DEA. During the comment period, we requested all interested parties to submit comments or information related to the proposed revision to the critical habitat designation, including, but not limited to, the following: information regarding dispersal areas, species occurrence information (specifically recent occupancy of the Pulgas Ridge Unit) and distribution, land use designations that may affect critical habitat, potential economic effects of the proposed designation, benefits associated with critical habitat designation, areas considered for exclusion, and the inclusion of water sources as a primary constituent element (PCE).

We also contacted appropriate Federal, State, and local agencies; scientific organizations; and other interested parties and invited them to comment on the revised proposed rule and the associated DEA. The comment period for the revised proposed rule opened on August 22, 2007, and closed on October 22, 2007. During the comment period for the revised proposed rule, we received eight comment letters on the proposed revised critical habitat designation and DEA: three from peer reviewers, two from local governments, and three from organizations or individuals. We received no comments from State or Federal agencies. The comment period for the DEA opened on April 15, 2008, and closed on May 15, 2008. We received two comment letters and no requests for public hearings.

Comments and new information received in response to the revised proposed rule that were relevant to the final designation were incorporated in the final rule as appropriate and are summarized below.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from seven knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from three of the peer reviewers. The peer reviewers were generally supportive of the designation of critical habitat.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding critical habitat for the Bay checkerspot butterfly. All comments received were grouped into general issue categories relating to the proposed rule to revise critical habitat for the Bay checkerspot butterfly and are addressed in the following summary and incorporated into this final revised rule as appropriate.

Peer Reviewer Comments

In general, all three peer reviewers supported the revised critical habitat designation. However, two peer reviewers questioned whether some

units were ''critical.'' One peer reviewer stated that the background information was comprehensive and reflected the decade's worth of research on the butterfly and that the accounts on nitrogen deposition and topographic effects are good summaries. One peer reviewer felt that using both currently occupied and historically occupied habitats was a good inclusive decision and effectively covered any remaining suitable habitat. Individual peer comments are listed below.

Comment 1: One peer review suggested that the designation of ''primary'' and ''secondary'' host plants implies that eggs are always laid on *Plantago erecta*. The reviewer indicated that their work on the Bay checkerspot butterfly suggests that this is true in some places such as at Jasper Ridge; however, at Edgewood approximately 70 percent of oviposition occurred on *Castilleja* and that in the 1980s, approximately 20 percent of oviposition at Kirby Canyon (the southern portion of Coyote Ridge) occurred on *Castilleja*.

Our Response: The comment is noted and clarification has been provided to indicate that ''primary'' refers to the host plant species that is used most frequently for oviposition, although not exclusively. Please see the ''Primary Constituent Elements'' section under ''Food'' for more information.

Comment 2: One peer reviewer noted that the evidence for repeat diapause is more robust than is noted in the literature. The commenter stated that several persons had observed repeat diapause by this insect, although he was not aware if larvae were capable of multiyear diapause without the opportunity to feed in-between years.

Our Response: We have added the peer reviewer's personal observations of multiple diapauses to this final rule in the ''Primary Constituent Elements'' section under ''Cover.''

Comment 3: One peer reviewer confirmed the use of water or ''puddling'' behavior described by Launer *et al*. (1993) in the Bay checkerspot butterfly. The peer reviewer also noted having observed puddling by both sexes of other Edith's checkerspots (*Euphydryas editha* spp.). However, he also noted that while puddling could extend an adult's lifespan, female Bay checkerspot butterflies were still likely to be able to lay most of their eggs under dry conditions if they still had access to nectar sources.

A second reviewer stated that while he had documented ''puddling'' in the Bay checkerspot butterfly and the use of water was interesting, it was not a significant finding. Further, the peer reviewer stated that water should not be considered when evaluating habitat quality for the Bay checkerspot butterfly.

A third peer reviewer stated the need for aquatic features is too strong and that the Bay checkerspot butterfly will use water when needed and available during drought years.

Our Response: Based on the above comments from peer reviewers, the Service has removed aquatic features as a PCE in this final rule. For more information, see the ''Primary Constituent Elements'' section of this final rule. Because all of the units designated contain all of the remaining PCEs identified in the proposed rule, the removal of aquatic features as a PCE did not affect the overall designation of critical habitat.

Comment 4: One peer reviewer questioned the utility of providing a list of grassland plant species and noted that an attempt to do so would likely result in a long list. However, he noted that, if a list is to be provided, that Italian ryegrass (*Lolium multiflorum)* should be included.

Our Response: The Service attempted to provide a list of plant species commonly found in open grasslands in California. The list of grassland species was not meant to be exhaustive or to represent species that the Bay checkerspot butterfly depends on. Since Italian ryegrass is commonly found in grasslands in California, the Service will add it to the list of species that commonly occur in grassland habitats in California.

Comment 5: One peer reviewer provided the following information regarding fire and prescribed burns: (1) Late spring burns reduce annual grass and increase native forbs for 1 to 2 years post burn, and in Santa Clara County grass reinvades quickly in the absence of grazing such that 3 to 4 years post burn the habitat is again dominated by annual grass; (2) fall burns reduce grass thatch but are not effective in reducing annual grass in subsequent years; (3) diapausing larvae can survive fire (in winter of 2007 and 2008, larvae were found in areas burned the previous spring and summer); (4) spring fires to control barbed goatgrass will be an essential management tool; (5) thatch removal by spring and fall burns are effective initially but must be followed by grazing to be effective in the long term; and (6) positive effects from burns will likely last longer in areas with lower nitrogen deposition (San Mateo County).

Our Response: The Service has incorporated the information provided regarding fire (from the Metcalf Center Energy reports CH2M Hill 2005, 2006, and 2008) into this final rule. Please see the ''Special Management Considerations or Protections'' section below for more information.

Comment 6: One peer reviewer provided the following comments regarding potential adverse modification of critical habitat: (1) Small scale disturbances in serpentine grasslands generally do not pose a risk to Bay checkerspot butterfly populations; (2) the section regarding short-term mortality from grazing and fire should be clarified to state that the negative effects of fire and grazing are significantly outweighed by the positive benefit to the Bay checkerspot butterfly; (3) removal of grazing provides one of the biggest threats to the subspecies; (4) nitrogen disposition is the current greatest threat; and (5) pesticides inappropriately applied could cause local negative effects.

Our Response: We have provided clarification in this final rule regarding the beneficial effects of grazing and fire to the Bay checkerspot butterfly's habitat. Please see the ''Special Management Considerations or Protections'' section below for more information.

Comment 7: One peer reviewer stated that data regarding host plant density might be available from The Howard Mooney Lab at Stanford University.

Our Response: The Service attempted to contact researchers with the Howard Mooney Lab but did not receive a reply.

Comment 8: One peer reviewer stated that while he was part of the group that promoted the Bay checkerspot butterfly as a metapopulation species, much of the information necessary to characterize the species as such is not well known. As an example, the peer reviewer stated that extinction and recolonization events, rates of long-distance dispersal, and the number of individuals required to establish new populations are not well known. Finally, the peer reviewer stated that the Bay checkerspot butterfly's metapopulation is ''not well known or as elucidated as it is sometimes portrayed (Launer 2008 p. 1).''

Our Response: The Service is aware that the exact nature of the Bay checkerspot butterfly's population dynamics is highly complex and that long-distance dispersal, extinction or recolonization rates, and the threshold of individuals required to establish or re-establish a population is not well documented. The Service took a conservative approach in designating critical habitat partly because of the lack of data available regarding dispersal and recolonization rates. We only designated areas that had documented occurrences

of the Bay checkerspot butterfly. We did not designate all areas within the range of the Bay checkerspot butterfly that could support the species, partly because of lack of data regarding the dispersal capabilities of the subspecies, number of individuals required to establish new populations, and the minimum size necessary to support a population. For additional information, please see the ''Criteria Used to Identify Critical Habitat'' section of this rule. In addition, we lacked occurrence data for sites outside those we designated as critical habitat; sites that were not occupied at the time of listing or since listing did not meet our criteria for designating critical habitat.

Comment 9: One peer reviewer believes that all conservation planning in the region (including critical habitat designations) should be aware of the unstable nature of the habitat in these areas. The conditions present today may not persist into the next quarter and half century; this is particularly true of the distribution of the Bay checkerspot butterfly and the apparent acceleration of climate change. The reviewer also stated that as much topographic diversity and geographic range should be included in the designation as possible.

Our Response: A current trend in conservation biology is the use of adaptive management. Adaptive management is a mechanism by which resource managers acknowledge the uncertainty of the effects of various management actions in addition to the often rapidly changing nature of the resource they are trying to manage. The Service is aware of the ongoing and often rapid changes in the environment that occur throughout the range of the Bay checkerspot butterfly. Because of the uncertainty in managing lands in the foreseeable future, many lands that have been set aside for the conservation of listed species, including the Bay checkerspot butterfly, now include an adaptive management component. While the amount of land within individual conservation areas is generally static, adaptive management should provide resource managers with the framework required to cope with a changing landscape. In addition, if the Service determines in the future that the designated area no longer meets the definition of critical habitat, we will consider proposing a revision to the critical habitat designation at that time or when our resources allow.

Please see the ''Criteria Used to Identify Critical Habitat'' section in regards to the comment that topographic diversity and geographic range should be included in the designation where possible, The Service only designated areas that had documented occurrences of the Bay checkerspot butterfly. We did not designate all areas within the range of the Bay checkerspot butterfly that could support the species, partly because of lack of data regarding the dispersal capabilities of the subspecies, number of individuals required to establish new populations, and the minimum size necessary to support a population.

Comment 10: One peer reviewer reiterated the fact that Bay checkerspot butterfly population levels fluctuate widely from one year to the next. In addition, the reviewer stated that while interesting, the number of individuals present at a given site in a given year is misleading and that multi-year trends are useful in conservation planning, but are much less available.

Our Response: The Service recognizes that the number of individuals in a single year does not adequately reflect the overall health of the population within a given unit due to the population dynamics of the species and its tendency towards wide swings in number of individuals. However, when evaluating the population status of a species, it is incumbent on the Service to use the best data available. While the reviewer correctly pointed out that long multi-year population data for this species are not available for many of the units, multi-year population trends are available for some of the units (i.e., those along Coyote Ridge). In other units, only single year assessments are available. Our designation of critical habitat for the Bay checkerspot butterfly is based on the best scientific information available.

Comment 11: One peer reviewer noted that almost all of the units include some area of nonserpentine soil and that these areas should probably be expanded in several units. The commenter also noted that, while these areas of nonserpentine soils do not support host plant densities sufficient to support checkerspot larvae, the adults do fly through these areas and it is important not to disrupt dispersal routes. The peer reviewer noted that while dispersal routes are not well documented for the Bay checkerspot butterflies, they are known to fly through nonserpentine areas, along ridgelines, and between close patches of suitable habitat if intervening habitats have not been overly modified.

Our Response: All units support all the PCEs, although each PCE is not evenly distributed throughout each unit. For example, within each unit all PCEs are present, but PCE 2 (larval host plants) may only be present in scattered patches and the exact distribution of PCE 2 (and PCE 3, adult nectar plants) changes from one year to the next. The fluctuation in host plant distribution made it impossible to base unit boundaries solely on PCE 2 or PCE 3. Larger areas of grassland habitat around larval host and adult nectar plants were included within unit boundaries, because they support PCEs 1, 3, 4, and 5. Therefore, independent of facilitating dispersal between patches of larval host and adult nectar plants, grasslands within units provide features essential to the conservation of the Bay checkerspot butterfly. As the peer reviewer noted, specific dispersal corridors have not been well documented (either within units or between units) for the Bay checkerspot butterfly. Since exact routes between units are unknown, the Service selected units occupied at listing or currently occupied with PCEs that were within the known dispersal distance of the species.

Comment 12: One peer reviewer stated that even though the San Bruno Mt. Unit (Unit 1) is potentially a valuable site, very little habitat for the species remains (in part due to succession of plant communities and continued invasion by nonnative species) in the unit and it is not within ''easy butterfly dispersal distance'' (Launer 2008) or other recently occupied habitat. In light of this information the peer reviewer felt a re-evaluation of what is possible with respect to Bay checkerspot butterfly habitat in San Mateo County should be conducted and that it is possible attention should focus on the other three units in the County.

A second reviewer stated the current distribution of habitat on San Bruno Mt. is poorly known and detailed surveys should be done. The peer reviewer also stated that dispersal between the Pulgas Ridge Unit and San Bruno Mt. is unlikely and should not be counted on as part of the population–metapopulation process. Finally, the peer reviewer stated that the exclusion of San Bruno Mt. appeared reasonable, although the site should be explored for potential reintroductions.

Our Response: The Service proposed the San Bruno Mt. Unit (Unit 1) for exclusion for several reasons, including: (1) The large distance between the unit and the other units in San Mateo County and the lack of adequate information regarding suitable intervening habitat; (2) the Bay checkerspot butterfly has not been observed on San Bruno Mt. since the mid 1980s despite repeated surveys; (3) much of San Bruno Mt. is protected under a habitat conservation plan

(HCP); and (4) Amendment 5 of the San Bruno Mountain Habitat Conservation Plan (SBMHCP) would add the Bay checkerspot as a covered species and provide an endowment for continued management actions within the HCP boundaries. Furthermore, the unit is occupied by the endangered Callippe silverspot butterfly (*Speyeria callippe callippe*), endangered Mission blue butterfly (*Icaricia icarioides missionensis*), and the endangered San Bruno elfin (*Callophyrs mossii bayensis*), and management of the unit for these species would likely be the same as for the Bay checkerspot butterfly; there would not likely be any additional benefits of designating the area as critical habitat for the Bay checkerspot butterfly.

At the time of the publication of the proposed rule, we expected Amendment 5 to the SBMHCP, which would include coverage specific to the Bay checkerspot butterfly, to have been finalized prior to the publication of this final designation of critical habitat. As this amendment is not yet finalized as of the writing of the final rule, we re-evaluated the proposed exclusion of the SBMHCP from critical habitat and determined that not to exclude this area based on the record before us. (See ''Application of Section 4(b)(2) of the Act'').

In addition, we disagree with the peer reviewers that very little habitat remains for the Bay checkerspot butterfly on San Bruno Mt. or that the distribution of that habitat is unknown. According to the San Bruno Mountain Habitat Management Plan (2008 p. VIII-6), the host plants for the Bay checkerspot butterfly are still abundant on the mountain in isolated patches within and outside the 2001 designation of critical habitat.

Comment 13: One peer reviewer stated that the Pulgas Ridge Unit (Unit 2) was marginal habitat, but prior to fragmentation, encroachment of surrounding development, and continued invasion by nonnative plant species, the unit and surrounding area supported a large population of Bay checkerspot butterflies. The peer reviewer also stated that the Pulgas Unit, in conjunction with the Edgewood Park Unit (Unit 3) and the Jasper Ridge Unit (Unit 4), could be useful as a complex of habitat.

A second peer reviewer stated that little is known about the Pulgas Ridge Unit, except that it contains all the PCEs, is extensive, and has topography similar to the Edgewood Park Unit. The peer reviewer also reiterated his earlier comment that dispersal between Pulgas Ridge and San Bruno Mt. was unlikely given the dispersal tendencies of the subspecies and the lack of intervening habitat (high level of urbanization and lack of grasslands).

Our Response: The Service is aware that the Pulgas Ridge Unit will require restoration and management in order to reduce non-native plant species. However, all the units are assumed to require ongoing restoration and management activities in order to restore and maintain sufficient habitat to support the Bay checkerspot butterfly, primarily due to the continued threat of nonnative plant species. The Service included the Pulgas Ridge Unit because the unit historically supported the subspecies, is in close proximity to the Edgewood Park Unit, where the subspecies was reintroduced in early 2007, and because a core population outside Santa Clara County is essential to the recovery of the subspecies. The viability of a population in San Mateo County is dependent on the population being self-sustaining. A single unit in San Mateo County is unlikely to support the metapopulation dynamics of the species and would likely ultimately fail.

