DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AH61

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

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat pursuant to the Endangered Species Act of 1973, as amended (Act), for the bay checkerspot butterfly (*Euphydryas editha bayensis*) (bay checkerspot). A total of approximately 10,597 hectares (26,182 acres) of land falls within the boundaries of the proposed critical habitat designation. Proposed critical habitat is located in San Mateo and Santa Clara Counties, California. If this proposal is made final, section 7 of the Act requires Federal agencies to insure that any activity they fund, authorize, or carry out does not result in the destruction or adverse modification of critical habitat. Section 4 of the Act requires us to consider economic and other impacts of specifying any particular area as critical habitat. We solicit data and comments from the public on all aspects of this proposal, including data on the economic and other impacts of the designation. We may revise this proposal to incorporate or address new information received during the comment period.

DATES: We will accept comments until December 15, 2000. We will hold a public hearing in Newark, California, on October 30, 2000, from 1:00 p.m. to 3:00 p.m. and from 6:00 p.m. to 8:00 p.m.

ADDRESSES: *Comment Submission:* If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods.

(1) You may mail written comments to the Field Supervisor, Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825.

(2) You may send comments by electronic mail (e-mail) to fw1baycheckerspot@fws.gov. See the Public Comments Solicited section below for file format and other information about electronic filing.

(3) You may hand-deliver comments to our Sacramento Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Suite W 2605, Sacramento, California 95825.

Public Hearing: We will hold the Newark hearing at the Hilton Newark/Fremont, 39900 Balentine Drive, Newark, California.

Document Availability: Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the address listed under (3) above.

FOR FURTHER INFORMATION CONTACT: David Wright or Ken Sanchez at telephone 916/414–6600.

SUPPLEMENTARY INFORMATION:

Background

The bay checkerspot is a medium-sized butterfly with a wingspan of about 5 centimeters (2 inches). The forewings have black bands along all the veins on the upper wing surface, contrasting sharply with bright red, yellow, and white spots. The bay checkerspot differs from LuEsther's checkerspot (*Euphydryas editha luestherae*) (a later-flying, *Pedicularis*-feeding subspecies of Inner Coast Range chaparral in central California) by being darker, and by lacking a relatively uninterrupted red band demarcating the outer wing third. The black banding on the forewings of the bay checkerspot gives a more checkered appearance than in other subspecies, such as the smaller Quino checkerspot (*Euphydryas editha quino*) of southern California, or the montane subspecies (for example, the Mono checkerspot, *Euphydryas editha monoensis*) (Service 1998).

Recent publications have advocated renaming the bay checkerspot, *Euphydryas editha bayensis,* as *Euphydryas editha editha* for reasons of historical precedence (Mattoni *et al.* 1997; Emmel *et al.* 1998). Mattoni and co-authors (1997) have also suggested that *Euphydryas editha editha* ranges from the San Francisco Bay area south to Santa Barbara County in California, and includes both the populations commonly known as the bay checkerspot and several populations south of Santa Clara County whose subspecific status has been uncertain. If this expanded subspecific assignment is accepted by the scientific community, it would represent a range extension for the bay checkerspot. Until such time as we make any new or revised determination on the taxonomy, and in this proposed rule, we treat the threatened bay checkerspot as occurring in San Francisco Bay area counties, notably the Counties of San Mateo and Santa Clara.

The bay checkerspot formerly occurred around San Francisco Bay, from Twin Peaks and San Bruno Mountain (west of the Bay) and Contra Costa County (east of the Bay) south through Santa Clara County. Before the introduction of invasive Eurasian grasses and other weeds in the 1700s, its distribution may have been wider (Service 1998). In the decades preceding listing, the decline of the bay checkerspot was primarily attributed to loss of habitat and fragmentation of habitat due to increasing urbanization. Drought and other extremes of weather have also been implicated in bay checkerspot population declines (Service 1998). Recent research has tentatively identified excess nitrogen deposition from polluted air as a threat to bay checkerspot habitats, due to its fertilizing effect enhancing the growth of invasive nonnative plants even in serpentine soil areas (Weiss 1999).

The known range of the bay checkerspot is now reduced to Santa Clara and San Mateo Counties, and the butterfly is patchily distributed in these locales. Studies of the bay checkerspot have described its distribution as an example of a metapopulation (see literature cited in Service 1998). A metapopulation is a group of spatially separated populations that can occasionally exchange dispersing individuals. The populations in a metapopulation are usually thought of as undergoing interdependent extinction and colonization, where individual populations may go extinct, but later recolonize from another population. Bay checkerspot populations may also exhibit ''pseudo-extinction,'' where the species is not found, but nonetheless continues to inhabit a site and reappears in a subsequent year. Larvae that diapause (spend a period of dormancy as larvae (caterpillars)), under rocks and deep in soil cracks for more than 1 year may be responsible for pseudo-extinctions, since dormant larvae are essentially undetectable in surveys. Because of pseudo-extinction and metapopulation dynamics, even sites that in some years apparently lack the bay checkerspot can be important to the survival and recovery of the species.

Bay checkerspot butterfly populations vary greatly from year to year. Many or most individuals of the species live only a single year, and with high fecundity (fertility), high mortality, and sensitivity to weather and perhaps other ecological conditions, large population swings are

common for the bay checkerspot. Fluctuations of more than 100-fold have been observed. These fluctuations are not always in synchrony among populations at different sites.

Habitat of the bay checkerspot exists on shallow, serpentine-derived or similarly droughty or infertile soils, which support the butterfly's larval food plants as well as nectar sources for adults. Serpentine soils are high in magnesium and low in calcium, and are a strong indicator of habitat value for the butterfly. The primary larval host plant of the bay checkerspot is *Plantago erecta* (dwarf plantain), an annual, native plantain. The butterfly usually is found associated with *Plantago erecta* in grasslands on serpentine soils, such as soils in the Montara series. In Santa Clara County, the Inks and Climara soil series are related soils and often have inclusions of Montara (U.S. Soil Conservation Service 1974). Henneke and other serpentine soils also occur within the range of the butterfly. Populations of the bay checkerspot formerly occurred on San Bruno Mountain and other locations with soils that are not serpentine. We believe this indicates that, with otherwise suitable habitat conditions, the bay checkerspot is capable of living in nonserpentine soil areas.

In many years, bay checkerspot larvae may use a secondary host plant species, for instance, when dwarf plantain dries up while prediapause larvae are still feeding. *Castilleja (Orthocarpus) densiflora* (purple owl's-clover) and *Castilleja exserta* (*Orthocarpus purpurascens*) (exserted paintbrush) are known secondary host plants that often remain edible later in the season than dwarf plantain. Bay checkerspot adults also visit flowers for nectar. Nectar plants commonly visited include *Lomatium* spp. (desert parsley), *Lasthenia californica (= chrysostoma)* (California goldfields), *Layia platyglossa* (tidy-tips), *Muilla maritima,* and others. Moderate grazing is normally compatible with habitat for the bay checkerspot, since grazing can reduce the density and height of nonnative plants that compete with the native plants supporting the butterfly.

Adult bay checkerspots are capable of dispersing over long distances. Movements of more than 5.6 kilometers (km) (3.5 miles (mi)) have been documented (Harrison 1989; Service 1998). In all dispersal observations and experiments, long-distance movements are hard to detect, and thus their frequency and importance are difficult to quantify. Long-distance dispersal, especially by fertilized females carrying eggs, is likely to be important to the natural reestablishment of bay checkerspot populations that have disappeared. Qualitative observations suggest that bay checkerspots move readily over suitable grassland habitat, but are more reluctant to cross scrub, woodland, or other unsuitable habitat. Roads, especially those traveled more heavily and at higher speeds, present a risk of death or injury to dispersing bay checkerspots. Where corridors that facilitate dispersal exist, they may support the persistence of bay checkerspot populations.

The bay checkerspot's life cycle is closely tied to host plant biology. Host plants germinate anytime from early October to late December, and senesce (dry up and die) from early April to mid May. Most of the active parts of the bay checkerspot life cycle also occur during this period. Adults emerge from pupae (a transitional stage between caterpillar and adult butterfly) in early spring, and feed on nectar, mate, and lay eggs during a flight season that typically lasts for 4 to 6 weeks in the period between late February to early May. The eggs hatch and the tiny larvae feed for about 2 to 3 weeks before entering diapause (a temporary cessation of development) in mid to late spring. The postdiapause larvae emerge after winter rains stimulate germination of *Plantago,* and feed and bask until they are large enough to pupate and emerge as adults (Service 1998).

Previous Federal Action

On October 21, 1980, we were petitioned by Dr. Bruce O. Wilcox, Dennis D. Murphy, and Dr. Paul R. Ehrlich to list the bay checkerspot as an endangered species. We published a Notice of Status Review on February 13, 1981 (46 FR 12214). Following our status review, we found that listing the bay checkerspot was warranted but precluded by other pending listing actions (49 FR 2485). We proposed the bay checkerspot for listing as endangered with critical habitat on September 11, 1984 (49 FR 35665), and listed the species as threatened on September 18, 1987 (52 FR 35366). At the time of listing, because of difficulty in resolving the value of specific habitats to the species and assessing the activities being conducted in those areas, we concluded that critical habitat was not determinable. We published a Recovery Plan for Serpentine Soil Species of the San Francisco Bay Area (Recovery Plan) in September 1998 that includes the bay checkerspot (Service 1998), as required under section 4(f) of the Endangered Species Act of 1973, as amended (Act) (16 U.S. C. 1531 *et seq.*).

On June 30, 1999, the Center for Biological Diversity filed a complaint against us challenging our critical habitat findings for seven species, including the bay checkerspot. On August 30, 2000, the United States District Court for the Northern District of California (*Southwest Center for Biological Diversity* v. *Bruce Babbitt, et al.,* CIV 99–3202 SC) ruled on several of the species involved, including the bay checkerspot. The court ordered us to propose critical habitat within 60 days of the ruling and to finalize the designation within 120 days of the proposed designation.

Critical Habitat

Critical habitat is defined in section 3 of the Act as—(i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management consideration or protection, and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures that are necessary to bring an endangered species or a threatened species to the point at which listing under the Act is no longer necessary.

Section 4(b)(2) of the Act requires that we base critical habitat proposals upon the best scientific and commercial data available, after taking into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in the extinction of the species (section 4(b)(2) of the Act).

Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features essential for the conservation of that species. Designation of critical habitat alerts the public as well as land-managing agencies to the importance of these areas.

Critical habitat also identifies areas that may require special management considerations or protection, and may provide protection to areas where significant threats to the species have been identified. Critical habitat receives protection from destruction or adverse

modification through required consultation under section 7 of the Act with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires conferences on Federal actions that are likely to result in the adverse modification or destruction of proposed critical habitat. Aside from the protection that may be provided under section 7, the Act does not provide other forms of protection to lands designated as critical habitat.

Section 7(a)(2) of the Act requires Federal agencies to consult with us to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of critical habitat. In 50 CFR 402.02, ''jeopardize the continued existence'' (of a species) is defined as engaging in an activity likely to result in an appreciable reduction in the likelihood of survival and recovery of a listed species. ''Destruction or adverse modification'' (of critical habitat) is defined as a direct or indirect alteration that appreciably diminishes the value of critical habitat for the survival and recovery of the listed species for which critical habitat was designated. Thus, the definitions of ''jeopardy'' to the species and ''adverse modification'' of critical habitat are nearly identical.

Critical habitat identifies specific areas that have features that are essential to the conservation of a listed species and that may require special management considerations or protection. The proposed critical habitat areas are considered essential to the conservation of the bay checkerspot butterfly as described in the Recovery Plan (Service 1998). However, designating critical habitat does not, in itself, lead to recovery of a listed species. Designation does not create a management plan, establish numerical population goals, or prescribe specific management actions (inside or outside of critical habitat). Specific management recommendations for areas designated as critical habitat are most appropriately addressed in recovery, conservation, and management plans, and through section 7 consultations and section 10 permits.

Methods

In determining areas that are essential to conserve the bay checkerspot, we used the best scientific information available to us. This information included habitat suitability and site-specific species information. We have emphasized areas of current and historical bay checkerspot occurrences, especially larger sites in proximity to known occurrences. To maintain genetic and demographic interchange that will help maintain the viability of a regional metapopulation, we included corridor areas that allow movement between populations. Dispersal is a crucial function for a species with metapopulation dynamics like the bay checkerspot.

We used data on known and historic locations and maps of serpentine soils to identify potentially important areas. Then, through the use of 1990s digital orthophotos available through the Bay Area Digital GeoResource (BADGER) website (http://badger.parl.com), and limited ground checking, we estimated the current extent of suitable breeding habitat. We included in critical habitat both suitable habitat and areas that link suitable breeding habitat, since these links facilitate movement of individuals between habitat areas, and are important for dispersal and gene flow and thus to the conservation of the species.

Our 1984 proposal to list the bay checkerspot butterfly with critical habitat (49 FR 35665) proposed five critical habitat zones. Four of the five are included in this proposal, with modifications based on improved knowledge of the biology and habitat of the species. Since the original proposal, the fifth zone (Woodside Zone) has been mostly converted to housing, so we are no longer proposing it for designation as critical habitat. Since 1984, a great deal of literature on the bay checkerspot butterfly, both published and unpublished, has added to our understanding of the species (see literature cited in Service 1998; Weiss 1999; Weiss and Launer 2000). Based on this expanded information, we have been able to identify habitats and populations that were poorly documented before the mid-1980s, and assess their significance. Besides the four previously identified critical habitat zones, this critical habitat proposal identifies 11 additional habitat units essential to the conservation of the bay checkerspot, for a total of 15 critical habitat units.

Primary Constituent Elements

In accordance with section 3(5)(A)(I) of the Act and regulations at 50 CFR 424.12(b), in determining which areas to propose as critical habitat, we must consider those physical and biological features (primary constituent elements) that are essential to the conservation of the species. These include, but are not limited to space for individual and population growth and for normal behavior; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing of offspring; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

The primary constituent elements of critical habitat for the bay checkerspot are those habitat components that are essential for the primary biological needs of foraging, sheltering, breeding, maturation, and dispersal. The areas we propose to designate as critical habitat provide some or all of the known primary constituent elements for the species, which include: areas of open grassland; stands of *Plantago erecta, Castilleja exserta,* or *Castilleja densiflora;* spring flowers providing nectar; pollinators of the bay checkerspot's food and nectar plants; soils derived from serpentinic rock; stable holes or cracks in the soil and surface rocks or rock outcrops; wetlands providing moisture during times of spring drought; and space for dispersal between habitable areas. In addition, topography with varied slopes and aspects is a primary constituent element to be conserved when it is present in combination with one or more of the primary constituent elements above.

Appropriate grassland vegetation provides cover for larvae, pupae and adults, egg-laying stimuli and sites for females, and adequate open ground for larvae to be able to crawl efficiently in search of foraging, basking, diapause, or pupation sites (Service 1998). Stands of food plants, including nectar plants, are important in the butterfly's life cycle. The bay checkerspot's primary larval food plant is *Plantago erecta,* an annual, native plantain. The larvae also often use a secondary food plant species, usually either *Castilleja (Orthocarpus) densiflora* (purple owl's-clover) or *Castilleja exserta (Orthocarpus purpurascens)* (exserted paintbrush). These secondary food plants tend to remain edible later in the season than the plantain. Bay checkerspot adults benefit from visiting flowers for nectar. Nectar plants commonly visited include *Lomatium* spp. (desertparsley), *Lasthenia californica (= chrysostoma)* (California goldfields), *Layia platyglossa* (tidy-tips), *Muilla maritima,* and others.