Comment 14: With regard to the Edgewood Park Unit one peer reviewer said it should be viewed as essential to the recovery of the species because of its multiple subunits, topographic diversity, and ''ample expanse,'' but that the unit will need ongoing restoration to benefit the species.

A second peer reviewer stated that the Edgewood Park Unit was correctly identified in the proposed rule as the only potential core habitat remaining in San Mateo County, but the unit would need to be managed through rotational mowing for the time being. The reviewer also said that the reintroduction of the Bay checkerspot butterfly in 2007 was not as successful as anticipated (likely due to the extremely dry conditions in 2007). More precise information regarding the success of the introduction will be available after the 2008 flight season.

Our Response: Because the Edgewood Park Unit was occupied at the time of listing and continues to contain the PCEs essential to the conservation of the species, we agree with these peer reviewers that this unit should be designated as critical habitat.

Comment 15: One peer reviewer stated that there were two main problems with the Jasper Ridge Unit: (1) The serpentine grasslands within the biological preserve are relatively small, and (2) the preserve is managed by non-intervention. The reviewer also commented that the serpentine grassland present within the unit was in general in fair condition, with a few smaller sites of excellent quality habitat, but they are within a matrix of poor to marginal quality habitat. The peer reviewer believed that with active management Units 2, 3, and 4 could be essential to the recovery of the Bay checkerspot butterfly.

A second peer reviewer stated that the designation includes all suitable Bay checkerspot butterfly habitat within the unit, although it also includes surrounding woodlands, chaparral, and nonnative grasslands. Regarding dispersal to this unit from the Santa Clara County units, the peer reviewer stated the likelihood was extremely low.

Our Response: The Service agrees that the patches of serpentine soils within the unit are relatively small. However, the area of similar soil types within the unit encompasses the majority of the grasslands within the Biological Preserve. The unit supported multiple independent populations for several decades and we believe that in conjunction with Units 2 and 3, this unit is capable of supporting the subspecies again. In addition, we believe the unit is essential to maintaining a core population in San Mateo County, partly due to the low likelihood that individual Bay checkerspot butterflies would disperse from Santa Clara County.

The Service acknowledges that the primary focus of the Jasper Ridge Biological Preserve (JRBP), which encompasses Unit 3, is research and the preserve is not currently managed for any species, including protection of the Bay checkerspot butterfly; however, according to the 2004 draft Jasper Ridge Biological Preserve Strategic Plan (JRBP 2008, p. 1), species and habitat conservation is being proposed and these conservation efforts should be designed to include protection of habitat or individual species. Further, most units are not currently managed to benefit the Bay checkerspot butterfly, but still provide features essential to the conservation of the subspecies; Also, as noted above, the Service believes Unit 3 is necessary to support the metapopulation dynamics of the subspecies and to maintain a core population in San Mateo County independent of the Santa Clara County core population.

Comment 16: One peer reviewer noted that Unit 5 had only recently been referred to as ''Coyote Ridge'' and that historically it was known by many names. The peer reviewer recommended a more appropriate name for the unit be used. In addition, the reviewer stated the entire ridge from the northwest corner (Silver Creek Hills) to Anderson Reservoir Dam in the southeast, including the nonserpentine areas, is

essential for the continued persistence of the Bay checkerspot butterfly and that without it the subspecies would cease to exist. The reviewer supported the designation of this unit as critical habitat. The reviewer also believed that the unit should be expanded to include all nonserpentine areas along the ridge and an adequate buffer along the sides of the ridge.

The peer reviewer also noted there are likely more than four populations on Coyote Ridge 5 as indicated in the proposed rule and that the four mentioned represent the centers of classic study areas, but that multiple subpopulations or populations exist in each of the four historical centers.

A second peer reviewer also stated the unit was ''absolutely essential'' to the persistence of the Bay checkerspot butterfly. In addition, the reviewer believed the unit could be separated into multiple units, because some areas are separated by several kilometers of non-habitat. The reviewer also commented that the reduction in numbers of individuals in the Silver Creek population after 1992 was the result of removing grazing for a number of years. The reduction of the overall unit's population resulted from the combination of a series of poor weather and over-population of larvae in key areas, but that this likely represents natural fluctuations.

Our Response: The Service recognizes that proposed Unit 5 (final Units 5 and 13) has historically been identified by a variety of names, several of which were noted in the Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (Service 2001, p. II-178). We clarify the naming in this final rule by separating the unit into two units, based on a natural break in the habitat between the two. We have also added information in the unit descriptions stating that the four historical population centers are likely not the only populations that occur along the ridge.

The Service agrees with the peer reviewers regarding the importance of the entire ridge line. However, we disagree with one of the peer reviewers that additional areas should be designated as a buffer. The Service included almost all of the grassland on the southwest portion of the ridge up to U.S. Highway 101, with only a few exceptions (where there was existing development). On the north side of the ridge, the Service included all of the areas with serpentine or serpentine-like soils, with the exception of a few areas that were separated from the main ridgeline and were not grasslands (they were other habitat types). We did not include certain areas on the north side of the ridge, as explained below, based on specific information we received during preparation of the 2001 final critical habitat rule (i.e., information regarding lands owned by United Technology Corporation) as well as from numerous site visits to this unit.

We did not include grassland areas on nonserpentine or similar soils on the north side of the ridge because we believe these areas lack sufficient PCEs to support the Bay checkerspot butterfly. The Act defines critical habitat as (1) the specific areas within the geographic area occupied by a species, at the time of listing in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographic area occupied by a species at the time it is listed in accordance with section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. Buffer areas may serve to protect critical habitat units from encroachment by development, but these lands do not contain PCEs laid out in the appropriate quantity and spatial arrangement for the conservation of the species and therefore do not meet the regulatory definition of occupied critical habitat, nor have we concluded that such unoccupied buffer lands are essential to the conservation of the species. In addition, buffers were not a criterion used to designate critical habitat for the Bay checkerspot butterfly.

Comment 17: One peer reviewer stated that the Tulare Hill Unit (Unit 6) is valuable and provides a natural location for between ridge dispersal and he supported designation of the unit as critical habitat. In addition, the commenter stated that while habitat quality within the unit declined in the 1980s and 1990s, it has recently improved due to increased management and that unit wide management should be undertaken.

A second peer reviewer identified this unit as a key link across the Santa Clara Valley and its value in previous assessments has been underemphasized. The reviewer stated that, if managed properly, the unit would support a population in the thousands or more; however, habitat on the northern portion of the unit has been degraded due to lack of grazing, which underscores the importance of an adequate grazing plan.

Our Response: The Service agrees that the Tulare Hill Unit provides an essential link between the east and west portions of the valley and serves as the most likely location for between ridge transfers of the Bay checkerspot butterfly. Without this unit Bay checkerspot butterflies' between-ridge movements are still possible, but would likely occur with much lower frequency. For species with a metapopulation dynamic, the successful colonization or recolonization of a site partly depends on the rate of colonization vs. the rate of extinction. Colonization must occur more often than extinction events for a site to remain occupied. Therefore, the inclusion of the Tulare Hill Unit in this final designation of critical habitat is necessary to maintain populations on the western side of the valley.

The northern portion of the Tulare Hill Unit will soon be managed to benefit the Bay checkerspot butterfly as a result of the finalization of a Safe Harbor Agreement with Pacific Gas and Electric, which will enable grazing of the northern portion of the unit; this safe harbor agreement is expected to result in an increase in the population of Bay checkerspot butterflies within the unit by facilitating grazing in the northern portion of the unit, which is not currently grazed and only supports low numbers of the subspecies.

Comment 18: One peer reviewer stated that designation of the Santa Teresa Hills Unit (Unit 7) was reasonable, but that an extensive management plan would need to be established, since much of the unit is within Santa Teresa County Park and has not been managed for the benefit of the Bay checkerspot butterfly. In addition, the peer reviewer stated that with proper management this unit could significantly contribute to the recovery of the subspecies. The peer reviewer made similar comments regarding the Calero Reservoir Unit (Unit 8) with the additional comment that the unit's location, its topographic diversity, and large size make the unit very valuable for long-term conservation of the Bay checkerspot butterfly.

A second peer reviewer stated the Calero Reservoir Unit (Unit 8) has high potential because of its topographic diversity and large size, but that occupancy is unclear (according to casual surveys) as the habitat has been degraded due to lack of grazing, although effects from air pollution may be somewhat less than areas to the east. In addition, the reviewer stated that emphasis should be on the serpentine grassland and it should be made clear effects of activities outside of these grasslands are only a small concern.

Our Response: The Service agrees that the Santa Teresa Hills Unit (Unit 7) will require restoration and management in order to reduce non-native plant species. However, as noted above, all the units are assumed to require ongoing restoration activities in order to restore and maintain adequate habitat to support the Bay checkerspot butterfly over time, due to the continued threat of nonnative plant species.

The Service does not completely agree with the peer reviewer who commented that effects to nonserpentine grasslands are of minor concern. Nonserpentine grasslands within a unit between serpentine and serpentine-like grasslands likely play an important role in dispersal of adult butterflies from one habitat patch to another. Development in intervening nonserpentine areas within a unit will likely reduce movement of adults between more suitable patches. However, based on the peer reviewer's comments, we have revised the northwestern portion of the unit boundary. Much of the area removed was heavily interspersed with woodland habitat and did not support many of the PCEs, such as the presence of serpentine or serpentine-like grasslands.

Comment 19: One peer reviewer stated that the series of small hills that make up the Kalana Hills Unit (Unit 9A and 9B) individually are not valuable to the subspecies; however, along with the intervening nonserpentine grasslands, they provide a significant resource for the Bay checkerspot butterfly. The peer reviewer supported the unit's inclusion as critical habitat. The peer reviewer recommended inclusion of more of the nonserpentine areas between the units.

A second peer reviewer stated that the unit was well described and the four small serpentine outcrops can be regularly occupied.

Our Response: The Service did not include all of the intervening nonserpentine areas between the large hill (subunit A) and the three smaller hills (subunit B) because they are separated by a disked agricultural field, which does not support the PCEs and does not meet our criteria for designating critical habitat. We did not include all areas between each of the three smaller hills because they are separated by a small network of local and private roads and at least two residences and do not support PCE 1, 2, 3, or 5. We did revise the unit boundaries slightly to reflect better resolution from vegetation data.

Comment 20: One peer reviewer stated that the Morgan Hill Unit (Unit 10) has historically been referred to as Hale or Falcon Crest. The peer reviewer also noted the unit is extensive and topographically diverse and that with proper management the unit is important for the long-term conservation of the Bay checkerspot butterfly and the peer reviewer supported this unit's inclusion as critical habitat.

Another peer reviewer commented that this area was one of the most important outlying areas from Coyote Ridge.

Our Response: The Service has renamed Unit 10 from Morgan Hill to Hale in order to prevent confusion with final Units 5 and 13 (which historically have been referred to as Morgan Hill).

Comment 21: One peer reviewer stated that the Bear Ranch Unit (Unit 11) consists of a series of small serpentine grasslands and that, prior to their inclusion into the Santa Clara County Parks and Recreation system, they were grazed and the habitat was in good condition. The reviewer expressed support that Santa Clara County Parks and Recreation has continued to graze the site. In addition, the reviewer stated that the nonserpentine grasslands between the patches were of great important to the Bay checkerspot butterfly at this site, and public structures (trails, parking facilities, etc.) should not be located between the small patches of serpentine grasslands. However, the peer reviewer questioned whether the site should be included as critical habitat because overall he believed the site was of less importance than the other units in Santa Clara County.

A second peer reviewer simply noted the unit encompassed the serpentine grassland within the park.

Our Response: We included this unit as critical habitat because it, along with Unit 12, represents the two southernmost known occurrences of the Bay checkerspot butterfly. As such, we believe they may provide an important role in the survival of the subspecies. However, the Service did revise this unit based on information obtained from or developed for the Santa Clara County HCP to better reflect the known distribution of serpentine bunchgrass communities within the unit and so as not to include nonserpentine grasslands to the west of the two serpentine patches.

Comment 22: One peer reviewer stated that the San Marin Unit (Unit 12) should not be considered critical habitat because the unit is too small, too hot, and too isolated. In addition, the reviewer stated that had development not occurred on the northern portion of the site in the 1980s and 1990s, the site may still benefit the Bay checkerspot butterfly, but that now the site is of marginal value.

A second peer reviewer also noted that the site may provide little value due to its size and current level of development.

Our Response: The Service requested additional information regarding development in this unit, but only one peer reviewer responded. The reviewer noted that the development was a series of large residential lots in the northern portion of the unit. However, based on aerial photographs, there are fewer than 10 residences within the northern portion of the unit. Topographic maps show a variety of slope aspects (including cool northeast slopes) present within the unit. The Service acknowledges the most diverse slopes are primarily located in the southern portion of the unit. However, the presence of both north and east slopes indicates that the entire unit is not ''too hot'' as noted by one of the peer reviewers. It does not appear that the current level of development has significantly degraded the overall habitat within the unit. In addition, as noted above, we included both Unit 12 and Unit 11 because they represent the southernmost known occurrences of the subspecies and as such may represent important adaptive differences between populations of Bay checkerspots butterflies in these units and populations in other units. The criteria we used to designate critical habitat were whether the area was occupied at listing or since listing and whether the area had sufficient PCEs to support a population. The unit was occupied at listing and currently supports all the PCEs; therefore it meets the criteria for critical habitat.

Comment 23: One peer reviewer supported non-inclusion of Communications Hill (Unit 6 in the 2001 designation) because, since development of the quarry, the remaining habitat is too hot and too limited.

Our Response: Multiple surveys have been conducted at Communications Hill over the last two decades, including two recent surveys by Dr. Richard Arnold in 2000 and 2007. According to Arnold (2007, p. 7), approximately half of the areas that supported the primary larval host plant in 2000 had been eliminated. Of the sites that still supported the primary host plant, most did not support either of the two secondary host plants. In addition, adult nectar sources were ''almost entirely lacking'' (Arnold 2007, p. 7). We believe the information presented in the 2000 and 2007 surveys by Dr. Richard Arnold in addition to aerial photographs and vegetation maps

supports the conclusion that much of Communications Hill has been developed and what little habitat remains does not provide PCEs in sufficient quantities to meet one or more life history requirements of the Bay checkerspot butterfly. In addition, there is only one unconfirmed record of a single Bay checkerspot butterfly on Communications Hill. Given the lack of confirmed records, the current developed state of the area, and lack of many of the PCEs, the area did not meet the criteria for designation as critical habitat.

Public Comments

Comment 24: One commenter recommended adding an area proposed as a conservation bank in southern Santa Clara County for inclusion within the critical habitat designation and noted that a small portion of the conservation bank is located within an area historically documented to support Bay checkerspot butterflies.

Our Response: The proposed conservation bank is located in the southern portion of Santa Clara County and is approximately 0.5 miles (mi) (0.80 kilometers (km)) southwest of the San Martin Unit. According to the commenter, the entire site is 1,685 acres with 43.3 ac (17.52 ha) of serpentine or serpentine-like grasslands scattered across three areas that includes all six PCEs. The Service agrees that portions of the proposed bank likely support all the PCEs; however, the overall amount of habitat that the butterfly could occupy at the site is low. According to the California Natural Diversity Data Base (CNDDB), the Bay checkerspot occurrence (CNDDB occurrence 19) that includes a small portion of the proposed bank is ''nonspecific'' and includes large areas of forest, agriculture, and residential areas (including a golf course) that do not support the PCEs. The observation was made by Dr. Richard Arnold in 1985, but the exact location is not clear and may have been part of the serpentine grasslands within the San Martin Unit.

The commenter did not provide any information regarding larvae or adult surveys at the proposed conservation bank or if any individual Bay checkerspot butterflies have been observed at the site. A review of the literature indicates that apart from the CNDDB's nonspecific occurrence by Dr. Richard Arnold, the site has not been identified as supporting Bay checkerspot butterflies in the past. At this time the Service has insufficient information regarding the ability of the site to support Bay checkerspot butterflies to include it in critical habitat.

Comment 25: Two commenters supported non-inclusion of Communications Hill in the revised critical habitat designation. One commenter provided additional information in the form of vegetative surveys by Dr. Richard Arnold in 2000 and 2007.