Adequate native pollinators to sustain populations of *Castilleja* and nectar species, including but not limited to such groups as bumblebees and solitary bees, are important to the value of critical habitat because these plants are dependent on pollinators to reproduce and perpetuate their populations in the area. *Plantago erecta* is thought to be self-pollinating.

The butterfly usually is found associated with grasslands on serpentine soils, such as the Montara soil series. In Santa Clara County, the Inks and Climara soil series are related soils and often have inclusions of Montara (U.S. Soil Conservation Service 1974). Henneke and other serpentine soils also occur within the range of the butterfly. Serpentine soils often support other primary constituent elements, but they are not limited to serpentine soils. Soil structure with stable holes or cracks and surface rocks or rock outcrops provide cover and shelter for bay checkerspot larvae seeking diapause sites and basking sites.

Bay checkerspot adults have been observed to fly considerable distances during drought conditions to draw water or solutes from moist soils around wetlands (''puddling,'' Launer *et al.* 1993). Triggering of the puddling behavior by drought conditions suggests it is a directed, adaptive behavior, and that the butterflies are seeking out moist areas during times of water or heat stress to obtain essential nutrients or water.

Adult bay checkerspots are capable of dispersing over long distances. Movements of more than 5.6 kilometers (km) (3.5 miles (mi)) have been documented (see Service 1998), and longer movements are possible. Adult dispersal, especially by fertilized females carrying eggs, is vital to the maintenance of natural bay checkerspot metapopulation structure, which requires reestablishment or replenishment of populations that are at or near local extinction. Roads, especially those traveled more heavily and at higher speeds, present a risk of death or injury to dispersing bay checkerspots. Where open spaces exist that facilitate dispersal, they may support the persistence of bay checkerspot populations and metapopulations. Some habitats or land uses are thought to be more suitable for dispersal than others; for example, grassland may be more readily crossed than woodland or landscaped areas. But documented long-distance movements demonstrate that the butterfly is sometimes capable of crossing a variety of substrates (Service 1998).

Topographic diversity provides opportunities for early season warmth as well as cool north- and east-facing slopes that are a refuge for the species during droughts. Bay checkerspot larvae develop more rapidly when they can bask in sunlight that penetrates short-statured grassland vegetation. Adults also use warm exposures for basking, and find early season nectar plants on warm south- and west-facing slopes.

Criteria Used To Identify Critical Habitat

In an effort to map areas that have the features essential to the conservation of the species, we used data on known bay checkerspot locations and conservation planning areas that were identified in the final recovery plan (Service 1998) as essential for the recovery of the species.

We also considered the existing status of lands in designating areas as critical habitat. The bay checkerspot is known to occur on State, county, and private lands. The range of critical habitat extends in the south from the San Martin area, in Santa Clara County, north to San Bruno Mountain in San Mateo County. We could not depend on Federal lands for critical habitat designation because we are not currently aware of any Federal lands within the range of the bay checkerspot that can be inhabited by the butterfly. We are not aware of any Tribal lands in or near our proposed critical habitat units for the bay checkerspot. However, should we learn of any Tribal lands in the vicinity of the critical habitat designation subsequent to this proposal, we will coordinate with the Tribes before making a final determination as to whether any Tribal lands should be included as critical habitat for the bay checkerspot.

Section 10(a) of the Act authorizes us to issue permits to take listed species incidental to otherwise lawful activities. An incidental take permit application must be supported by a habitat conservation plan (HCP) that identifies conservation measures that the permittee agrees to implement for the species to minimize and mitigate the impacts of the requested incidental take. One small, short-term HCP covers the bay checkerspot in about 10 acres of critical habitat through November 2001. This HCP permits temporary project-related impacts from electric transmission line work. To date, project construction anticipated to affect the bay checkerspot is substantially complete (see the Relationship to Habitat Conservation Plans section below for additional information on the relationship between HCPs and critical habitat designation).

In defining critical habitat boundaries, we made an effort to avoid developed areas, such as towns and other similar lands, that are unlikely to contribute to bay checkerspot conservation. However, the minimum mapping unit that we used did not allow us to exclude all developed areas, such as towns, or housing developments, or other lands unlikely to contain the primary constituent elements essential for conservation of the bay checkerspot. Existing features and structures within the boundaries of the mapped units, such as buildings, roads, aqueducts, railroads, airports, other paved areas, lawns, and other urban landscaped areas will not contain one or more of the primary constituent elements. Federal actions limited to those areas, therefore, would not trigger a section 7 consultation, unless they affect the species and/or primary constituent elements in adjacent critical habitat.

Proposed Critical Habitat Designation

The approximate area encompassing proposed critical habitat by land ownership is shown in Table 1. Lands proposed are under private and State and local ownership. The species is not known to occur or to have historically occurred on Federal lands. Lands proposed as critical habitat have been divided into 15 Critical Habitat Units. Critical habitat proposed for the bay checkerspot includes 10,597 hectares (ha) (26,182 acres (ac)), with 806 ha (1,992 ac) in San Mateo County and 9,791 ha (24,190 ac) in Santa Clara County. Because the bay checkerspot is nearly confined to island-like patches of habitat, its critical habitat is easily categorized into separate areas or units (see maps). We present brief descriptions of each unit, and our reasons for proposing it as critical habitat, below.

Conserving the butterfly includes the need to reestablish historic populations of the species to areas within several of the units, in order to secure the butterfly in representative sites in its former range, and in a range of habitat and climate conditions. Returning the butterfly to good representatives of its former diversity of sites and habitat and climate conditions is necessary to reduce the long-term risk of range-wide extinction of the species (Service 1998).

TABLE 1.—APPROXIMATE CRITICAL HABITAT IN HECTARES (HA) AND ACRES (AC) BY COUNTY AND LAND OWNERSHIP

[Area estimates reflect critical habitat unit boundaries; however, not all the areas within those broad boundaries, such as cities, towns, or other developments, contain habitat features considered essential to the survival of the bay checkerspot butterfly]

County	Federal	Local/State	Private	Total
San Mateo	0	519 ha (1,283 ac)	287 ha (709 ac)	806 ha (1,992 ac)
Santa Clara	0	1,704 ha (4,210 ac)	8,087 ha (19,980 ac)	9,791 ha (24,190 ac)
Total	0	2,223 ha (5,493 ac)	8,374 ha (20,689 ac)	10,597 ha (26,182 ac)

Unit 1. Edgewood Park/Triangle Unit

Occurring in San Mateo County, this unit comprises 217 ha (535 ac) in T.5 S., R.4 W. (Mount Diablo meridian/base line). Included is most of Edgewood Natural Preserve, a county park southeast of the junction of Edgewood Road and I–280, and watershed lands of the San Francisco Water Department within the triangle formed by I–280, Edgewood Road, and Canada Road, as well as a small additional area of serpentine soil on the west side of Canada Road. Much of this area also falls within the San Francisco State Fish and Game Refuge. The area supports the Edgewood population of the butterfly discussed in the species' recovery plan, which is the main population of the San Mateo metapopulation of the bay checkerspot (Service 1998). Without the Edgewood population the San Mateo metapopulation would almost certainly go extinct, resulting in the loss of one of only two metapopulations of the bay checkerspot and a significant range reduction for the species. This population is also the northernmost remaining population of the species. The unit contains considerable areas of good habitat, although additional management attention may be needed for the butterfly to thrive here.

Unit 2. Jasper Ridge Unit

Occurring within San Mateo County, the unit covers 287 ha (709 ac) in Stanford University's Jasper Ridge Biological Preserve, in T.6 S., R.3 W. (Mount Diablo meridian/base line). There are decades of data and dozens of published scientific papers about the Jasper Ridge population of the bay checkerspot. The population has declined severely in recent years, and may now be extirpated. However, we are confident that a stable population of the species can be restored to Jasper Ridge. The Jasper Ridge population is essential as a supporting element of the San Mateo metapopulation, and a backup to the Edgewood and prospective San Bruno Mountain populations.

Unit 3. San Bruno Mountain Unit

This unit also occurs in San Mateo County, with approximately 303 ha (749 ac) in T.3 S., R.5 W. (Mount Diablo meridian/base line), above the 152 m (500 ft) elevation contour and east of the western Pacific Gas and Electric transmission corridor on San Bruno Mountain. This unit is mostly within San Bruno Mountain State and County Park, and is inside the boundaries of the San Bruno Mountain Area Habitat Conservation Plan area. The bay checkerspot formerly inhabited this area, but is believed to have been extirpated around 1986 by a combination of factors, including over-collection and a fire that burned its habitat. However, this unit has supported a substantial bay checkerspot population in the past, and it is reasonable to expect that the butterfly can be reestablished here.

San Bruno Mountain represents the most northerly part of the species' former range on the San Francisco peninsula with reasonably good conditions to support the butterfly. The San Bruno Mountain unit is essential as a supporting element of the San Mateo metapopulation and a backup to the Edgewood and Jasper Ridge populations.

Unit 4. Bear Ranch Unit

The Bear Ranch unit, totaling 250 ha (618 ac), lies west of Coyote Lake (Coyote Reservoir) in the eastern hills of the Santa Clara Valley, in southern Santa Clara County (T.9 S., R.4 E. and T.10 S., R.4 E., Mount Diablo meridian/base line). The unit is named for a ranching property that partly occurs in the unit. The ranch and lands, including and surrounding the unit, are now owned and managed by the Santa Clara County Parks and Recreation Department. This location represents one of the most recent population discoveries of the bay checkerspot and has been documented for several years as a persistent population. The population is also one of the most southerly occurrences of the butterfly. It lies about 10 km (6 mi) southeast of the Kirby core population area described in the recovery plan, with some intervening habitable areas and adequate dispersal corridors. Over 40 ha (100 ac) of mapped serpentine soils in several large to small patches occur within the unit. In addition to the significance of its position establishing the outer perimeter of the range of the species, the recovery plan makes the protection of large, good quality habitat areas near core populations, such as this, a high priority (Service 1998).

Unit 5. San Martin Unit

This unit includes 237 ha (586 ac) west of San Martin, in the western foothills of the Santa Clara Valley in southern Santa Clara County (T.9 S., R.3 E). Included in the designated critical habitat are extensive areas of serpentine soils and intervening areas that may support habitat or be needed for dispersal. Regular occupation of the unit by the bay checkerspot has been documented, although no recent quantitative surveys are available of this population. The unit lies entirely on private lands in unincorporated Santa Clara County, about 6.4 km (4 mi) west-southwest of the Bear Ranch unit and 11 km (7 mi) south of the Kirby core area. This is the second population at the southern periphery of the range. The recovery plan makes the protection of large, good quality habitat areas near core populations, such as this, a high priority (Service 1998). We are not aware of any public lands in the unit.

Unit 6. Communications Hill Unit

Communications Hill, and adjacent hilltops in south-central San Jose, are formed by outcroppings of serpentine rock, with grasslands capable of supporting the bay checkerspot. This unit occurs in Santa Clara County and covers 179 ha (443 ac) of mostly undeveloped land. It also crosses a major road and railroad tracks, and includes a quarry that we believe, after appropriate reclamation, could be restored to bay checkerspot habitat. The butterfly has been documented on Communications Hill in the past, but no

recent comprehensive surveys for the species have been conducted in the area. Whether the unit is currently occupied is not known. The recovery plan calls for conservation of larger habitat areas currently or historically occupied by the bay checkerspot. This location also represents the northwestern-most remnant of the Santa Clara County metapopulation. The unit is surrounded by Curtner Avenue, Almaden Expressway, Hillsdale Avenue, and Monterey Road (T.7 S., R.1 E., Mount Diablo meridian/base line).

Much of this unit lies on private lands within unincorporated lands, with a smaller area in the City of San Jose. Portions of a Santa Clara County communications facility and a San Jose water company facility may fall within the unit. Only currently undeveloped areas supporting the primary constituent elements of habitat for the butterfly would be subject to regulatory oversight of any Federal actions.

Unit 7. Kalana Hills Unit

The Kalana Hills unit in Santa Clara County comprises 240 ha (592 ac) on the southwest side of the Santa Clara Valley between Laguna Avenue and San Bruno Avenue (T.9 S., R.2 E, Mount Diablo meridian/base line). Four serpentine outcrops form hills or hillsides in this area. At least one population of the bay checkerspot has been documented on one or all of these outcrops in recent surveys. This unit also includes intervening areas that connect the outcrops. The Coyote Ridge unit lies about 3.2 km (2 mi) to the northeast, the Santa Teresa unit about 2 km (1.2 mi) to the northwest, the San Vicente-Calero unit about 3.2 km (2 mi) to the west, and the Morgan Hill unit about 3.2 km (2 mi) to the southeast. Because of its proximity to several other, large population centers for the butterfly, we expect the Kalana Hills unit to be regularly occupied by the species. If, as is possible given the bay checkerspot's large population swings, the butterfly's population in the unit were to die out, it is likely to be quickly reestablished by bay checkerspots immigrating from adjacent sites. We are not aware of any public lands in the unit. A portion of the largest and northernmost serpentine outcrop is within the limits of the City of San Jose; the remainder of the unit is on private lands in unincorporated Santa Clara County.

Unit 8. Kirby Unit

The Kirby critical habitat unit includes 2,855 ha (7,053 ac) along the southern portion of ''Coyote Ridge'' in Santa Clara County (T.8 S., R.2 E., T.8 S., R.3 E., and T.9 S., R.3 E., Mount Diablo meridian/base line). It contains the Kirby area for the bay checkerspot discussed in the species' Recovery Plan (Service 1998). The ridge, informally known as Coyote Ridge, runs northwest to southeast, parallel to and east of Highway 101 from Yerba Buena Road to Anderson Reservoir in Santa Clara County, and forms the eastern slope of the Santa Clara Valley (U.S. Geological Survey (USGS) 7.5 minute quadrangles San Jose East, Lick Observatory, Santa Teresa Hills, and Morgan Hill. The ridge is not named on these maps). Coyote Ridge also parallels the Silver Creek Fault and Silver Creek itself. Extensive serpentine soil areas, and four population areas for the bay checkerspot (Kirby, Metcalf, San Felipe, and Silver Creek Hills), lie on or adjacent to this ridge and fault system (Service 1998). Metcalf Canyon, Silver Creek, and nonserpentine soil areas create natural divisions among these four population areas. The Kirby unit is the southernmost of four critical habitat units corresponding to the four population areas along Coyote Ridge, and runs along this ridge east of Highway 101 and Coyote Creek from Metcalf Canyon south to Anderson Lake. The northern boundary of the Kirby unit abuts the Metcalf unit. The northwest tip of the Kirby unit also connects to the Tulare Hill Corridor unit.