Our Response: According to the information provided by one of the commenters, additional surveys have been conducted on Communications Hill by Dr. Richard Arnold in 2000 and 2007. According to Arnold (2007 p. 7) approximately half of the areas that supported the primary larval host plant in 2000 had been eliminated. Of the sites that still supported the primary host plant, most did not support either of the two secondary host plants. In addition, adult nectar sources were ''almost entirely lacking'' (Arnold 2007, p. 7). We believe the information presented by the commenters supports the conclusion that much of Communications Hill has been developed and what little habitat remains does not provide PCEs in sufficient quantities to meet one or more life history requirements of the Bay checkerspot butterfly.

Comment 26: One commenter stated that based on their evaluation of their property within the Metcalf Unit (northern portion of proposed Unit 5; final Unit 4) that large portions of the site do not include serpentine soils or any of the known host plants for the species. Furthermore the commenter stated that the soils appear to be thicker than serpentine soils and are clay-like. In addition, the commenter stated the Service should obtain more detailed and accurate information regarding soil and vegetation before designating critical habitat.

Our Response: The Service reviewed soil and geological data from multiple sources over multiple years, including geographic information system (GIS) data from Jones and Stokes (the primary consultant writing the Habitat Conservation Plan for Santa Clara County). All of the information the Service has obtained regarding soil type indicates that large tracks of serpentine or serpentine-like soils occur throughout the majority of the Metcalf Unit. The Service reevaluated the soil types present north of Metcalf Road, and based on our review of land ownership data and the most conservative soil maps, there are approximately 2,547 acres of serpentine soils in the area in question. While the analysis shows there are patches of nonserpentine soils present within the area, our data indicate that the vast majority of the site is comprised of soils from the Montara soil series. Additionally, the commenter did not provide the results of any surveys they may have conducted regarding soil types or vegetation that is currently found on their property, nor did they provide a map of their property.

It is incumbent on the Service to use the best available information when making critical habitat determinations; however, the Service does not have adequate resources to undertake site-specific surveys throughout each critical habitat unit. If site-specific surveys are available that the Service was unaware of, the public comment period should be used to provide the Service with that information. In this case, the commenter noted that their own evaluation of the site indicated serpentine soils were not present over large portions of the site, but did not provide those evaluations (surveys) to the Service. Therefore, the area in Unit 4 referred to by the commenter has not been removed from this final designation of critical habitat.

Comment 27: One commenter stated that the Service should not treat critical habitat designations as dispositive for consultations under the Act and that while conducting section 7 reviews, the Service should not use the critical habitat designation as conclusive.

Our Response: The Service reviews the baseline information for each section 7 consultation. If site-specific habitat assessments have not been submitted with the initial consultation package, the Service typically requests an assessment be prepared. If a project is within a critical habitat designation, and the site assessment indicates the PCEs are not present within the action area or will not be adversely affected by the proposed action, then additional consultation with the Service is not required. The presence of the PCEs and the effects of the project on those PCEs determine whether formal consultation with respect to adverse modification or destruction of critical habitat is necessary.

Comment 28: One commenter stated that according to their records they were not contacted regarding the proposed critical habitat designation, which included portions of their property. The commenter requested a 60–day extension on the comment period or reopening of the comment period due to lack of notification.

Our Response: According to Service records, two attempts were made to contact the commenter by telephone and voice messages were left both times, but no response was received. In addition, the Service conducted

outreach by notifying appropriate elected officials, local jurisdictions, interested groups, and property owners. We conducted much of this outreach through legal notices in regional newspapers, telephone calls, letters, and news releases faxed or mailed to appropriate officials, local jurisdictions, and interest groups, and publication of the proposed determination and associated material on our Internet page. A second public comment period was opened for the draft economic analysis, and the Service contacted the commenter for a third time regarding the opportunity to provide comments. We believe we have provided sufficient time for public comment with two open comment periods totaling 90 days. Additionally, we are under a court-mandated due date to submit a final rule to the **Federal Register** by August 14, 2008. In order to meet this date, we cannot open an additional comment period.

Comment 29: The San Francisco Public Utilities Commission (SFPUC) stated they owned 203 ac (82.15 ha) within the Pulgas Ridge Unit (final Unit 1) and 130 ac (52.61 ha) within proposed the Edgewood Park Unit (final Unit 2).

Our Response: According to the proposed and this final rule the Pulgas Ridge Unit is approximately 179 ac (72 ha) total in size, all of which is owned by the SFPUC. A review of GIS data indicates that more of the Edgewood Park Unit is owned by the SFPUC than stated in the proposed rule. According to our information the SFPUC owns approximately 140 ac (57 ha) within the Edgewood Park Unit. We have corrected the land ownership amount in this final rule.

Comment 30: One commenter questioned whether the Pulgas Ridge Unit still supports all the PCEs.

Our Response: It is not a requirement that each unit contain all the PCEs in order to be designated as critical habitat. However, a review of the vegetation data and soils and geology data indicate the unit has all the PCEs. In addition, site-specific information (i.e., surveys) was not provided by the commenter to support whether the unit contained all the PCEs or not, and two peer reviewers indicated that the unit is extensive and has topography similar to the Edgewood Park Unit, where Bay checkerspot butterflies were introduced in Spring 2007. The unit was occupied at the time of listing and contains all the features essential for the conservation of the subspecies; therefore, it meets the definition of critical habitat.

Comment 31: One commenter stated they were in the early stages of preparing a Habitat Conservation Plan (HCP) for the Peninsula Watershed Management Plan, which includes portions of the Pulgas Ridge and Edgewood Park Units and that they are working to protect serpentine-endemic species.

Our Response: The Service supports actions taken by local governments and the general public to protect and enhance habitat for listed species through a variety of programs including Safe Harbor Agreements, Habitat Conservation Plans, our Partners for Fish and Wildlife Program, and other programs. The Service looks forward to working with the commenter in the preparation of an HCP in order to benefit serpentine species in the San Francisco Bay area.

Comment 32: Two commenters stated that the purpose of designating critical habitat is to facilitate species recovery and that the Service should designate additional areas of unoccupied serpentine and nonserpentine habitat to ensure the recovery of the Bay checkerspot butterfly and sustain the metapopulation dynamics of the species.

Our Response: In our revised proposed designation of critical habitat for the Bay checkerspot butterfly, we selected areas based on the best scientific data available that possess those physical and biological features essential to the conservation of the subspecies, and that may require special management considerations or protection. We included in the revised proposed designation areas that were occupied at the time of listing as well as one area occupied since the time of listing. However, the Service lacked specific information to indicate which, if any, unoccupied areas outside those we proposed are essential for the conservation of the species. The Service cannot designate as critical habitat areas occupied at the time of listing that we are unable to determine have the features essential to the conservation of the subspecies, or unoccupied areas that we are unable to determine are essential for the conservation of the species. Further, under section 3(5)(C) of the Act, critical habitat shall not include the entire geographical area that can be occupied by the species except in those circumstances determined by the Secretary of the Interior. Thus, in this rule, we only designate those areas we have determined meet the definition of critical habitat. The commenter did not provide information regarding unoccupied areas outside those we designated that would allow the Service to evaluate whether those areas supported the physical and biological features essential to the conservation of the subspecies. If such information becomes available in the future, the Service will consider proposing a revision to the critical habitat designation at that time or when our resources allow.

Comment 33: Two commenters stated that PCE 1 should be modified. One commenter recommend PCE 1 be deleted and the other recommended a modification to remove the list of grass species.

Our Response: All published literature on this species indicates it is a grassland species with relatively sedentary tendencies and may avoid areas of nonhabitat, including chaparral and oak woodland; therefore the Service believes the presence of grasslands is an essential component of Bay checkerspot butterfly habitat, although a list of specific grass species is not. In this final revised critical habitat rule, PCE 1 is ''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 (for example, drought).'' We then list grassland species as examples of species common to grasslands in California, and since nonnative grasses are more common than native species, we include nonnative species in the example. The presence of any specific grass or grasses listed in the PCE is not required, and is not provided as a means to measure habitat quality, but merely as an indicator of grassland habitat; we clarify this in this final rule.

Comment 34: Two commenters stated that the PCEs should include features that facilitate dispersal of the Bay checkerspot butterfly since dispersal between habitat patches is essential for recolonization, metapopulation persistence, and recovery. These commenters further stated that the Service did not designate sufficient critical habitat to allow for successful dispersal and that the Service should secure these areas and restore them.

Our Response: PCE 1 includes both perennial and annual grasslands in order allow for dispersal. All of the units include some amount of nonserpentine grasslands interspersed with areas of serpentine and serpentine-like grasslands in order to enhance dispersal between the more suitable patches both within a unit and among units. In this way the Service has attempted to designate as many small patches within the boundaries of individual units, such as with the Metcalf and Kirby units, which support numerous populations and

subpopulations scattered over the entire eastern ridgeline in Santa Clara County. The Santa Teresa Hills Unit includes an area next to the Tulare Hill Unit that was specifically included in order to facilitate the dispersal of Bay checkerspot butterflies from the core population along Coyote Ridge on the eastern side of Santa Clara Valley, to the ridges on the western side of the valley. In addition, the Kalana Unit (Unit 9a and 9b) is also considered important for dispersing Bay checkerspot butterflies to the southernmost units (Units 10, 11, and 12) in Santa Clara County. Based on the current occupancy of the majority of the units, the Service believes that dispersal between small populations within each unit, as well as between units, is occurring. For additional information please see the ''Criteria Used to Identify Critical Habitat'' section of this rule.

Regarding the acquisition of land, the purchase and restoration of land for the benefit of the Bay checkerspot butterfly is beyond the scope of this rule.

Comment 35: One commenter stated that PCE 5 (in the proposed rule and PCE 4 in this final rule) should include restored native grassland on nonserpentine soils and that researchers have suggested the Bay checkerspot butterfly's historic habitat included native grasslands on nonserpentine soils.

Our Response: The Service agrees that some researchers have hypothesized that the range of the Bay checkerspot butterfly once included nonserpentine grasslands, which we noted in the proposed rule. The Service is not aware of any data that support the hypothesis. However, as noted in our response to comment 34, the Service included both perennial and annual grassland habitats as part of PCE 1. The presence of all PCEs was not a criterion used to designate critical habitat, and all units include areas of nonserpentine grasslands. In addition, the Service cannot predict where nonserpentine grassland habitats that will be restored in the future will be located, nor are we able to predict whether these areas would support other PCEs sufficient to support populations of the Bay checkerspot butterfly.

Comment 36: One commenter stated that proposed PCE 6 (final rule PCE 5) should be revised to state that stable holes and cracks in the soil and surface rock outcrops, while beneficial and in need of protection, are not required for the habitat to have value.

Our Response: The Service disagrees with the commenter regarding the importance of PCE 5 in this final rule. As stated in the proposed rule, 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. 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. Since pre-diapause larval mortality is the most significant factor influencing population size, a variety of diapause sites are necessary to ensure adequate numbers of larvae survive diapause. Further, because prescribed burns are an important management tool to control nonnative and invasive vegetation, diapause locations that are not at risk due to fire are important.

Comment 37: One commenter stated that adopting PCEs 2 and 3 (larval host plants and adult nectar plants) risk causing temporary low-quality or degraded areas to be treated as non-habitat, which would allow their destruction or adverse modification.

Our Response: Critical habitat designations are not required to support all PCEs over the entire extent of the critical habitat unit; as defined in section 3(5)(A) of the Act, critical habitat is defined as (1) the specific areas within the geographic area occupied by a species, at the time of listing in accordance with the Act, on which are found those physical or biological features (a) essential to the conservation of the species and (b) that may require special management considerations or protection; and (2) specific areas outside the geographic area occupied by a species at the time it is listed in accordance with section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. This definition does not require all PCEs to be present throughout the entire unit. Further, section 7 consultations on critical habitat also do not require all PCEs to be present in order to determine adverse modification. An adverse modification includes when an action impairs a unit's ability to continue to provide those features essential for the conservation of the species. For example, areas of open grasslands may not support the larval host or adult host plants, but would still provide open grasslands for dispersal of adults between patches of more suitable habitat. In this case, the absence of the larval host plants or adult nectar plants would not negate the importance of the grassland habitat, which is PCE 1.

Comment 38: One commenter stated the principle PCE should be the presence of suitable soils and that the order of the PCE should be rearranged to indicate this.

Our Response: The order that the PCEs appear is not an indicator of their importance. The Service does not believe ranking the PCEs is appropriate because the presence of any one of the PCEs may not adequately reflect habitat quality or the presence of the species. For example, serpentine soils occur throughout California (and the world), but the Bay checkerspot butterfly does not. Similarly both the larval host plants and adult nectar plants also have ranges that extend beyond the historical range of the Bay checkerspot butterfly.

Comment 39: One commenter stated that populations of pollinators of the larval and adult host plants should be a PCE and that if they are as poorly known as we indicated in the proposed rule the commenter would undertake a project to identify them for the Service. Further the commenter stated that our assumption regarding the presence of host plants implying their successful reproduction is erroneous and a serious error.

Our Response: According to *Home Builders Association of Northern California* v. *U.S. Fish and Wildlife Service 268 F.* Supp. 2d (1197) 2003, the Service must describe the PCEs with a certain degree of specificity. In order to establish pollinators as a PCE, the Service would need detailed life history data of the Bay checkerspot butterfly's larval host and adult nectar plants and list their pollinators. The Service has general data regarding insect pollinators, but we lacked data specific enough on the pollinators for the majority of larval host and nectar plants to designate pollinators as a PCE. In addition, since the Service is under a court-ordered deadline for publishing this final rule, there was insufficient time to undertake a study designed to determine the pollinators of the larval host and adult nectar plants.

Comment 40: One commenter supported aquatic features as a PCE and stated they had observed ''puddling'' in early April 2002 and the weather had not been particularly hot or dry. The commenter believes that puddling may occur more frequently than previously believed for this species.

Our Response: All three peer reviewers, while acknowledging aquatic features have been used by this subspecies, stated the Bay checkerspot butterfly was capable of surviving without access to these features. Murphy *et al.* (1983, p. 261) observed that egg production varied with diet (no food; water; water with 20 percent sugar; water with amino acids; nectar; and nectar with amino acids), but that

water alone had no direct role on female fitness. Therefore, based on expert opinion, we have removed aquatic features as a PCE.

Comment 41: One commenter stated that mean rainfall should also be considered when designating critical habitat and additional units should be designated to include a wide variation of annual rainfall.

Our Response: The Service agrees with the commenter regarding the importance of annual rainfall. Variations in amount and timing of rainfall play a significant role in determining when host plants become senescent which in turn influences larval mortality and ultimately is the key factor in population size (Singer 1972, p. 77; Weiss *et al.* 1988, p. 1486), as we noted in the proposed rule in the section titled ''Distribution and Population Trends.'' Variable topography (i.e., different slope aspects) was included as a PCE (PCE 1) in order to support the life cycle of the Bay checkerspot butterfly. In addition, we included three unoccupied units in San Mateo County, because we recognized that units in close proximity to one another (i.e., many of the units in Santa Clara County) would likely experience similar environmental conditions.

Comment 42: One commenter stated that the rule should be revised to state that only structures present at the time of this rulemaking within critical habitat are excluded by text and are not designated as critical habitat and that areas developed after the rule making should not be automatically excluded by the language of the text.

Our Response: When determining critical habitat boundaries for this rule, we made every effort to avoid including developed areas such as lands covered by buildings, paved areas, and other structures that lack PCEs for the Bay checkerspot butterfly. The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this final rule have been excluded by text in the final rule and are not designated as critical habitat. Therefore, on the effective date of this rule, Federal actions limited to these areas would not trigger section 7 consultation, unless they may affect the species or PCEs in adjacent critical habitat.

The Service does not believe it would be appropriate to state that only areas that are developed at the time of this rulemaking would not be designated as critical habitat. Any area that is developed in the future, with or without consultation with the Service, would then still be considered critical habitat, even though it would not contain any of the PCEs and no longer support any of the species life history requirements.

Comment 43: Two commenters stated that San Bruno Mountain Unit should be retained as a critical habitat unit and that the proposed rule was confusing regarding whether the unit was proposed for inclusion or for exclusion. In addition, both commenters stated that HCPs exist for the purpose of taking listed species and that HCPs include actions that are harmful to listed species. One of these commenters also stated the current San Bruno Mountain HCP does not provide adequate management or protection because it does not cover the Bay checkerspot butterfly.

Our Response: We proposed the San Bruno Mountain unit for exclusion because the existing San Bruno Mountain HCP covers all remaining habitat for the Bay checkerspot butterfly on the mountain, three other listed butterflies with some similarities in life histories and habitat requirements occur on San Bruno Mountain, and management of the habitat on the mountain for the three other listed butterflies is expected to benefit the Bay checkerspot butterfly. Additionally, at the time of the publication of the proposed rule, we expected Amendment 5 to the San Bruno Mountain HCP, which would include coverage specific to the Bay checkerspot butterfly, to have been finalized prior to the publication of this final designation of critical habitat. As this amendment is not yet finalized as of the writing of the final rule, we re-evaluated the proposed exclusion of the San Bruno Mountain HCP from critical habitat and determined on the basis of the record before us not to exclude this area (See ''Application of Section 4(b)(2) of the Act'').

Comment 44: One commenter stated that by retaining four units on Coyote Ridge, the effects of projects consulted on under section 7 of the Act would be analyzed at the unit level and that combining the units would dilute or obscure the analysis of effects.

Our Response: When analyzing the effects of a proposed project on critical habitat, the Service analyzes the effects of the action and whether the action will result in adverse modification or destruction of critical habitat on all units that have been designated. The Service does not typically limit its analysis regarding adverse modification or destruction of critical habitat to only the critical habitat unit in which the action is occurring. The Service does review the baseline information for the unit; however, baseline information will be the same for a given area regardless of whether the area has been identified as one unit or multiple units.

Comment 45: One commenter stated that the Service did not designate habitat patches of sufficient number, quality, or proximity to ensure the survival and recovery of the Bay checkerspot butterfly, and at a minimum the Service should designate as critical habitat the number of habitat patches that the Recovery Plan specifies as necessary for the recovery of the species.

A second commenter recommended clarification in the final rule regarding the Service's statement in the proposed rule that the designation of critical habitat may not include all habitat areas that we may eventually determine necessary for recovery.

Our Response: Each unit is capable of supporting multiple populations; we do not believe it is necessary to match the number of critical habitat units with the number of populations identified in the Recovery Plan. In addition, the Service lacked specific information to indicate if any particular areas outside those we proposed to designate are essential for the conservation of the species. Since occupancy at the time of listing or since listing was a criterion for determining which areas were to be designated as critical habitat, additional areas outside of those we are designating would not meet our criteria. We recognize areas other than those we are designating as critical habitat, such as those defined in the Recovery Plan, may be important for the eventual recovery of the Bay checkerspot butterfly; however, these areas did not meet our criteria for being essential to the conservation of this butterfly. If such information becomes available in the future, the Service will consider proposing a revision to the critical habitat designation at that time or when our resources allow.

Comment 46: One commenter stated the revised PCEs are problematic and would result in a reduced protection of the species habitat within (and potentially that outside of) designated units, because the PCEs are hyper-specific, lack any expression for the need for dispersal, and may be used during section 7 consultations outside of critical habitat to determine if a site has appropriate habitat or not. The commenter recommended revising the PCEs.

Our Response: As noted above in our response to Comment 39, according to *Home Builders Association of Northern California* v. *U.S. Fish and Wildlife Service* 268 F. Supp. 2d (1197) 2003, the

Service must describe the PCEs with a certain degree of specificity. We revised the list of PCEs from the 2001 rule (66 FR 21450), in an attempt to comply with the requirements as set forth in the above mentioned case.

As noted in our response to Comment 34, PCE 1 includes both perennial and annual grasslands, which in part is to facilitate dispersal within units and between units. The Santa Teresa Hills Unit (Unit 7) includes an area next to the Tulare Hill Unit (Unit 6) that was specifically included in order to facilitate the dispersal of Bay checkerspot butterflies from the core population along Coyote Ridge on the eastern side of Santa Clara Valley, to the ridges on the western side of the valley. In addition, Unit 9a, 9b, and 10 are also considered important for dispersing Bay checkerspot butterflies to the southern most units (Units 11 and 12) in Santa Clara County.

The Service does not specifically use the presence or absence of PCEs outside of critical habitat designations to determine whether or not an area provides habitat for a given species. PCEs are only considered when a proposed project is within or may affect a designated critical habitat unit. The presence of all PCEs is not required in order to initiate consultation under section 7 of the Act. The presence of a single PCE within the boundaries of critical habitat and the potential effects of a proposed project on that PCE is sufficient. PCE 4, 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), are present throughout the majority of the units, and the presence of this PCE alone would result in consultation for proposed projects with a Federal nexus.

Comment 47: One commenter stated that the Service should undertake the establishment of experimental populations of the species outside its historically known range.

Our Response: The establishment of experimental populations is outside the scope of this critical habitat rule.

Comment 48: One commenter stated that given the species' continued decline, the species should be uplisted to endangered.

Our Response: The Service will initiate a 5–year review on this species in 2008. Recommendations regarding the status of a species, including whether to uplist, downlist, or delist, will be made upon completion of the 5–year review.

Comment 49: One commenter stated that annual rainfall should be considered in the designation of critical habitat for the Bay checkerspot butterfly, that the Service should designate areas that encompass a wide range of mean annual rainfall to buffer against climate variability and global warming, and that ongoing climate change is a threat to the species.

Our Response: See response to Comment 41 regarding rainfall. Current climate model forecasts vary in their predicted outcomes, and range from cooler and drier to warmer and wetter (Miller *et al.* 2003; Deffenbaugh *et al.* 2005; Leung and Ghan 1999), which makes it difficult to adequately assess the effects that climate change may have on populations of the Bay checkerspot butterfly. Further, the Service is not aware of climate models that have been refined to provide forecasts at the local scale, or specifically models that have been developed for areas occupied by the Bay checkerspot butterfly.

Despite the lack of a consensus with respect to climate change, we designated units in both San Mateo and Santa Clara Counties, because we recognized that units in close proximity to one another would likely experience similar environmental conditions. We designated units in San Mateo County that were occupied at the time of listing? despite the fact that all the units, with the possible exception of Edgewood Park, are currently? unoccupied and are beyond the reported dispersal capabilities of the species from occupied sites in Santa Clara County. However, based on information regarding land use, vegetative cover, soil data, and topography, we believe we have designated all potential habitats in San Mateo County that could support the species and meet the definition of critical habitat. Our designation is supported by two peer reviewers, who also believe that the area designated as critical habitat covers all remaining suitable habitat.

In addition, as stated above in our response to Comment 45 the Service lacked specific information to indicate whether particular areas outside those we are designating are essential to the conservation of the species. We do not believe it is appropriate to designate critical habitat in areas where we are lacking adequate information. In the proposed rule, we specifically requested comments regarding the amount and distribution of Bay checkerspot butterfly habitat, but we did not receive specific responses. If such information becomes available in the future, the Service will consider proposing a revision to the critical habitat designation at that time or when our resources allow.

Comments related to the Draft Economic Analysis (DEA)

Comment 50: One commenter stated that specific management actions for serpentine soil grasslands, such as grazing, had not yet been determined in the Santa Clara Valley HCP - NCCP (SCVHCP) and therefore should not be included in the DEA.

Our Response: In order to estimate the costs of future conservation activities for the butterfly, the DEA must predict the actions most likely to be taken and estimate the amount of resources / funding required to implement them. Grazing and prescribed burning are recommended for serpentine soil management in Section 5.3.3 of the SCVHCP Working Draft. We recognize that these recommendations may change as the plan is finalized. However, the plan represents the best currently-available information regarding likely future conservation activities. Therefore, the costs of implementing these management actions are included in the DEA.

Comment 51: One commenter asked for clarification as to how the economic impacts were determined for ''recreation and public access'' in Table 2-1 of the DEA.

Our Response: The impacts for ''recreation and public access'' in Table 2-1 are based on the December 2007 SCVHCP Implementation Budget Preliminary Draft.

Comment 52: A commenter noted that some of the County parks and recreation activities within those parks were not correctly identified in Table 1-2. The commenter also pointed out that County parks within proposed critical habitat were incorrectly identified in Section 2.4.3 of the DEA.

Our Response: Table 1-2 and Section 2.3.1 (which contains former Section 2.4.3) were revised to state that Unit 5 contains Motorcycle County Park, Field Sports Park, part of Anderson Lake Park and part of Coyote Creek Parkway; and Unit 6 contains part of Coyote Creek Parkway. Table 1-2 was revised to state that Metcalf Park is managed by the City of San Jose. Table 1-2 now includes off-road vehicle recreation and a firing range in the land use description for Motorcycle County Park and Field Sports Park.

Comment 53: A commenter noted that the implementation of the grazing programs in Santa Teresa County Park and Calero County Park will occur independently of the implementation program identified in the SCVHCP.

Our Response: Section 2.3.1 (which contains former Section 2.4.3) of the DEA was revised to clarify that these

grazing projects are part of the County's ongoing fire control and invasive plant species management and will occur independently of the SCVHCP grazing program. However, the costs of these projects are retained in the analysis, as they represent part of the baseline protection provided to the habitat.

Comment 54: A commenter noted that Santa Clara County Parks uses many methods to manage invasive plant species, including prescribed fires, herbicide application and manual removal, but that livestock grazing is the predominant method used. The commenter said that County Parks conducts prescribed burns infrequently and is cutting back on herbicide treatment. The commenter noted that County Parks will be employing more costly methods, such as hand removal and grazing, to manage invasive plant species in the future.

Our Response: The DEA was revised to qualitatively discuss all potential invasive species management options, including manual removal, prescribed burns, and herbicide application. However, according to the County Parks Department, these alternative options are very rarely used and are expected to be used less often in the future. In Section 2.3.1, the DEA quantifies the costs of grazing programs to manage invasive plant species in serpentine soil habitats because it is the current predominant method and is expected to be used even more widely in the future.

Comment 55: A commenter disagreed with the economic analysis' assessment that livestock grazing is cost effective or that costs of implementing and managing a grazing program are revenue neutral.

The commenter points out that fencing costs estimated in the DEA are outdated and underestimated. Additionally, the costs of fencing do not include the associated costs for surveys, plan development, administrative costs, or development of other related infrastructure such as water sources for livestock. The commenter requested that the economic analysis consider the implementation, administrative, and management costs associated with the grazing programs in addition to the fencing construction costs.

Our Response: Section 2.3.1 of the DEA was revised to better quantify all the costs of implementing a grazing program, including costs of all infrastructure, planning, and management. The DEA also includes the best estimates of revenues from leasing the land to grazers. The updated cost and revenue information were obtained from the County of Santa Clara Parks and Recreation Department.

Summary of Changes from the Proposed Rule

The areas identified in this final rule constitute a revision from the areas we proposed as critical habitat for Bay checkerspot butterfly on August 22, 2007 (72 FR 48178). The primary differences include the following:

(1) Our proposed rule excluded Unit 1. The final rule includes Unit 1 as designated critical habitat.

(2) The 2007 revised proposed critical habitat rule consisted of 12 units comprising a total of 19,746 ac (7,990 ha). The majority of the final units correspond to those in the revised proposed rule. However, we have refined the units to eliminate areas that are unlikely to support the PCEs such as areas that are forested or areas that were developed. Proposed rule Unit 5 was split into two individual units, Unit 5 and Unit 13. This was done to remove intervening areas that did not contain the features essential to the conservation of the Bay checkerspot butterfly. This final designation of critical habitat consists of 13 units.

(3) We have clarified the list of specific species in PCE 1 to state that the list of grassland species is an example of species common to grasslands in California, and since nonnative grasses are more common than native species, we include nonnative species in the example. The presence of any specific grass or grasses listed in the PCE is not required, and is not provided as a means to measure habitat quality, but merely as an indicator of grassland habitat.

(4) We have removed PCE 4 from the revised proposed designation, as well as mention of water in other PCEs. All three peer reviewers stated the use of water was overemphasized in the revised proposed rule. All three peer reviewers stated that the Bay checkerspot butterfly is opportunistic with regard to water and will use it when water is present and there is a need for water, but that absence of water did not influence the presence or absence of the subspecies.

Critical Habitat

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

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

(a) essential to the conservation of the species and

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

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

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which the measures provided under the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, transplantation, and in the extraordinary case where population pressures within a given ecosystem cannot otherwise be relieved, may include regulated taking.

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

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

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

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

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

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

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

Methods

As required by section 4(b) of the Act, we used the best scientific data available in determining areas that contain the features essential to the conservation of the Bay checkerspot butterfly, 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 (PCEs)

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

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, and rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the 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 the August 22, 2007, proposed critical habitat rule (72 FR 48178) 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 (1956, pp. 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 (1956) 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 that is 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 or 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 3 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. The terms ''primary'' and ''secondary'' also loosely refers to the host plant that females most commonly oviposit (lay eggs) on *Plantago erecta* in some locations, such as Jasper Ridge; however, at Edgewood approximately 70 percent of oviposition occurred on *Castilleja* and that in the 1980s approximately 20 percent of oviposition at Kirby Canyon (the southern portion of the Kirby Unit) occurred on *Castilleja.*

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.

Soils

The Bay checkerspot butterfly inhabits areas with soils derived from serpentinite ultramafic rock (Montara, Climara, Henneke, Hentine, and Obispo soil series) or similar nonserpentine 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 has 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 3 weeks, but may vary considerably depending on abiotic factors (non-living components of the biosphere) (Kuussaari, *et al.* 2004, p. 140). Singer (2008, p. 1) observed repeat diapause in small post diapause larvae in laboratory environments. Other researchers (White and Levin 1981, p. 355; Harrison 1989, p. 1242; Kuussaari *et al.* 2004, pp. 139-140; Mattoni *et al.* 1997, p. 106) also provide evidence that larvae are capable of entering diapause more than once. 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

Based on the above needs and our current knowledge of the life history, biology, and ecology of the species and the habitat requirements for sustaining the essential life history functions 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 (for example, drought).

Common grassland species include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), California oatgrass (*Danthonia californica*), Italian ryegrass (*Lolium multiflorum*), 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.), and dwarf plantain (*Plantago erecta*). These species, with the exception of dwarf plantain, are not required by the Bay checkerspot butterfly, but merely are provided here as an example of species commonly found in California grasslands.

(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 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*).

(4) 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.

(5) 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.

With this final designation of critical habitat, we intend to conserve the physical and biological features essential to the conservation of the species, which support the life history functions of the species, through the identification of the appropriate quantity and spatial arrangement of areas containing the PCEs. Some units contain all of these PCEs and support multiple life processes, while some units contain only a portion of these PCEs, those necessary to support the species' particular use of that habitat. Because not all life history functions require all the PCEs, not all critical habitat units will contain all the PCEs.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas determined to be occupied at the time of listing and to contain the physical and biological features essential to the conservation of the species may require special management considerations or protection. Threats to those features we identify as the PCEs laid out in the appropriate quantity and spatial arrangement for conservation of the Bay checkerspot butterfly include habitat loss and fragmentation, invasion of exotic plants, nitrogen deposition (including NO_x and ammonia), pesticide

application (including drift), illegal collecting, fire, overgrazing, and gopher control.

We have determined that the essential features in critical habitat units 1, 2, 4, 5, 6, 7, 8, 9, 10, and 13 may require special management considerations or protection 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. Portions of the general plan share boundaries with critical habitat units, including Units 4, 5, 6, 7, and 9. Some currently or proposed projects include 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.

We have determined that the essential features in all final critical habitat units may require special management considerations or protection 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 serpentine-like 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).

The essential features in all final critical habitat units may require special management considerations or protection due to the threats posed by pesticide use. Use of pesticides (for example, 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.