The Kirby critical habitat unit regularly supports one of the largest populations of the bay checkerspot, and is considered one of the centers of the species' Santa Clara County metapopulation. The recovery plan considers protection of the area of the highest priority for conservation of the species. The unit contains several hundred acres of diverse serpentine grassland habitat as well as nectaring areas, seasonal wetlands, and dispersal areas. The unit includes lands within the limits of the City of San Jose, private lands in unincorporated Santa Clara County, and small areas in the City of Morgan Hill. Public lands in this unit include the Santa Clara County Field Sports Park and portions of Santa Clara County Motorcycle Park, Anderson Lake County Park, Coyote Creek Park, and lands of the Santa Clara Valley Water District. A 101 ha (250 ac) reserve, leased by Waste Management Inc. on behalf of the Kirby Conservation Trust to further conservation of the bay checkerspot, also falls within the unit. The Kirby Conservation Trust has funded extensive research on the bay checkerspot for more than a decade at the lease site, greatly improving our understanding of the ecology, population dynamics, and conservation needs of the species (see literature cited in Service 1998).

Unit 9. Morgan Hill Unit

The Morgan Hill unit in Santa Clara County includes 374 ha (925 ac) northwest of the City of Morgan Hill in Santa Clara County (T.9 S., R.2 E., T.9 S., R.3 E., Mount Diablo meridian/base line) . It lies less than 3.2 km (2 mi) southwest of the Coyote Ridge unit and about 3.2 km (2 mi) southeast of the Kalana Hills unit. This is the area described as ''north of Llagas Avenue'' in our 1998 recovery plan. The unit is partly within the limits of the City of Morgan Hill and partly on private lands in unincorporated Santa Clara County. Murphy Springs Park, a small city park, is within the unit. The Morgan Hill unit has large areas of serpentine soils and grassland with a variety of slope exposures, suitable for the bay checkerspot. The unit has been documented to be occupied by the butterfly in the past, as well as in more recent surveys in the past 2 to 3 years. Because of its large habitat area and proximity to core populations of the bay checkerspot, the recovery plan considers protection of this area essential to the conservation of the species (Service 1998).

Unit 10. Metcalf Unit

This unit includes 1,616 ha (3,994 ac) in Santa Clara County, east of Highway 101, south of Silver Creek Valley Road, north of Metcalf Canyon, and west of Silver Creek (T.8 S., R.2 E., Mount Diablo meridian/base line). The unit contains the Metcalf population area for the bay checkerspot, one of the four largest habitat areas and three largest current population centers for the butterfly (Service 1998). Hundreds of acres of serpentine soils and thousands of bay checkerspots occur within the unit. This area is considered one of the centers of the species' Santa Clara County metapopulation. The recovery plan considers protection of the area of the highest priority for conservation of the butterfly. This unit adjoins the Kirby unit to the south, San Felipe unit to the east, Silver Creek Hills unit to the north, and Tulare Hill Corridor unit to the west, and provides crucial habitat connectivity for butterfly dispersal among these areas. The Metcalf unit lies in the City of San Jose and on private lands in unincorporated Santa Clara County. Portions of Santa Clara County Motorcycle Park, Coyote Creek Park, and lands of Santa Clara Valley Water District fall within the unit.

Unit 11. San Felipe Unit

This unit includes 404 ha (998 ac) in Santa Clara County, southwest of San Felipe Road and north of Metcalf Road (T.8 S., R.2 E., Mount Diablo meridian/base line), primarily on private lands in unincorporated county lands, but also within San Jose city limits. The unit contains the San Felipe population area for the bay checkerspot, one of the four largest habitat areas and three largest current population centers for the butterfly (Service 1998). This area is considered one of the centers of the species' Santa Clara County metapopulation. The recovery plan considers protection of the area of the highest priority for conservation of the butterfly. Several hundred acres of serpentine soils occur within the unit with nectaring and dispersal areas. We are not aware of any public lands in the unit.

Unit 12. Silver Creek Unit

The Silver Creek unit comprises 700 ha (1,730 ac), primarily within the limits of the City of San Jose, but with some area on private lands in unincorporated Santa Clara County (T.7 S., R.1 E., T.7 S., R.2 E., T.8 S., R.2 E., Mount Diablo meridian/base line). This unit is surrounded by Highway 101 and Coyote Creek on the west, Yerba Buena Road on the north, Silver Creek on the east and northeast, and Silver Creek Valley Road on the south. The unit includes the Silver Creek Hills population area for the bay checkerspot (Service 1998). It includes nearly 400 ha (1,000 ac) of contiguous serpentine soils, as well as other scattered serpentine outcrops, as well as habitat less suitable for breeding but needed for nectar-feeding or dispersal. Small areas of public lands in this unit include portions of Coyote Creek Park and Silver Creek Linear Park. A 52 ha (128 ac) private bay checkerspot preserve dedicated by Shea Homes, the Silver Creek Valley Country Club Butterfly Habitat Reserve, lies within this unit. Also included is the proposed Ranch on Silver Creek development, a 28 ha (70 ac) preserve proposed by William Lyon Homes (former Presley Homes), and the proposed Ryland Homes Silver Ridge development and private open space. Several electric transmission lines and two major natural gas lines cross the unit. Not all of the area within the unit is capable of supporting the butterfly or its primary constituent elements, and such areas would not be subject to section 7 consultation. However, we have included these areas in the critical habitat designation in the interests of having a clear boundary that is readily located on the ground, or because of mapping uncertainties.

In the last several years, a small population of the bay checkerspot has been documented in the Silver Creek unit, and the area has a long history of much larger populations. Portions of the unit known to have been inhabited by the butterfly in the past have not been surveyed recently, or are currently in degraded condition, or both. We believe that the Silver Creek Hills population is likely to increase, and that much of the degraded area could be restored to useful breeding habitat. The Silver Creek unit has extensive, diverse, and high-quality habitat, and represents the northernmost unit of the Santa Clara County metapopulation. The Silver Creek unit provides a population reservoir critical to the survival of the Santa Clara County metapopulation of bay checkerspots—the larger and more viable of the two remaining metapopulations (Service 1998).

Unit 13. San Vicente-Calero Unit

The San Vicente-Calero unit contains 759 ha (1,875 ac) within and to the west of Calero County Park, Santa Clara County (T.8 S., R.1 E., T.8 S., R.2 E., T.9 S., R.1 E., and T.9 S., R.2 E., Mount Diablo meridian/base line). This area supports a known population of the bay checkerspot in a large area of good-quality habitat; other areas within the unit that are apparently suitable for the butterfly have not been surveyed. The unit is also within butterfly dispersal distance of the Santa Teresa Hills unit (see below), which we consider to be capable of supporting a very large population of the butterfly, and the Kalana Hills unit (number 9, above), which are themselves accessible to and from other units. Therefore we believe the San Vicente-Calero population can contribute significantly to maintaining the Santa Clara County metapopulation of the bay checkerspot. For all these reasons the recovery plan considers protection of this area essential to the conservation of the species. The unit is south of McKean Road and east of the town of New Almaden, Almaden Road, and Alamitos Creek. It lies about 1.6 km (1 mi) south of the Santa Teresa unit and about 3.2 km (2 mi) west of the Kalana Hills unit. Portions of the unit outside the county park are within the limits of the City of San Jose.

Unit 14. Santa Teresa Hills Unit

The Santa Teresa Hills unit includes 1,821 ha (4,500 ac) in Santa Clara County (T.8 S., R.1 E. and T.8 S., R.2 E., Mount Diablo meridian/base line) with extensive areas of serpentine soils. Portions of the Santa Teresa Hills are known to support the butterfly now, and have supported the species in the past, but no current comprehensive survey of the butterfly in the area is available. We believe that the Santa Teresa Hills could support a significant population of bay checkerspots. In addition to adding a fifth substantial population to the Santa Clara County metapopulation, conservation and management of the Santa Teresa Hills population would support development of a strong population of the butterfly in a slightly cooler, moister area of the county, at a site that may experience less air pollution than the more eastern units. The Santa Teresa Hills critical habitat unit is intended to include most undeveloped habitat in the area, as well as intervening areas that are unsurveyed or less suitable but needed for dispersal among higher-quality areas. 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 the Tulare Hill Corridor unit.