We have determined that he essential features in all final critical habitat units may require special management considerations or protection 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 (portions of Unit 13) in 2006 and 2007. A third burn is proposed for 2008, with results available sometime in early 2009. A portion of the Tulare Hill Unit was burned in late-May 2004 and since that time vegetative surveys have been conducted at this site. These studies were established to document differences between grazed-burned, ungrazed-burned, and ungrazed-unburned treatments. Sites that had grazed-burned treatments had the highest percentage of *Plantago erecta* than any other sites (including several sites within Unit 13). In 2005, Plantago erecta cover was approximately 16.7 percent at grazed-burned sites compared to 13.9 percent at ungrazed-unburned sites (CH2M Hill 2006, p. 6-2). Similar results were obtained in 2007, with *Plantago erecta* cover being highest at grazed-burned sites (8.6 percent) (CH2M Hill 2008, p. 6-1). Nectar plants on Tulare Hill were also highest in grazed-burned sites (4.1 percent) and low at ungrazed-unburned sites (1.5 percent) (CH2M Hill 2006, p. 6-2). Bunchgrass cover and native plant cover was also highest in grazed-burned sites on Tulare Hill in 2005, 3.5 percent for bunchgrasses and 58 percent for native plant cover (CH2M Hill p. 6-2).

We also find that the essential features in all occupied final critical habitat units may require special management considerations or protection due to the threat posed by illegal collecting. The collecting of butterflies as a hobby is well known. The collection and trade of butterflies, especially rare species, is well documented. The Bay checkerspot butterfly's rarity and beauty make it a desirable addition to butterfly collections. Because butterfly numbers are so low, the collection of even a few individuals could harm the butterfly population. Collecting is illegal without a permit from the U.S. Fish and Wildlife Service. Providing the public information regarding the detrimental effects of collecting rare species may assist in the conservation of Bay checkerspot butterfly.

We have determined that the essential features in all final critical habitat units may require special management considerations or protection due to the threat posed by overgrazing or undergrazing. 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 limited grazing to be primarily beneficial to Bay checkerspot habitat.

We also find that the essential features in all final critical habitat units may require special management considerations or protection 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

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 units of critical habitat, we plotted all occurrence records of Bay checkerspot butterfly from the time of listing to the present on maps as polygons. We then examined whether these areas supported the PCEs.

We have defined critical habitat in this rule 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, and (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, and 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 (14.5-kilometer) 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, we are designating all areas currently known to support the Bay checkerspot butterfly as critical habitat.

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 have 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 Pulgas Ridge and Jasper Ridge Biological Preserve in San Mateo County, California. We are designating these areas as critical habitat because they were all occupied at the time of listing and currently contain the features essential to the conservation of the species and designation of these units will reduce the likelihood of extinction by providing source (larger patches of high-quality habitat) or sink (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 and extreme weather conditions, and will 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 critical habitat areas (occupied and currently unoccupied) was selected to help reduce the level of habitat fragmentation associated with a federal agency action 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, pp. 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; that is, greater than 5.0 mi (8 km)). Harrison *et al.* (1988) modeled two scenarios: (1) 50–year extinction (based on patterns of extreme drought in California), and (2) continuous extinction (based on stepping stone habitat or population). The continuous model indicated that a small habitat patch (2.22 ac (0.9 ha)) would experience extinction events once every 1 to 13 years, while larger patches (615.29 ac (249 ha)) would go extinct once every 12 to 26 years (Harrison *et al.* 1988, p. 377). The rate of colonization in Harrison *et al.* (1988) was variable and depended on both habitat patch size as well as distance from a source population. Given the subspecies' historical distribution, its metapopulation dynamics, and its sedentary tendencies, reducing habitat fragmentation, by designating occupied and currently unoccupied habitats 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 all habitat that was occupied at the time of listing as well as additional habitat that is currently occupied. The presence of all six PCEs was not a requirement to designating a unit as critical habitat; however, all 12 units currently support all six PCEs.

When determining the revisions to critical habitat boundaries for this final 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 at the time of this designation and inadvertently left inside critical habitat boundaries shown on the maps of this

final critical habitat have been excluded by text in this final rule. Therefore, Federal actions limited to these areas would not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless they may affect the subspecies or primary constituent elements in adjacent critical habitat.

All final critical habitat units are within areas that we have determined were occupied at the time of listing or are currently occupied, and are the appropriate quantity and spatial arrangement of areas containing the PCEs to constitute the physical and biological features essential to the conservation of the species, which support the life history functions of the species.

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 an 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 such exclusions outweigh the benefits of inclusion as discussed in section 4(b)(2) of the Act. To date, two HCPs, Pacific Gas and Electric's (PG&E) Metcalf Evendale–Monta Vista Line and their Metcalf-El Patio and Hicks–Vasona Lines, are the only HCPs that have been completed that include the Bay checkerspot butterfly as a covered species. PG&E's Evendale–Monta Vista Line HCP was issued in 1998, was in effect for 3 years, and covered approximately 4 ac (1.6 ha). Because this HCP has expired, we are not excluding lands once covered under this HCP. PG&E's Metcalf-El Patio and Hicks–Vasona Lines HCP covers temporary effects to 2.4 ac (0.97 ha). The HCP was issued in 2008 and is in effect for a period of 3 years. Because this HCP covers temporary effects, covers only a small area, and is in effect for only 3 years, we are not excluding lands covered under this HCP. We re-evaluated our proposed exclusion of the San Bruno Mountain HCP and determined not to do so on the basis of the record before us. Our decision considered the non-inclusion of the Bay checkerspot butterfly as a covered species under the current HCP, and the inadequacy of existing funding mechanisms to implement specific conservation measures to conserve and protect the features essential to the conservation of the Bay checkerspot butterfly. (See ''Application of Section 4(b)(2) of the Act''). Stanford University is developing an HCP for lands owned by Stanford University that includes the Jasper Ridge Biological Preserve (Unit 3); however, as currently proposed, this HCP would not include the Bay checkerspot butterfly or any other butterfly species, so lands covered by this HCP are not being excluded. Santa Clara County is currently developing a regional HCP that would encompass the majority of Santa Clara County, including all critical habitat units in the county (Units 4 through 13). This HCP is in the early stages of development, and as proposed would include the Bay checkerspot butterfly. However, the Santa Clara County HCP is not expected to be finalized until summer of 2010; therefore, we are not excluding lands that may be covered by this HCP.

Revised Critical Habitat Designation

We are designating 13 units as critical habitat for the Bay checkerspot butterfly. These units, which generally correspond to those units in the 2007 proposed revised designation, when finalized, would entirely replace the current critical habitat designation for the Bay checkerspot butterfly at 50 CFR 17.95(i).

Table 1 and 2 shows the occupancy of each final revised critical habitat unit and the approximate area encompassed within each final revised critical habitat unit with land ownership.

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

Unit	Occupied at time of listing	Currently occupied	Acres (Hectares)
Unit 1: San Bruno Mountain	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: Metcalf	Yes	Yes	4,503 (1,822)
Unit 6: Tulare Hill	Yes	Yes	348 (141)
Unit 7: Santa Teresa Hills	Yes	Yes	3,278 (1,327)
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: Hale	Yes	Yes	507 (205)
Unit 11: Bear Ranch	No	Yes	283 (114)
Unit 12: San Martin	Yes	Yes	467 (189)
Unit 13: Kirby	Yes	Yes	5,446 (2,204)
Total			18,293 (7,403)

TABLE 2. REVISED CRITICAL HABITAT UNITS FOR THE BAY CHECKERSPOT BUTTERFLY.[AREA ESTIMATES REFLECT ALL LAND WITHIN CRITICAL HABITAT UNIT BOUNDARIES IN ACRES (HECTARES).]

Unit	Federal	State or Local	Private	Total Area Designated
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	309 (165)	0	409 (166)
Unit 4: Jasper Ridge	0	0	329 (133)	329 (133)
Unit 5: Metcalf	0	123 (50)	4,380 (1,772)	4,503 (1,822)
Unit 6: Tulare Hill	0	14 (6)	334 (135)	348 (141)
Unit 7: Santa Teresa Hills	0	425 (172)	2,853 (1,155)	3,278 (1,327)
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: Hale	0	0	507 (205)	507 (205)
Unit 11: Bear Ranch	0	283 (114)	0	283 (114)
Unit 12: San Martin	0	0	467 (189)	467 (189)
Unit 13: Kirby	0	90 (37)	5,356 (2,167)	5,446 (2,204)
Total	0	3,643 (1,475)	14,650 (5,928)	18,293 (7,403)

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 entirely within 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 share some of the habitat requirements as the Bay checkerspot butterfly (such as native grasslands). The majority of this unit, approximately 577 ac (234 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)). The distance between Unit 1 and the most proximate unit, Unit 2, is greater than the published dispersal distance of the Bay checkerspot butterfly; however, numerous small patches of intervening grasslands may serve as additional stepping stones to potentially allow for movement between these two units. These patches of grassland habitat are not 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 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, pp. 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 are designated as 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 141 ac (57 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 County is unlikely to persist, which would leave only the one metapopulation in Santa Clara County and the loss of Unit 3 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. 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 the Edgewood Park Unit (Unit 3). The Jasper Ridge Unit is 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, which in turn supports the metapopulation dynamics of the Bay checkerspot butterfly in San Mateo County.

Unit 5: Metcalf

Unit 5 consists of 4,503 ac (1,822 ha) in Santa Clara County. The unit encompasses Units 10, 11, and 12 as identified in the 2001 designation and is the northern half of Unit 5 as identified in the 2007 proposed revised designation. The unit comprises the northern half of the ridgeline currently referred to as Coyote Ridge (although in the past has been referenced as Morgan Hill, Kirby Canyon, and the East Hills), 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 to the south. The unit was occupied at the time of listing, contains all the features essential to the conservation of the subspecies, and represents the northern portion of the only remaining core population of the Bay checkerspot butterfly. Other units in Santa Clara County depend on the core population as a source for recolonization. The unit represents the second largest, most contiguous, and highest quality habitat containing the second largest population of Bay checkerspot butterflies.

Researchers historically referred to the Bay checkerspot butterflies within this unit as three populations, Metcalf, San Felipe, and Silver Creek Hills, and our 2001 designation identified them as separate units. However, according to Launer (2008, p. 4), there are likely multiple subpopulations or populations within each of the historically studied populations, and the four names only represent the centers of historic study areas. 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 three populations within this 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 under a conservation easement 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 348 ac (141 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 Monterey Highway. 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). The highest numbers of individuals were 2,000 to 3,000 post diapause larvae in 2002, but the population has declined significantly, and that decline is believed to be due to lack of grazing over much of the unit (CH2M Hill 2008, p. 8-8). 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. Locally owned lands within this unit include parts of Coyote Creek Park, Metcalf Park, and Santa Teresa County Park totaling approximately 14 ac (5 ha). 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 Safe Harbor Agreement and Habitat Conservation Agreement for the Bay checkerspot butterfly.

Unit 7: Santa Teresa Hills

Unit 7 consists of 3,278 ac (1,327 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 occupied at the time of listing, although that was not specifically mentioned in the listing rule. 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; 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. Approximately 425 ac (172 ha) within the unit is owned by Santa Clara County Department of Parks and Recreation with the remainder of the unit consisting of private land.

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 two subunits are located on the southwest side of the Santa Clara Valley between Laguna Avenue and San Bruno Avenue and are entirely on private land. Both subunit 9A and 9B were occupied by the Bay checkerspot butterfly at the time of listing and are noted as one of the locations occupied in Harrison *et al.* (1988, p. 362). 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, 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, the subunits are likely to be repopulated 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 in unincorporated Santa Clara County. Subunit 9A's northeast boundaries are bordered by the proposed Coyote Valley Specific Plan.

Unit 10: Hale

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. The unit name ''Hale'' was changed from ''Morgan Hill'' in our 2007 proposed revised designation based on comments from peer reviews. This unit was 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 PCEs, 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 of Unit 5 and 2.2 mi (3.5 km) southeast of 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.

Unit 11: Bear Ranch

Unit 11 consists of 283 ac (114 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. Although we are unable to determine from the available data that Unit 11 was occupied by the species at the time of listing, we have determined that this area 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 to 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 467 ac (189 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 of the subspecies. 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, has developed a management plan for the property, and is 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. The remainder of the unit is privately owned.

Unit 13: Kirby

Unit 13 consists of 5,446 ac (2,204 ha) in Santa Clara County. The unit encompasses Unit 8 identified in the 2001 designation and is the southern half of Unit 5 as identified in the 2007 revised proposed rule. The unit comprises the southern half of the ridgeline currently referred to as Coyote Ridge (but as noted above has been referred to by a variety of names in the past), the majority of which is in private ownership. To the north the unit is bordered by Metcalf Road, to the southwest by U.S. Highway 101, and Metcalf Road to the south. The unit was occupied at the time of listing, contains all the features essential to the conservation of the subspecies, and represents the southern portion of the only remaining core population of the Bay checkerspot butterfly (Unit 5 contains the northern portion of the core population). Other units in Santa Clara County depend on the 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.

The Kirby population is the southernmost of the four historically studied populations and has consistently had the largest numbers of Bay checkerspot butterflies. The Kirby area had an estimated 700,000 individuals in 2004, 100,000 individuals in 2005 (Weiss 2006, p. 1), and 40,000 in 2007 (CH2M Hill p. 8-8). 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. Approximately 90 ac (37 ha) is owned by the Santa Clara Department of Parks and Recreation.

Effects of Critical Habitat Designation

Section 7 Consultation

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

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

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

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

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

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid jeopardizing the continued existence of the listed species or destroying or adversely modifying critical habitat.

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

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

subsequently listed species or designated critical habitat.

Federal activities that may affect the Bay checkerspot butterfly or its designated critical habitat will require section 7(a)(2) consultation under the Act. Activities on State, Tribal, local, or private lands requiring a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from us under section 10(a)(1)(B) of the Act) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) are examples of agency actions that may be subject to the section 7(a)(2) consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, Tribal, local or private lands that are not federally funded, authorized, or carried out, do not require section 7(a)(2) consultations.

Application of the ''Adverse Modification'' Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features 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 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 that would remove, destroy, or alter vegetation, including, but not limited to, changes in grazing regimes (such as increase or decrease in livestock density, changes in frequency or timing of grazing, or removal of all grazing), prescribed burns (generally limited to short-term effects), or other vegetation management strategies that reduce densities of the larval and adult host plants. 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 (e.g., subdivisions, road building, placement of utilities, golf courses, trail construction, off-road vehicle use). 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 and 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 nativeforbs 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 have determined that all of the units designated 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 all are likely or have the potential 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, which may affect the species or its designated critical habitat, are not likely to jeopardize the continued existence of the Bay checkerspot butterfly or result in adverse modification of critical habitat.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific information available and to consider economic, national security and other relevant impacts of designating a particular area as critical habitat. Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat if the Secretary determines that the benefits of such exclusion exceed the benefits of designating the area as critical habitat.

However, this exclusion cannot occur unless the Secretary determines that it will not result in the extinction of the species concerned.

Following the publication of the proposed critical habitat designation, we conducted an economic analysis to estimate the potential economic effect of the designation. On April 15, 2008, we published a notice of availability (73 FR 20237), the draft analysis (dated March 12, 2008), and we accepted public comments on the draft document from April 15, 2008 to May 15, 2008. We received two public comments related to the draft economic analysis. A final analysis of the potential economic effects of the designation was developed (Berkeley Economic Consulting 2008), taking into consideration any relevant new information.

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

The economic analysis quantifies impacts associated with the conservation of Bay checkerspot butterfly including future urban development, management of invasive plants, pesticide use, and overgrazing or undergrazing. These activities were identified as factors that may require special management (72 FR 48183-48184). Pre-designation (1987 to 2007) impacts associated with species conservation activities in areas designated as critical habitat are estimated at approximately $9 million in 2007 dollars. The final EA forecasts baseline economic impacts in the areas designated to be approximately $390 million ($24 million annualized) (2008 dollars) applying a 3 percent discount rate over the next 22 years and $270 million ($24 million annualized) (2008 dollars) applying a 7 percent discount rate over the next 22 years. The final EA forecasts incremental economic impacts to be approximately $0 to $750,000 ($0 to $44,000 annualized) (2008 dollars) applying a 3 percent discount rate over the next 22 years. The cost estimates are based on the proposed revised designation of critical habitat published in the **Federal Register** on August 22, 2007 (72 FR 48178).