Unit 15. Tulare Hill Corridor Unit

The Tulare Hill Corridor unit, 355 ha (876 ac) in Santa Clara County, connects the Coyote Ridge (Kirby and Metcalf, and through them, San Felipe and Silver Creek) and Santa Teresa units. Tulare Hill is a prominent serpentine hill that rises from the middle of the Santa Clara Valley in southern San Jose, west of the crossing of Metcalf Road and Highway 101 (T.8 S., R.2 E., Mount Diablo meridian/base line). Extensive habitat on the hill is currently occupied by the bay checkerspot, and is essential both as a population center and for dispersal across the valley. The Metcalf and Kirby populations of the bay checkerspot lie less than 1 kilometer (0.62 mi) to the northeast, separated by a major highway and a narrow band of other unfavorable habitat. The Santa Teresa Hills population area for the species lies about 2 km (1.2 mi) to the southwest, with dispersal habitat in between. We believe the long-term viability of the bay checkerspot depends on the presence of a corridor for dispersal of adults to and from the Santa Teresa Hills and Coyote Ridge (Service 1998). Tulare Hill is an ideal location for such a corridor because of the narrow extent of the valley and the development in this location, the presence of high elevations on the hill that may attract butterflies over busy roads 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 and genetic

diversity to the population there, and adults from Tulare Hill may migrate to the adjacent habitat areas.

Public lands within the designated unit include parts of Coyote Creek Park, Metcalf Park, and Santa Teresa County Park. Roughly half of Tulare Hill itself is within the limits of the City of San Jose, the remainder on private lands in unincorporated Santa Clara County. Several major electrical transmission lines cross the unit. Some areas within the unit are not inhabited by bay checkerspot individuals but can function as dispersal corridor.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a) of the Act requires that Federal agencies, including the Service, must ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the survival and recovery of the species. Individuals, organizations, States, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Under section 7(a) of the Act, Federal agencies, including the Service, evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) and regulations at 50 CFR 402.10 requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory.

We may issue a formal conference report if requested by a Federal agency. Formal conference reports on proposed critical habitat contain a biological opinion that is prepared according to 50 CFR 402.14, as if critical habitat were designated. If such designation occurs, we may adopt the formal conference report as a biological opinion, if no significant new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

When a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into consultation with us. Through this consultation, we would advise the agencies whether the permitted actions would likely jeopardize the continued existence of the species or destroy or adversely modify critical habitat.

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

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

Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers (Corps) under section 404 of the Clean Water Act, or a section 10(a)(1)(B) permit from the Service, or some other Federal action, including funding (*e.g.,* from the Federal Highway Administration (FHWA) or Federal Emergency Management Agency (FEMA)) will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on non-Federal lands that are not federally funded, authorized, or permitted do not require section 7 consultation. Not all of the areas within some of the units are capable of supporting the butterfly or its primary constituent elements, and such areas would not be subject to section 7 consultation. However, in the interests of having a clear boundary that is readily located on the ground, or because of mapping uncertainties, we have included some areas that may not be critical habitat within some units described below.

To properly portray the effects of critical habitat designation, we must first compare the section 7 requirements for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat. Actions likely to ''jeopardize the continued existence'' of a species are those that would appreciably reduce the likelihood of the species' survival and recovery. Actions likely to ''destroy or adversely modify'' critical habitat are those that would appreciably reduce the value of critical habitat for the survival and recovery of the listed species.

Common to both definitions is an appreciable detrimental effect on both survival and recovery of a listed species. Given the similarity of these definitions, actions likely to destroy or adversely modify critical habitat would almost always result in jeopardy to the species concerned, particularly when the area of the proposed action is occupied by the species concerned. Designation of critical habitat in areas occupied by the bay checkerspot is not likely to result in a significant regulatory burden above that already in place due to the presence of the listed species. For some previously reviewed actions in instances where critical habitat is subsequently designated. In those cases where activities occur on designated critical habitat where bay checkerspot are not found at the time of the action, an additional section 7 consultation with the Service not previously required may be necessary for actions funded, authorized, or carried out by Federal agencies.

Section 4(b)(8) of the Act requires us to briefly describe and evaluate in any proposed or final regulation that

designates critical habitat those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. When determining whether any of these activities may adversely modify critical habitat, we base our analysis on the effects of the action on the entire critical habitat area and not just on the portion where the activity will occur. Adverse effects on constituent elements or segments of critical habitat generally do not result in an adverse modification determination unless that loss, when added to the environmental baseline, is likely to appreciably diminish the capability of the critical habitat to satisfy essential requirements of the species. In other words, activities that may destroy or adversely modify critical habitat include those that alter the primary constituent elements (defined above) to an extent that the value of critical habitat for both the survival and recovery of the bay checkerspot is appreciably diminished.

Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and require that a section 7 consultation be conducted include, but are not limited to:

(1) Ground disturbance, including but not limited to, grading, discing, ripping and tilling;

(2) Removing, destroying, or altering vegetation (*e.g.,* including altering grazing practices and seeding);

(3) Water contracts, transfers, diversion, impoundment, application, or conveyance, groundwater pumping, irrigation, or other activity that wets or inundates habitat, creates barriers or deterrents to dispersal, or results in habitat being converted to lower values for the butterfly (*e.g.,* conversion to urban development, vineyards, landscaping, etc.);

(4) Sale, exchange, or lease of critical habitat that is likely to result in the habitat being destroyed or degraded;

(5) Recreational activities that significantly deter the use of critical habitat by bay checkerspots or alter habitat through associated maintenance activities (*e.g.,* off-road vehicle parks, golf courses, trail construction or maintenance);

(6) Construction activities that destroy or degrade critical habitat (*e.g.,* urban and suburban development, building of recreational facilities such as off-road vehicle parks and golf courses, road building, drilling, mining, quarrying and associated reclamation activities); and

(7) Application of pesticides, herbicides, fertilizers, or other chemicals or biological agents.

Any of the above activities that appreciably diminish the value of critical habitat to the degree that they affect the survival and recovery of the bay checkerpot may be considered an adverse modification of critical habitat. We note that such activities may also jeopardize the continued existence of the species.

If you have questions regarding whether specific activities will constitute destruction or adverse modification of critical habitat resulting from a Federal action, contact the Field Supervisor, Sacramento Fish and Wildlife Office (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife, and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Branch of Endangered Species, 911 N.E. 11th Ave, Portland, OR 97232 (telephone 503/231–2063; facsimile 503/231–6243).

Relationship to Habitat Conservation Plans

Section 4(b)(2) of the Act allows us broad discretion to exclude from critical habitat designation areas where the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We believe that in most instances the benefits of excluding HCPs from critical habitat designations will outweigh the benefits of including them.

The benefits of including HCP lands in critical habitat are normally small. Activities in designated critical habitat that may affect critical habitat require consultation under section 7 of the Act. This is the major benefit of designating lands as critical habitat. Consultation would ensure that adequate protection is provided to avoid adverse modification of critical habitat. However, our experience indicates that where HCPs are in place, this benefit is small or non-existent. Currently approved and permitted HCPs are designed to ensure the long-term survival of covered species within the plan area. The lands that we would find essential for the conservation of the species, and thus fall under the first prong of the definition of critical habitat would, where we have approved HCPs and the species is a covered species under the HCP, normally be protected in reserves and other conservation lands. HCPs and their implementation agreements outline management measures and protections for conservation lands that are crafted to protect, restore, and enhance their value as habitat for covered species.

In addition, an HCP application must itself be consulted upon. While this consultation will not look specifically at the issue of adverse modification of critical habitat, it will look at the very similar concept of jeopardy to the listed species in the plan area. Since HCPs, particularly large regional HCPs, address land use within the plan boundaries, habitat issues within the plan boundaries have been thoroughly addressed in the HCP and the consultation on the HCP. Our experience is that under most circumstances consultations under the jeopardy standard will reach the same result as consultations under the adverse modification standard. Additional measures to protect the habitat from adverse modificationare not likely to be required.