The final EA considers the potential economic effects of actions relating to the conservation of the Bay checkerspot butterfly, including costs associated with sections 4, 7, and 10 of the Act, as well as costs attributable to the designation of revised critical habitat. It further considers the economic effects of protective measures taken as a result of other Federal, State, and local laws that aid habitat conservation for the Bay checkerspot butterfly in areas containing features essential to the conservation of the species. The final EA considers both economic efficiency and distributional effects. In the case of habitat conservation, efficiency effects generally reflect the ''opportunity costs'' associated with the commitment of resources to comply with habitat protection measures (such as lost economic opportunities associated with restrictions on land use).

The final EA also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The final EA measures lost economic efficiency associated with residential and commercial development and public projects and activities, such as economic impacts on water management and transportation projects, Federal lands, small entities, and the energy industry. Decision-makers can use this information to assess whether the effects of the revised designation might unduly burden a particular group or economic sector. Finally, the final EA looks retrospectively at costs that have been incurred since the date we listed the Bay checkerspot butterfly as endangered (52 FR 35366, September 18, 1987) and considers those costs that may occur in the 22 years following the designation of critical habitat. Because the final EA considers the potential economic effects of all actions relating to the conservation of the Bay checkerspot butterfly, including costs associated with sections 4, 7, and 10 of the Act and those attributable to a revised designation of critical habitat, the final EA may have overestimated the potential economic impacts of the revised critical habitat designation.

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

Application of Section 4(a)(3) of the Act

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108-136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.'' There are no Department of Defense lands with a completed integrated natural resources management plan within this final revised critical habitat designation.

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

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

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. Before we may exclude an area, we must determine that

the exclusion would not result in the extinction of the species.

Portions of Units 5, 6, 12, and 13 are currently protected or proposed for protection. Not all areas protected are under conservation easements, some are protected through other means such as fee title, deed restrictions, etc. (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 were not excluded from this final revised designation of critical habitat 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 has also not been excluded in this final rule.

San Bruno Mountain Habitat Conservation Plan (SBMHCP)

After consideration under section 4(b)(2) of the Act, we are not excluding lands covered under the 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, pp. 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. A notice of availability for a draft of amendment five was published in the **Federal Register** on April 15, 2008 (73 FR 20324). The draft of 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 (prescribed fire, mowing, and grazing); (2) replanting and restoration; (3) monitoring; and (4) approximately $ 4 million in an endowment for ongoing habitat management. The Service expects amendment five, if approved, would 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.

In our August 22, 2007, proposed rule (72 FR 48178), we relied largely on the draft provisions of amendment five to the SBMHCP as the basis of the proposed exclusion of Unit 1 from critical habitat. As stated above, we believed those provisions would significantly contribute to the conservation of the essential features for the Bay checkerspot butterfly. However, the finalization of amendment five will not occur prior to the publication of this final rule. Therefore, our evaluation of the potential exclusion of Unit 1 is based on the current provisions of the SBMHCP, as amended by amendments one through four.

The Bay checkerspot butterfly is not currently a covered species under the SBMHCP. Although all habitat for the Bay checkerspot butterfly on San Bruno Mountain is contained within the SBMHCP, there is currently inadequate funding to manage the grasslands within the HCP in a manner that would conserve the species' larval host and adult nectar plants (PCE 2). Without management actions (such as grazing, prescribed burns, and exotic species control) that remove the buildup of dense stands of grass (thatch), the species' larval host and adult nectar plants are outcompeted by nonnative vegetation and the Bay checkerspot butterfly is no longer able to persist. Therefore, without adequate funding, the current HCP does not provide sufficient protection for the Bay checkerspot butterfly or the features essential to the conservation of the species.

Including this area in critical habitat may serve as an educational tool for potential habitat restoration efforts and potential re-introduction of the Bay checkerspot butterfly to Unit 1. 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; however, amendment 5 to the SBMHCP provides funding to carry out the existing management plan. As a result, we do not anticipate that any action on these lands would destroy or adversely modify these areas. Therefore, we do not expect that including Unit 1 in the final designation would lead to any changes to actions on the conservation lands to avoid destroying or adversely modifying that habitat.

Based upon the above considerations, the lands covered under the SBMHCP in Unit 1have not been excluded in this final revised designation of critical habitat.

Required Determinations

Regulatory Planning and Review

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

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

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

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

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

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

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

significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

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

To determine if the rule could significantly affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities. We apply the ''substantial number'' test individually to each industry to determine if certification is appropriate. However, the SBREFA does not explicitly define ''substantial number'' or ''significant economic impact.'' Consequently, to assess whether a ''substantial number'' of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in an area. In some circumstances, especially with critical habitat designations of limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the number of small entities potentially affected, we also consider whether their activities have any Federal involvement.

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

In our economic analysis of this designation, we evaluated the potential economic effects on small business entities resulting from conservation actions related to the designation of critical habitat for the Bay checkerspot butterfly. No entities that are likely to bear incremental impacts from the rule are identified as small entities. There are only 5 acres in Unit 1 that are privately owned and may be affected by critical habitat. By definition, private landowners are not small businesses. To the extent that a private landowner does operate a business that relies on the potentially affected land, this would be considered in this small business analysis. According to the economic analysis, no information suggests this is the case. The economic analysis therefore did not forecast impacts to small entities associated with the designation on private land. Therefore, based on the above reasoning and currently available information, we certify that this rule will not have a significant economic impact on a substantial number of small entities. A regulatory flexibility analysis is not required.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 801 et seq.)

Under SBREFA, this rule is not a major rule. Our detailed assessment of the economic effects of this designation is described in the economic analysis. Based on the effects identified in the economic analysis, we believe that this rule will not have an annual effect on the economy of $100 million or more, will not cause a major increase in costs or prices for consumers, and will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Refer to the final economic analysis for a discussion of the effects of this determination (see **ADDRESSES** for information on obtaining a copy of the final economic analysis).

Executive Order 13211 – Energy Supply, Distribution, or Use

On May 18, 2001, the President issued an Executive Order (E.O. 13211; Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute ''a significant adverse effect'' when compared without the regulatory action under consideration. The final economic analysis finds that none of these criteria are relevant to this analysis. Thus, based on information in the economic analysis, energy-related impacts associated with Bay checkerspot butterfly conservation activities within the final critical habitat designation are not expected. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

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

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

(a) This rule 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, our economic analysis did not forecast any economic impacts to small governments. Therefore, we do not anticipate that this rule will significantly or uniquely affect small governments. As such, a Small Government Agency Plan is not required.

Takings

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

Federalism

In accordance with E.O. 13132 (Federalism), this final 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 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 physical and biological features essential to the conservation of the species are more clearly defined, and the PCEs necessary to support the life processes of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Civil Justice Reform

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

Paperwork Reduction Act of 1995

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

National Environmental Policy Act (NEPA)

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

Government-to-Government Relationship with Tribes

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

References Cited

A complete list of all references cited in this 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 staff of 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.

Regulation Promulgation

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

PART 17—[AMENDED]

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

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

■ 2. Amend § 17.95(i) by revising 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 (for example, 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*). These species, with the exception of dwarf plantain, are not required by the Bay checkerspot butterfly, but merely are provided here as an example of species commonly found in California grasslands.

(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) 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.

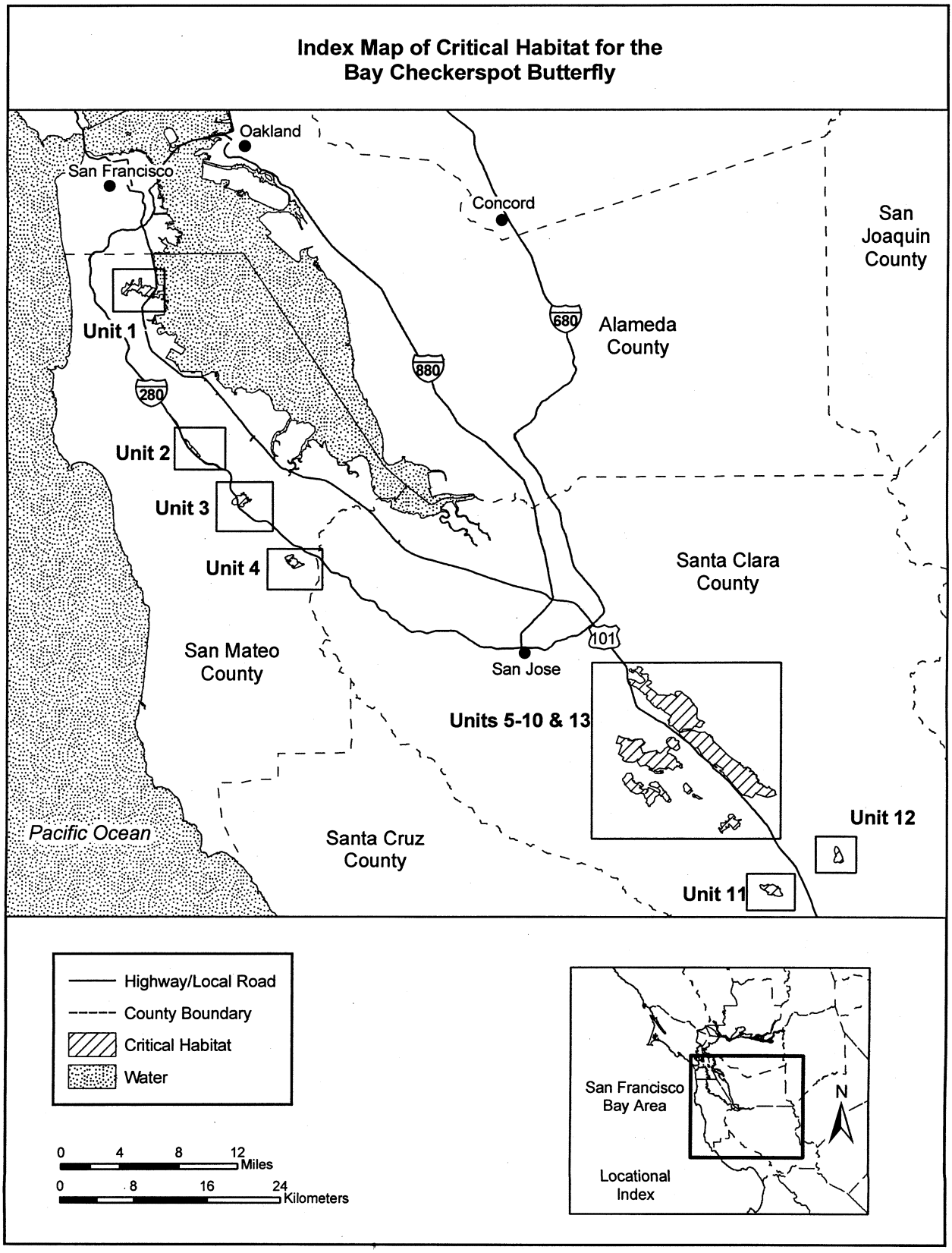
(v) The presence of stable holes and cracks in the soil, and surface rock outcrops that provide shelter for the larval stage of the Bay checkerspot butterfly during summer diapause.

(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 follows:

BILLING CODE 4310–55–S



BILLING CODE 4310–55–C

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

(i) 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; 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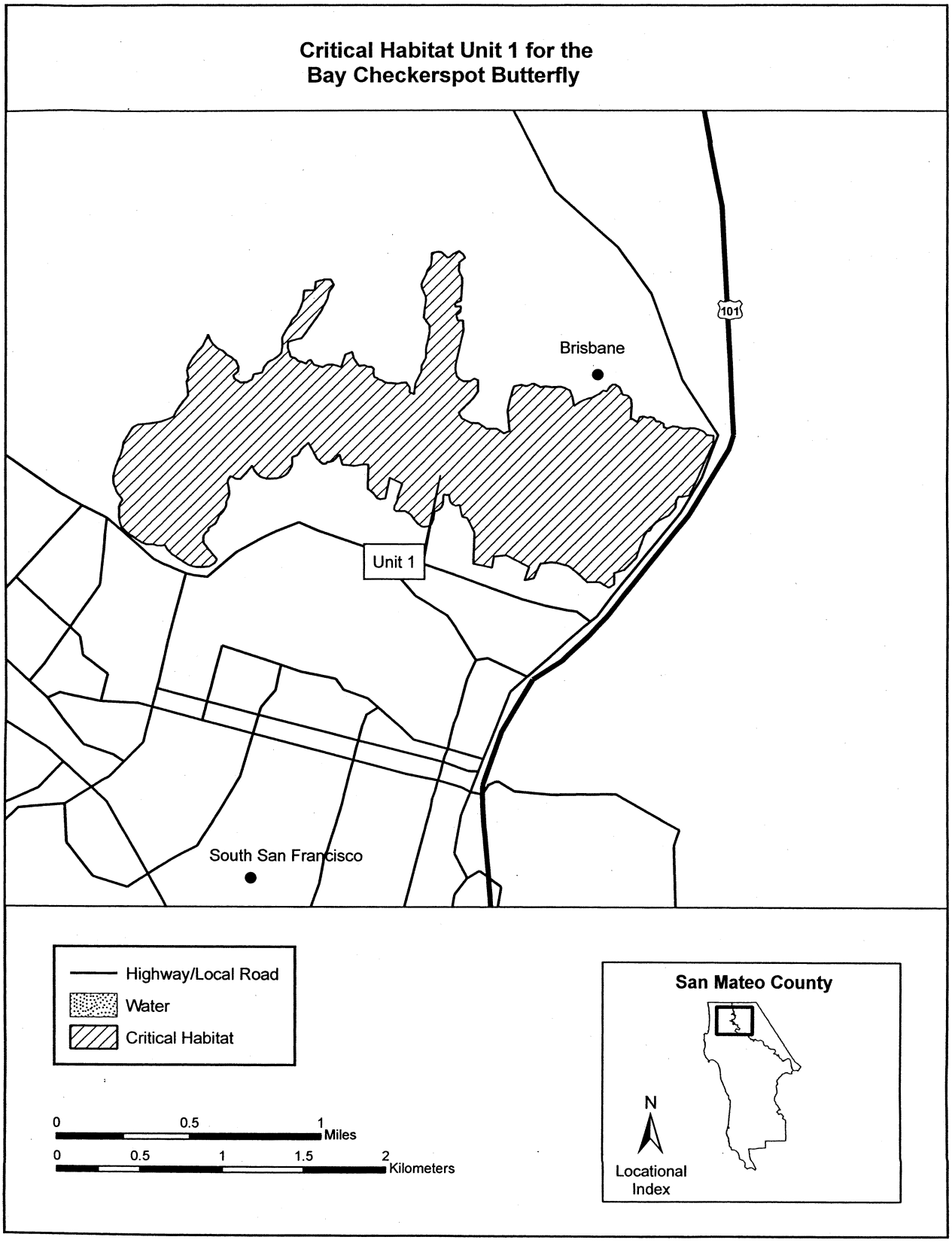
(ii) *Note*: Map of Unit 1 for Bay checkerspot butterfly follows:

BILLING CODE 4310–55–S



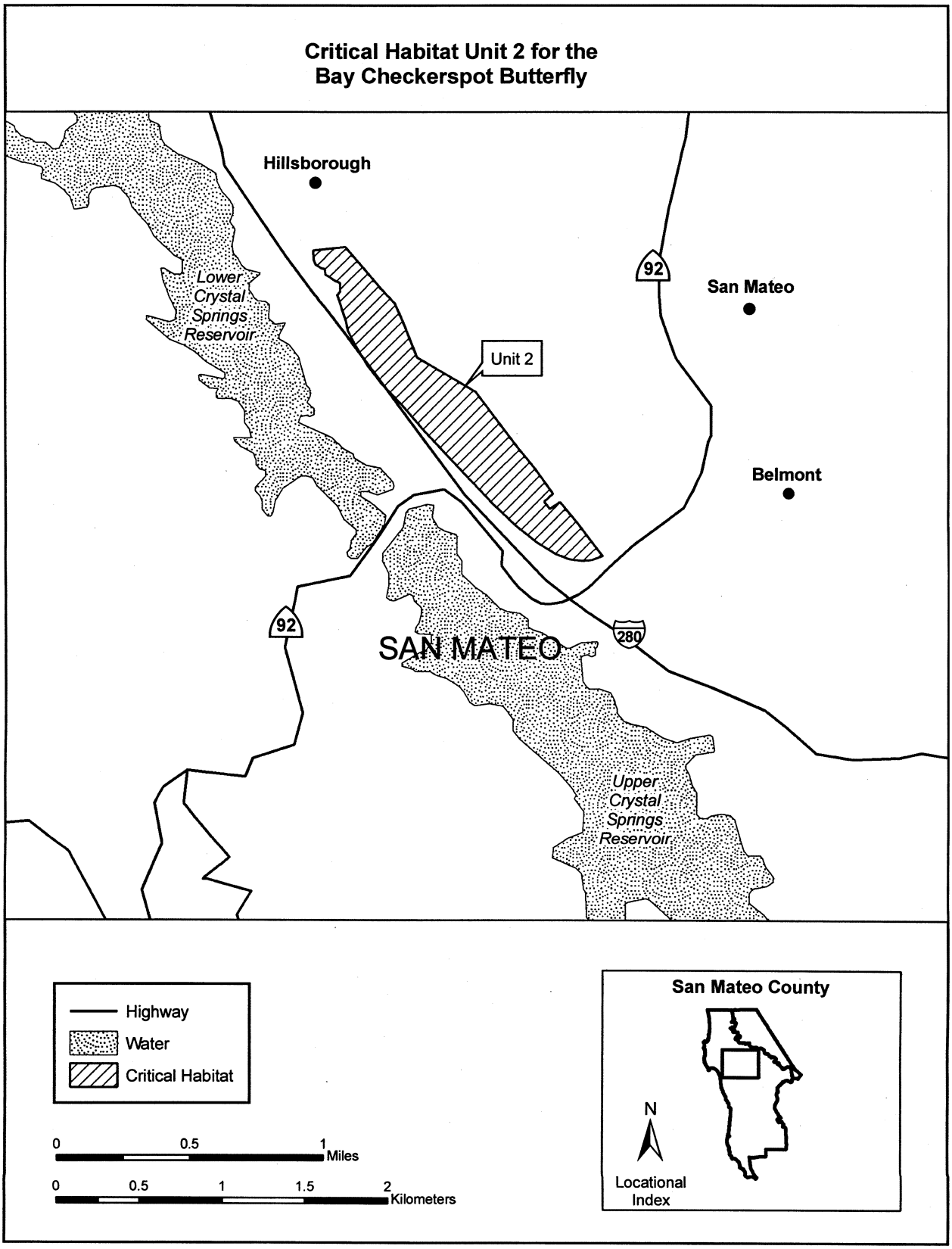
BILLING CODE 4310–55–C

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

(i) 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 follows:

BILLING CODE 4310–55–S



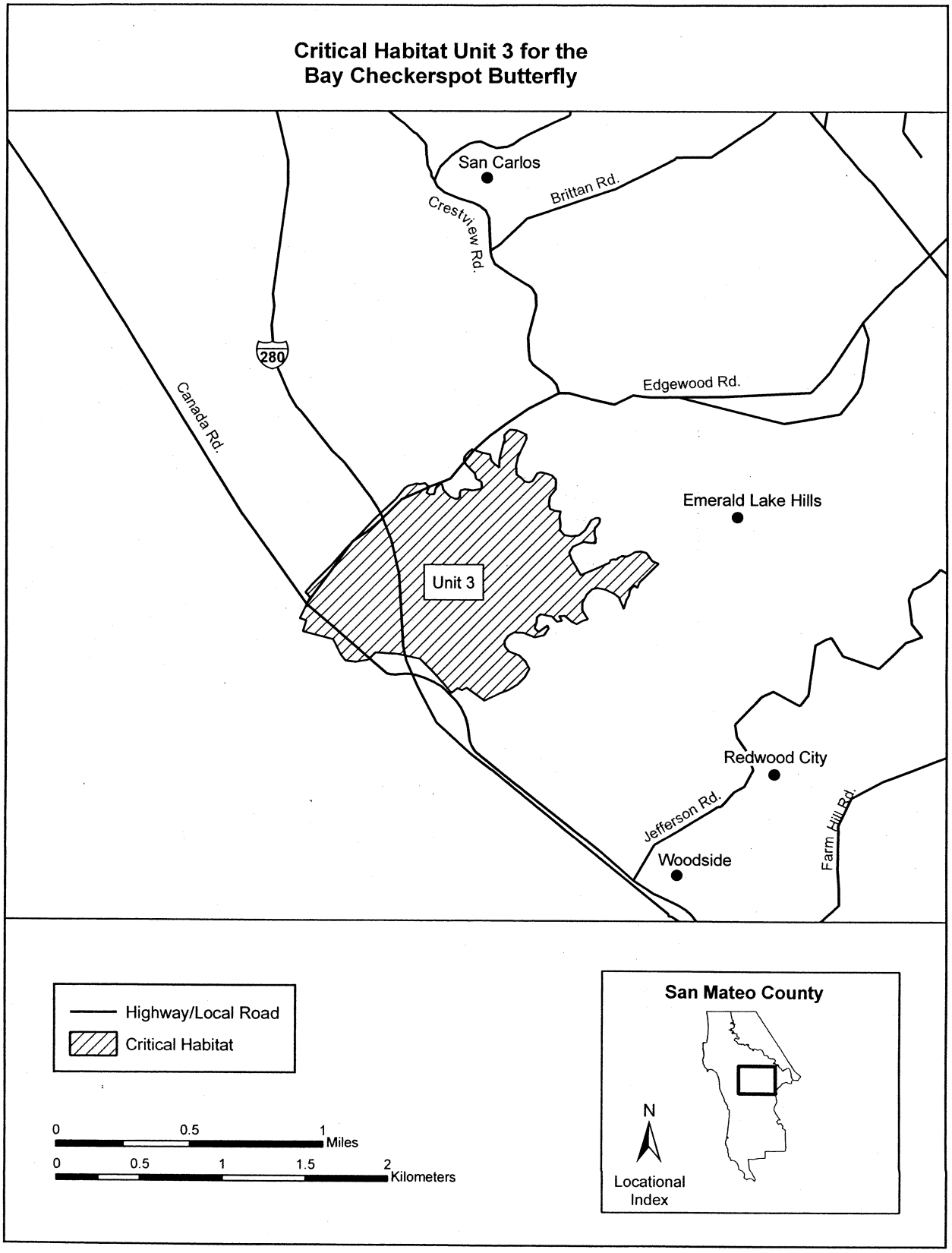
BILLING CODE 4310–55–C

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

(i) 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 follows:

BILLING CODE 4310–55–S



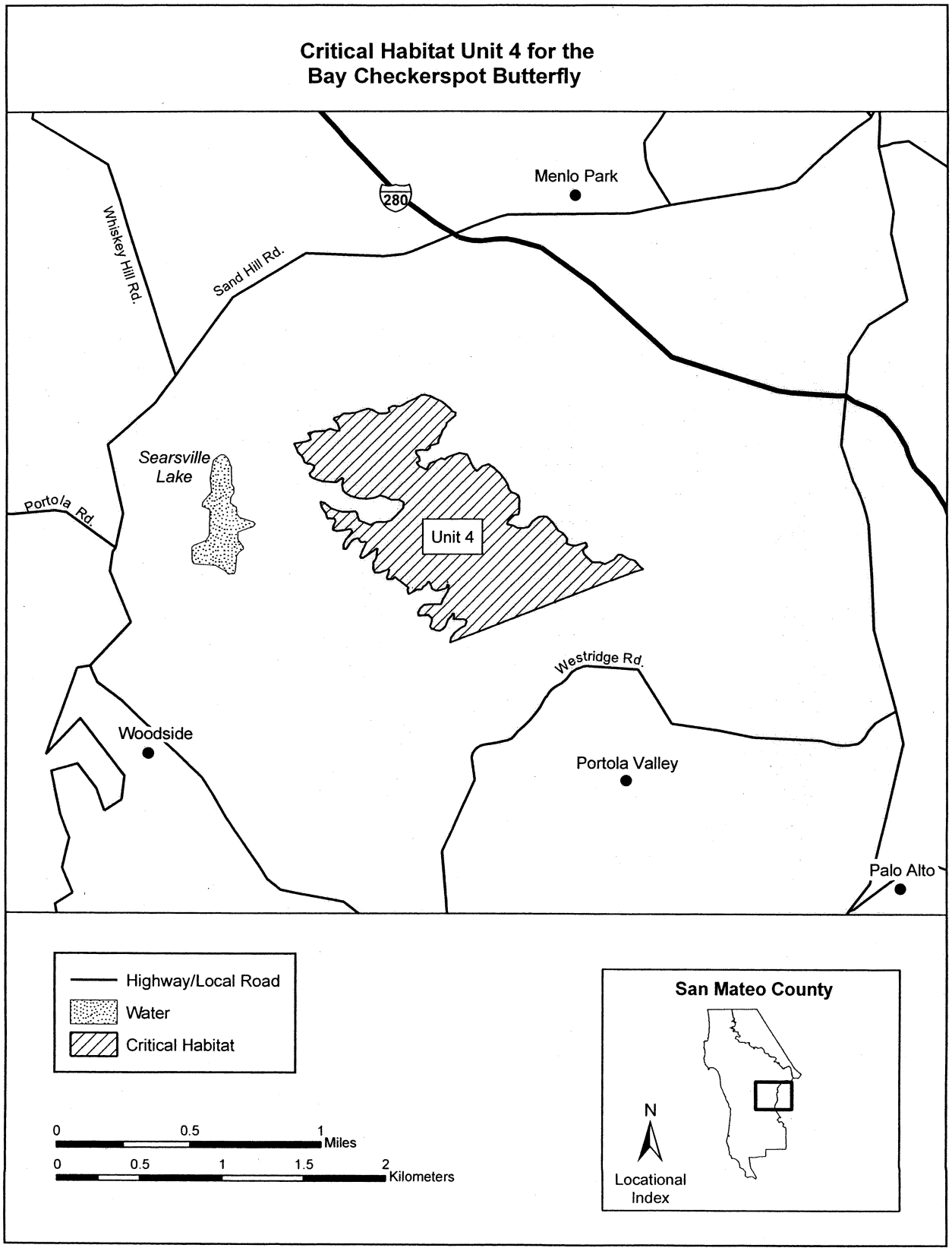
BILLING CODE 4310–55–C

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

(i) 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 follows:

BILLING CODE 4310–55–S



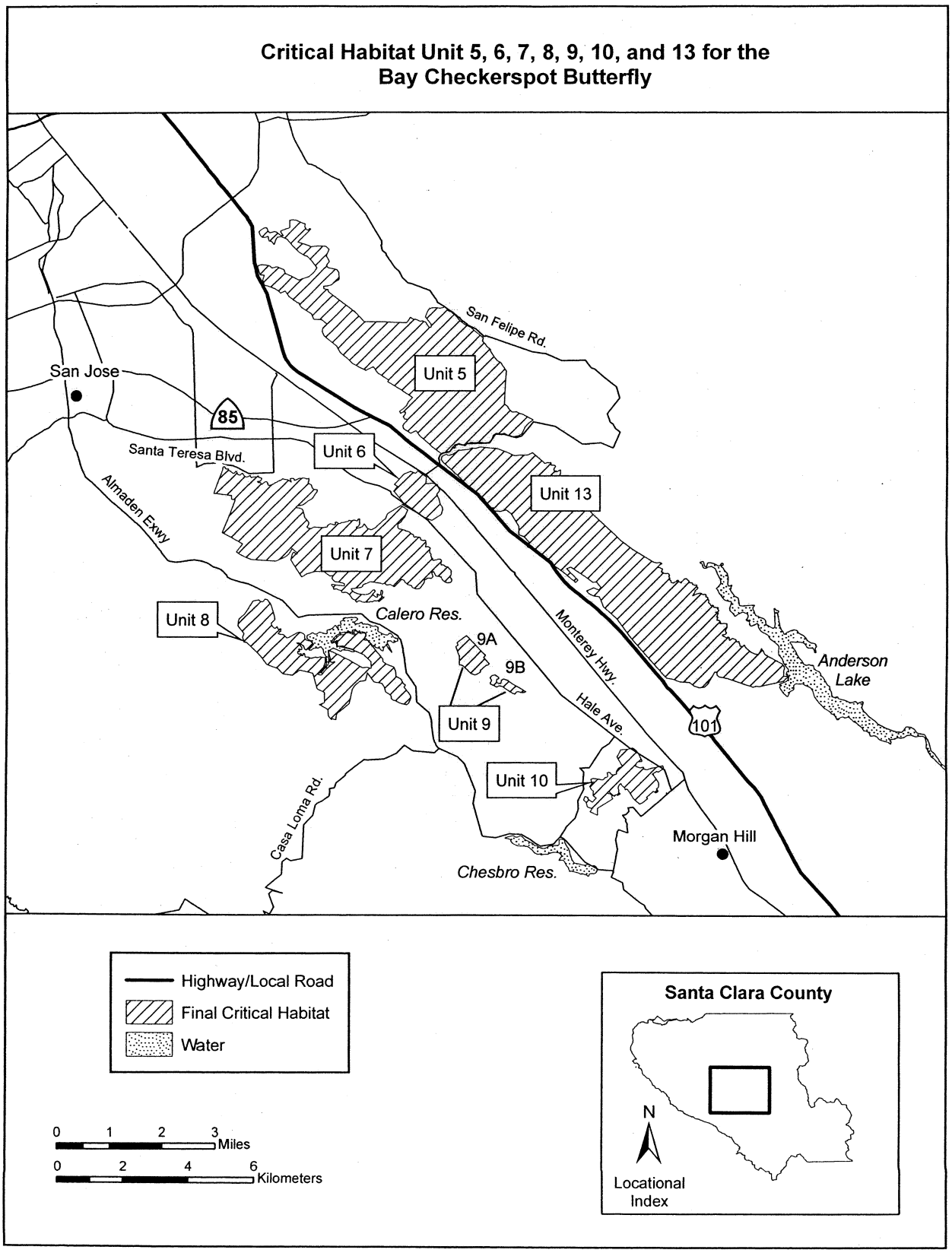
BILLING CODE 4310–55–C

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

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 611242, 4121203; 611273, 4121300; 611382, 4121353; 611488, 4121320; 611607, 4121360; 611707, 4121423; 611776, 4121486; 611856, 4121482; 611945, 4121496; 612084, 4121502; 612190, 4121555; 612315, 4121543; 612448, 4121585; 612577, 4121572; 612974, 4121532; 613302, 4121410; 613507, 4121310; 613672, 4121337; 613907, 4121337; 614056, 4121410; 614393, 4121110; 614418, 4121079; 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; 616548, 4118936; 616751, 4118743; 617140, 4118453; 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; 619483, 4116876; 619460, 4116840; 619496, 4116812; 619525, 4116780; 619536, 4116746; 619553, 4116743; 619592, 4116766; 619630, 4116739; 619626, 4116701; 619641, 4116687; 619677, 4116701; 619706, 4116681; 619753, 4116690; 619769, 4116667; 619745, 4116648; 619789, 4116592; 619775, 4116566; 619685, 4116547; 619768, 4116513; 619764, 4116489; 619720, 4116399; 619758, 4116390; 619725, 4116298; 619792, 4116295; 619827, 4116268; 619843, 4116231; 619832, 4116189; 619956, 4116200; 620026, 4116196; 620027, 4116146; 620037, 4116090; 619981, 4115976; 620018, 4115910; 619981, 4115866; 619891, 4115850; 619903, 4115813; 619978, 4115796; 619996, 4115766; 620072, 4115793; 620111, 4115763; 620096, 4115712; 620116, 4115680; 620199, 4115750; 620314, 4115703; 620320, 4115653; 620356, 4115633; 620401, 4115659; 620444, 4115506; 620503, 4115495; 620571, 4115549; 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; 620046, 4114525; 619795, 4114578; 619736, 4114633; 619738, 4114702; 619674, 4114732; 619453, 4114356; 619351, 4114262; 619197, 4114240; 619041, 4114293; 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; 613890, 4118524; 613954, 4118666; 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; returning to 611242, 4121203.

(ii) *Note*: Unit 5 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

BILLING CODE 4310–55–S



BILLING CODE 4310–55–C

(11) Unit 6: 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) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 610971, 4120478; 611134, 4120435; 611200, 4120245; 611116, 4120132; 611181, 4119977; 611212, 4119824; 611280, 4119743; 611293, 4119653; 611241, 4119512; 610967, 4119335; 610786, 4119391; 610392, 4119622; 610302, 4119674; 610057, 4119813; 610117, 4119846; 609929, 4120074; 609799, 4120229; 609915, 4120374; 609819, 4120430; 610113, 4120749; 610310, 4120833; 610459, 4120769; 610531, 4120847; 610797, 4120659; 610776, 4120464; 610843, 4120449; returning to 610971, 4120478.

(ii) *Note*: Unit 6 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(12) Unit 7: 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) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 608447, 4119332; 608474, 4119309; 608576, 4119335; 608615, 4119330; 608689, 4119306; 608706, 4119356; 608749, 4119377; 608758, 4119360; 608746, 4119302; 608760, 4119230; 608722, 4119159; 608656, 4119124; 608669, 4119080; 608762, 4119101; 608846, 4119140; 608892, 4119222; 609000, 4119082; 609117, 4119040; 609190, 4119077; 609244, 4119107; 609509, 4119359; 609534, 4119358; 609548, 4119366; 609549, 4119393; 609568, 4119444; 609582, 4119466; 609606, 4119520; 609628, 4119547; 609656, 4119568; 610016, 4119783; 610228, 4119650; 610177, 4119543; 610143, 4119434; 610086, 4119368; 610019, 4119278; 609929, 4119219; 609928, 4119116; 609956, 4119070; 610001, 4119067; 610048, 4119044; 610138, 4119037; 610165, 4119006; 610240, 4118997; 610306, 4118956; 610325, 4118923; 610343, 4118915; 610381, 4118905; 610405, 4118877; 610414, 4118822; 610436, 4118812; 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; 611100, 4117637; 611072, 4117668; 611021, 4117766; 610962, 4117743; 610985, 4117678; 611007, 4117611; 610957, 4117563; 610836, 4117565; 610800, 4117537; 610773, 4117534; 610752, 4117518; 610733, 4117438; 610716, 4117404; 610610, 4117272; 610572, 4117243; 610501, 4117238; 610412, 4117262; 610370, 4117294; 610350, 4117341; 610281, 4117354; 610220, 4117381; 610179, 4117413; 610146, 4117441; 610127, 4117492; 610058, 4117531; 609819, 4117309; 609692, 4117372; 609593, 4117353; 609526, 4117409; 609460, 4117386; 609405, 4117409; 609091, 4117456; 608872, 4117364; 608840, 4117297; 608733, 4117262; 608502, 4117237; 608524, 4117204; 608603, 4117138; 608723, 4117081; 608830, 4117067; 608934, 4117066; 609071, 4117093; 609181, 4117210; 609225, 4117208; 609240, 4117159; 609163, 4117083; 609228, 4117009; 609303, 4116981; 609325, 4117003; 609303, 4117052; 609302, 4117087; 609324, 4117084; 609349, 4117043; 609401, 4117059; 609409, 4117162; 609430, 4117203; 609458, 4117190; 609471, 4117150; 609435, 4117016; 609506, 4116986; 609350, 4116852; 609333, 4116880; 609256, 4116873; 609228, 4116889; 609205, 4116873; 609163, 4116848; 609131, 4116849; 609102, 4116863; 609061, 4116836; 609011, 4116841; 608843, 4116838; 608804, 4116864; 608758, 4116878; 608714, 4116867; 608672, 4116827; 608625, 4116899; 608542, 4116933; 608489, 4117019; 608426, 4117079; 608382, 4117115; 608343, 4117134; 608305, 4117136; 608259, 4117127; 608216, 4117129; 608210, 4117170; 608197, 4117192; 608138, 4117197; 608062, 4117234; 608020, 4117241; 607997, 4117227; 607959, 4117228; 607963, 4117262; 607941, 4117301; 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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; 607145, 4119123; 607167, 4119087; 607256, 4119070; 607355, 4119123; 607619, 4119104; 607673, 4119099; 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; 608157, 4119228; 608207, 4119263; 608269, 4119268; 608314, 4119280; 608363, 4119287; 608409, 4119297; 608425, 4119321; returning to 608447, 4119332.

(ii) *Note*: Unit 7 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

(13) Unit 8: 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) 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 the map in paragraph (10)(ii) of this entry.

(14) Unit 9: 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, returning to 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; 613571, 4114099; 613525, 4114035; 613464, 4114059; 613430, 4114072; 613389, 4114098; 613269, 4114176; 613135, 4114270; 613043, 4114292; 612952, 4114245; 612882, 4114296; 612769, 4114341; 612771, 4114386; 612807, 4114455; 612779, 4114504; 612761, 4114557; 612827, 4114609; 612910, 4114621; 613020, 4114550; 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 the map in paragraph (10)(ii) of this entry.

(15) Unit 10: Hale, 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 .

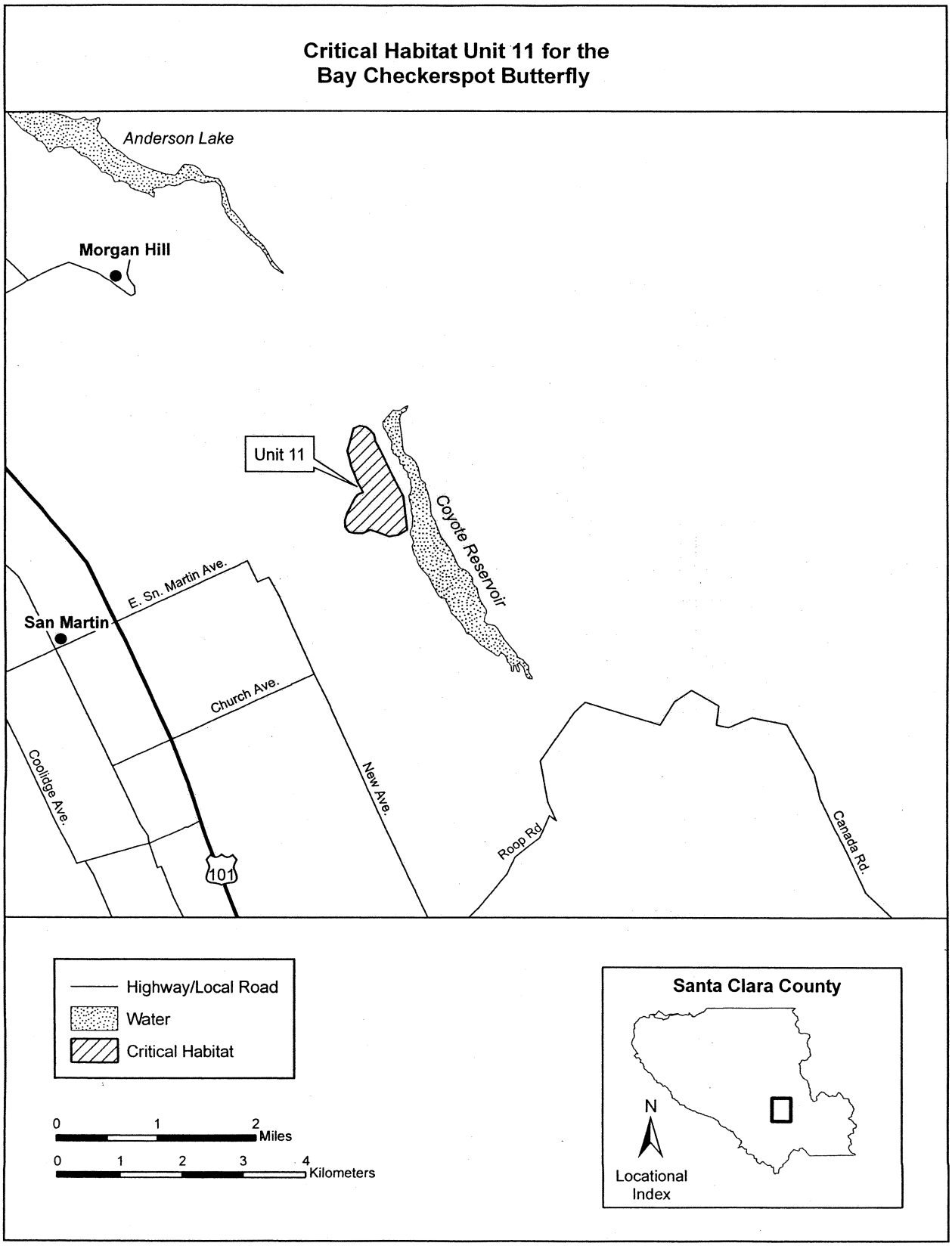
(ii) *Note*: Unit 10 for Bay checkerspot butterfly is depicted on the map in paragraph (10)(ii) of this entry.

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

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 628304, 4108774; 628402, 4108819; 628507, 4108797; 628590, 4108729; 628635, 4108675; 628659, 4108564; 628747, 4108397; 628931, 4108012; 629104, 4107674; 629171, 4107133; 629022, 4107043; 628875, 4107022; 628732, 4107075; 628575, 4107128; 628449, 4107072; 628322, 4107074; 628234, 4107094; 628173, 4107173; 628166, 4107286; 628210, 4107426; 628327, 4107650; 628375, 4107703; 628458, 4107736; 628368, 4107898; 628263, 4108172; 628208, 4108414; returning to 628304, 4108774.

(ii) *Note*: Map of Unit 11 for Bay checkerspot butterfly follows:

BILLING CODE 4310–55–S



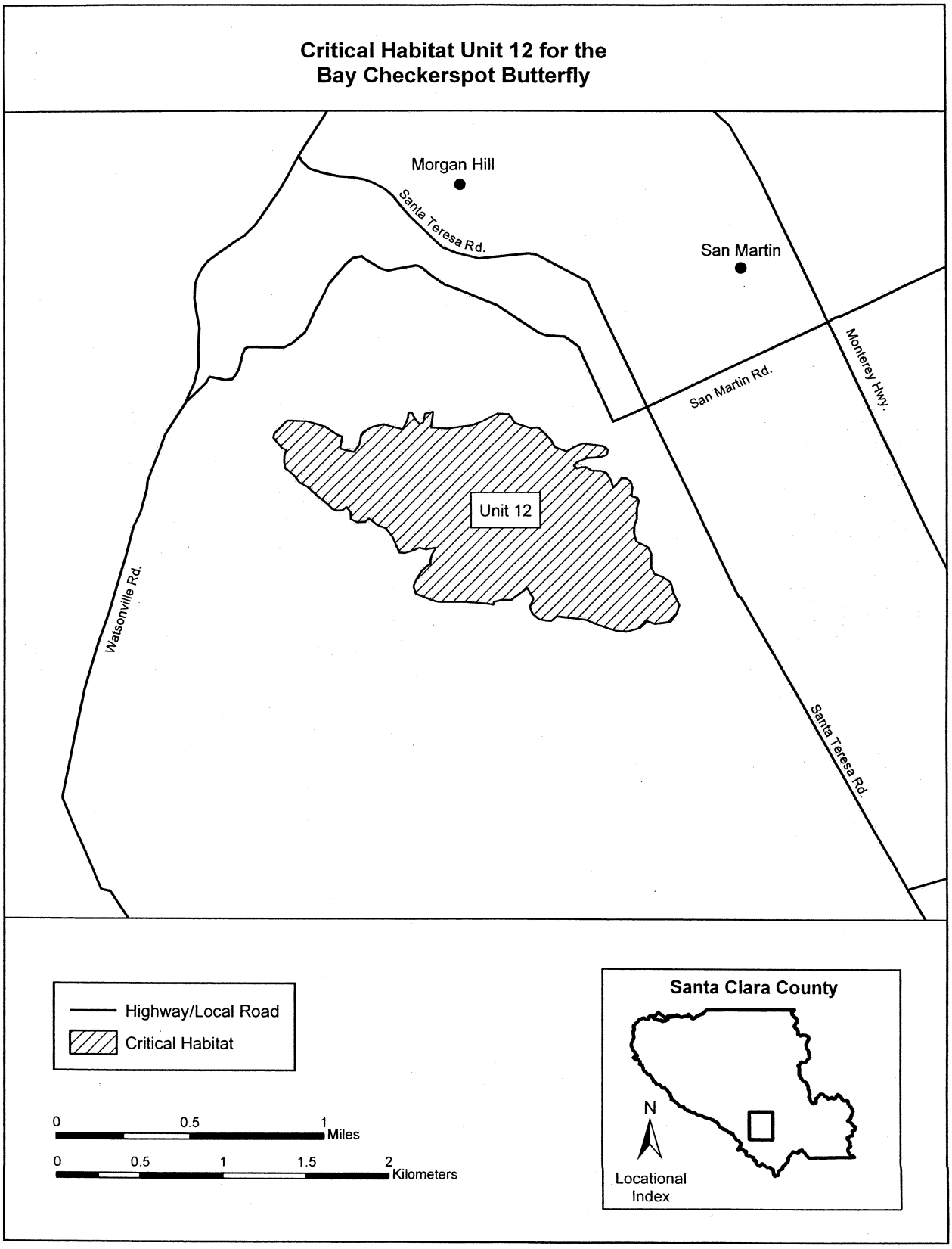
BILLING CODE 4310–55–C

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

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 622150, 4104262; 622178, 4104216; 622192, 4104170; 622217, 4104195; 622241, 4104226; 622274, 4104226; 622296, 4104208; 622309, 4104171; 622302, 4104120; 622340, 4104110; 622347, 4104088; 622336, 4104047; 622334, 4103984; 622320, 4103948; 622317, 4103898; 622330, 4103845; 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; 621951, 4104417; 622007, 4104440; 622132, 4104423; 622160, 4104403; 622153, 4104371; 622118, 4104356; 622033, 4104350; 622004, 4104340; 621974, 4104326; 621951, 4104304; 621969, 4104286; 621996, 4104293; 622032, 4104294; 622060, 4104274; 622115, 4104272; returning to 622150, 4104262.

(ii) *Note:* Map of Unit 12 for Bay checkerspot butterfly follows:

BILLING CODE 4310–55–S



BILLING CODE 4310–55–C

(18) Unit 13: Kirby, Santa Clara County, California. From USGS 1:24,000 scale quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill.

(i) Land bounded by the following UTM zone 10, NAD 1983 coordinates (E,N): 614073, 4122412; 613927, 4122313; 613818, 4122194; 613722, 4121982; 613609, 4121926; 613463, 4121895; 613322, 4121923; 613199, 4122005; 613063, 4121982; 612938, 4122012; 612845, 4121942; 612809, 4121823; 612723, 4121727; 612574, 4121711; 612435, 4121734; 612295, 4121716; 612154, 4121723; 612079, 4121699; 612017, 4121720; 611996, 4121655; 611902, 4121653; 611790, 4121695; 611662, 4121642; 611579, 4121554; 611512, 4121447; 611422, 4121445; 611365, 4121419; 611310, 4121420; 611247, 4121377; 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; 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; 613206, 4123339; 613193, 4122893; 613280, 4122832; 613351, 4122715; 613426, 4122657; 613489, 4122657; 613563, 4122662; 613669, 4122607; 613741, 4122596; 614073, 4122412.

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

Dated: August 13, 2008

David Verhey

Acting Assistant Secretary for Fish and Wildlife and Parks

[FR Doc. E8–19195 Filed 8–25–08; 8:45 am]

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