Further, HCPs typically provide for greater conservation benefits to a covered species than section 7 consultations because HCPs assure the long term protection and management of a covered species and its habitat, and funding for such management through the standards found in the 5-Point Policy for HCPs (64 FR 35242) and the HCP No Surprises regulation (63 FR 8859). Such assurances are typically not provided by section 7 consultations which, in contrast to HCPs, often do not commit the project proponent to long term special management or protections. Thus the lands covered by a consultation typically will not provide the extensive benefits of an HCP.

The development and implementation of HCPs provide other important conservation benefits, including the development of biological information to guide conservation efforts and assist in species recovery and the creation of innovative solutions to conserve species while allowing for development. The educational benefits of critical habitat, including informing the public of areas that are important for the long-term survival and conservation of the species, are essentially the same as those that would occur from the public notice and comment procedures required to establish an HCP, as well as the public participation that occurs in the development of many regional HCPs. For these reasons, then, we believe that designation of critical habitat has little benefit in areas covered by HCPs.

In contrast, the benefits of excluding HCPs from being designated as critical habitat are more significant. In response to other critical habitat proposals, we have received comments about the additional regulatory and economic burden of designating critical habitat. These include the need for additional consultation with the Service and the

need for additional surveys and information gathering to complete these consultations. HCP applicants have also stated that they are concerned that third parties may challenge HCPs on the basis that they result in adverse modification or destruction of critical habitat.

The benefits of excluding HCPs include relieving landowners, communities and counties of any additional minor regulatory review that might be imposed by critical habitat. This benefit is important given our past representations that once an HCP is negotiated and approved by us after public comment, activities consistent with the plan will satisfy the requirements of section 10(a)(1)(B) of the Act. Many HCPs, particularly large regional HCPs, take many years to develop and, upon completion, become regional conservation plans that are consistent with the recovery of covered species. Many of these regional plans benefit many species, both listed and unlisted. Imposing an additional regulatory review after HCP completion not only results in minor, if any, additional benefit to the species, it may jeopardize conservation efforts and partnerships in many areas and could be viewed as a disincentive to those developing HCPs. Excluding HCPs provides us with an opportunity to streamline regulatory compliance and confirms regulatory assurances for HCP participants.

Another benefit of excluding HCPs is that it would encourage the continued development of partnerships with HCP participants, including states, local governments, conservation organizations, and private landowners, that together can implement conservation actions we would be unable to accomplish alone. By excluding areas covered by HCPs from critical habitat designation, we preserve these partnerships, and, we believe, set the stage for more effective conservation actions in the future.

In general, then we believe the benefits of critical habitat designation to be small in areas covered by approved HCPs. We also believe that the benefits of excluding HCPs from designation are small, but significant. Because we believe that, the small benefits of inclusion weighed against the benefits of exclusion, including the benefits of relieving property owners of an additional layer of approvals and regulation, together with the encouragement of conservation partnerships would generally result in HCPs being excluded from critical habitat designation under Section 4(b)(2) of the Act.

Given this general analysis, we expect to analyze the specific benefits in each particular critical habitat designation because not all HCPs are alike with regard to species coverage and design. Within this designation we need to evaluate completed and legally operative HCPs in the range of the California gnatcatcher to determine whether the benefits of excluding these particular areas outweigh the benefits of including them.

The San Bruno Mountain Area HCP overlaps with the proposed critical habitat designation on San Bruno Mountain. The butterfly is believed to have been extirpated from the mountain since about 1986. The San Bruno Mountain Area HCP does not discuss the bay checkerspot in detail, and the Incidental Take Permit for this HCP currently does not include the bay checkerspot butterfly. Therefore, we have not excluded the area covered by this HCP from the proposed critical habitat designation. Any future Service involvement in activities on San Bruno Mountain, such as habitat restoration, may require section 7 consultation if there are likely to be effects on bay checkerspot critical habitat.

The Pacific Gas & Electric (PG & E) Metcalf-Edenvale/Metcalf-Mont Vista HCP covers only about 4 ha (10 ac) in the Santa Teresa Hill, San Vicente-Calero, and Tulare Hill Corridor proposed critical habitat units. Because the HCP expires in November 2001, and the permitted project is expected to be complete before any final critical habitat designation, we are not excluding lands covered under this short-term HCP from our critical habitat proposal. We reviewed the project with PG & E and determined that the remaining work under the HCP will not cause destruction or adverse modification of proposed critical habitat; therefore, no formal conference on the remaining work will be necessary.

In the event that future HCPs covering the bay checkerspot are developed within the boundaries of designated critical habitat, we will work with applicants to ensure that the HCPs provide for protection and management of habitat areas essential for the conservation of the bay checkerspot by either directing development and habitat modification to nonessential areas or appropriately modifying activities within essential habitat areas so that such activities will not adversely modify the primary constituent elements. The HCP development process provides an opportunity for more intensive data collection and analysis regarding the use of particular habitat areas by the bay checkerspot. The process also enables us to conduct detailed evaluations of the importance of such lands to the long term survival of the species in the context of constructing a biologically configured system of interlinked habitat blocks.

We will provide technical assistance and work closely with applicants throughout the development of future HCPs to identify lands essential for the long-term conservation of the bay checkerspot and appropriate management for those lands. Preliminary HCPs are being discussed for listed and non-listed species within the range of the bay checkerspot in areas proposed herein as critical habitat. These HCPs, coupled with appropriate adaptive management, should provide for the conservation of the species.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific and commercial information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat upon a determination that the benefits of the exclusions outweigh the benefits of specifying the areas as critical habitat. We cannot exclude the areas from critical habitat when the exclusion will result in the extinction of the species. We will conduct an analysis of the economic impacts of designating these areas as critical habitat prior to making a final determination. When completed, we will announce the availability of this economic analysis with a notice in the **Federal Register**; if necessary, we will reopen the comment period at that time.

Public Comments Solicited

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

(1) The reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefits of designation will outweigh any benefits of exclusion;

(2) Specific information on the amount and distribution of bay checkerspot butterflies and their habitat, and what habitat is essential to the conservation of the species and why;

(3) Land use practices and current or planned activities in the subject areas

and their possible impacts on proposed critical habitat;

(4) Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat, in particular, any impacts on small entities or families; and

(5) Economic and other values associated with designating critical habitat for the bay checkerspot such as those derived from nonconsumptive uses (*e.g.*, hiking, camping, birdwatching, enhanced watershed protection, improved air quality, increased soil retention, ''existence values,'' and reductions in administrative costs).

Our practice is to make comments available for public review during regular business hours, including names and home addresses of respondents. Individual respondents may request that we withhold their home address from the rulemaking record, which we will honor to the extent allowable by law. In some circumstances, we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish for us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Peer Review

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

We will consider all comments and information received during the 60-day comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Given the high likelihood of a request for a hearing and the need to publish a final determination within 120 days of this proposed rule, we scheduled a public hearing (see **DATES** and **ADDRESSES** sections).

Written comments submitted during the comment period receive equal consideration with those comments presented at a public hearing.

Clarity of the Rule

Executive Order 12866 requires each agency to write regulations/notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? What else could we do to make the proposed rule easier to understand? Send any comments that concern how we could make this proposed rule easier to understand to the Field Supervisor, Sacramento Fish and Wildlife Office (see **ADDRESSES** section of this rule).

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule and was reviewed by the Office of Management and Budget (OMB). We are preparing a draft analysis of this proposed action, which will be available for public comment, to determine the economic consequences of designating the specific areas as critical habitat. The availability of the draft economic analysis will be announced in the **Federal Register** and in local newspapers so that it is available for public review and comments.

(a) This rule will not have an annual economic effect of $100 million or more or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. The bay checkerspot butterfly was listed as a threatened species in 1987. In fiscal years 1987 through 1999, we conducted 4 formal section 7 consultations with Federal agencies to ensure that their actions would not jeopardize the continued existence of the butterfly.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; critical habitat does not impose any restrictions on non-Federal persons unless they are conducting activities funded or otherwise sponsored, authorized, or permitted by a Federal agency (see Table 2 below). Section 7 requires Federal agencies to ensure that they do not jeopardize the continued existence of the species. Based upon our experience with the species and its needs, we conclude that any Federal action or authorized action that could potentially cause an adverse modification of the proposed critical habitat would currently be considered as ''jeopardy'' under the Act in areas occupied by the bay checkerspot. Accordingly, the designation of currently occupied areas as critical habitat does not have any incremental impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. Designation of unoccupied areas as critical habitat may have impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons who receive Federal authorization or funding. We will evaluate any impact through our economic analysis (under section 4 of the Act; see Economic Analysis section of this rule). Non-Federal persons that do not have a Federal ''sponsorship'' of their actions are not restricted by the designation of critical habitat (however, they continue to be bound by the provisions of the Act concerning ''take'' of the species).

TABLE 2.—IMPACTS OF BAY CHECKERSPOT BUTTERFLY LISTING AND CRITICAL HABITAT DESIGNATION

Categories of activities	Activities potentially affected by species listing only	Additional activities potentially affected by critical habitat designation[1]
Federal Activities Potentially Affected[2].	Activities conducted by the Army Corps of Engineers, Bureau of Reclamation, Environmental Protection Agency, Federal Highway Administration.	Activities by these Federal Agencies in any unoccupied critical habitat areas.
Private or other non-Federal Activities Potentially Affected[3].	Activities that require a Federal action (permit, authorization, or funding) and may remove or destroy bay checkerspot butterfly habitat by mechanical, chemical, or other means (*e.g.,* grading, discing, ripping, and tilling, water diversion, impoundment, groundwater pumping, irrigation, construction, road building, herbicide application, recreational use, etc.) or appreciably decrease habitat value or quality through indirect effects (*e.g.,* edge effects, invasion of exotic plants or animals, fragmentation of habitat).	Funding, authorization, or permitting actions by Federal Agencies in any unoccupied critical habitat areas.

[1] This column represents activities potentially affected by the critical habitat designation in addition to those activities potentially affected by listing the species.
[2] Activities initiated by a Federal agency.
[3] Activities initiated by a private or other non-Federal entity that may need Federal authorization or funding.

(b) This rule will not create inconsistencies with other agencies' actions. As discussed above, Federal agencies have been required to ensure that their actions do not jeopardize the continued existence of the bay checkerspot since the listing in 1987. The prohibition against adverse modification of critical habitat is not expected to impose any additional restrictions to those that currently exist in areas of occupied habitat. We will evaluate any impact of designating unoccupied habitat areas through our economic analysis. Because of the potential for impacts on other Federal agency activities, we will continue to review this proposed action for any inconsistencies with other Federal agency actions.

(c) This proposed rule, if made final, will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are currently required to ensure that their activities do not jeopardize the continued existence of the species, and, as discussed above, we do not anticipate that the adverse modification prohibition (resulting from critical habitat designation) will have any incremental effects in areas of occupied habitat.

(d) This rule will not raise novel legal or policy issues. The proposed rule follows the requirements for determining critical habitat contained in the Act.

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

In the economic analysis (required under section 4 of the Act), we will determine whether designation of critical habitat will have a significant effect on a substantial number of small entities. As discussed under Regulatory Planning and Review above, this rule is not expected to result in any restrictions in addition to those currently in existence for areas of occupied critical habitat. We will also evaluate whether critical habitat designation of unoccupied areas will significantly affect a substantial number of small entities. As indicated on Table 1 (see Proposed Critical Habitat Designation section), we designated property owned by State and local governments, and private property.

Within these areas, the types of Federal actions or authorized activities that we have identified as potential concerns are:

(1) Regulation of activities affecting waters of the United States by the Corps under section 404 of the Clean Water Act;

(2) Regulation of water flows, execution of water contracts, water delivery, transfer of Federal project water, damming, diversion, and channelization by the Bureau of Reclamation or the Corps;

(3) Pesticide and air quality regulation by the Environmental Protection Agency; and

(4) Funding and regulation of road construction by the FHWA.

Many of these activities sponsored by Federal agencies within the proposed critical habitat areas are carried out by small entities (as defined by the Regulatory Flexibility Act) through contract, grant, permit, or other Federal authorization. As discussed above, these actions are currently required to comply with the listing protections of the Act, and the designation of critical habitat is not anticipated to have any additional effects on these activities.

For actions on non-Federal property that do not have a Federal connection (such as funding or authorization), the current restrictions concerning take of the species remain in effect, and this rule will have no additional restrictions.

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))

In the economic analysis, we will determine whether designation of critical habitat will cause (a) any effect on the economy of $100 million or more, (b) any increases in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. As discussed above, we anticipate that the designation of critical habitat will not have any additional effects on these activities in areas of critical habitat occupied by the species. Designation of unoccupied areas as critical habitat may have impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons who receive Federal authorization or funding. We will evaluate any impact through our economic analysis.

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

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 August 25, 2000 *et seq.*):

(a) We believe this rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. However, as discussed above, these actions are currently subject to equivalent restrictions through the

listing protections of the species, and no further restrictions are anticipated to result from critical habitat designation of occupied areas. In our economic analysis, we will evaluate whether designation of unoccupied areas has any significant effect on small governments.

(b) This rule will not produce a Federal mandate of $100 million or greater in any year; that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

Takings

In accordance with Executive Order 12630, this rule does not have significant takings implications. A takings implication assessment is not required. As discussed above, the designation of critical habitat affects only Federal agency actions. The rule will not increase or decrease the current restrictions on private property concerning take of the bay checkerspot. Due to current public knowledge of the species' protection under the Act, the prohibition against take of the species both within and outside of the designated areas, and the fact that critical habitat provides no incremental restrictions in areas of occupied critical habitat, we do not anticipate that property values will be affected by the critical habitat designation. Additionally, critical habitat designation does not preclude development of habitat conservation plans and issuance of incidental take permits. Landowners in areas that are included in the designated critical habitat will continue to have opportunity to utilize their property in ways consistent with the survival of the bay checkerspot butterfly.

Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from and coordinated development of this critical habitat proposal with appropriate State resource agencies in California. The designation of critical habitat in areas currently occupied by the bay checkerspot 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 essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning (rather than waiting for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We propose to designate critical habitat in accordance with the provisions of the Act and plan a public hearing on the proposed designation during the comment period. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the bay checkerspot butterfly.

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

This rule does not contain any information collection requirements that requires Office of Management and Budget approval under the Paperwork Reduction Act.

National Environmental Policy Act

We determined that we do not need to prepare an Environmental Assessment and/or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

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) and 512 DM 2, we understand that Federally recognized Tribes must be related to on a Government-to-Government basis.

We are not aware of any Tribal lands essential for the conservation of the bay checkerspot. Therefore, we are not proposing to designate critical habitat for the bay checkerspot butterfly on Tribal lands.

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Weiss, S. B., and A. E. Launer. 2000. Annual report to the trustees of the Kirby Canyon Conservation Agreement—Summary of activities conducted in 1999 and early spring 2000. Unpublished report, on file at Sacramento Fish and Wildlife Office.

Authors

The primary authors of this notice are the staff of the Sacramento Fish and Wildlife Office (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

For the reasons given in the preamble above, we propose to amend 50 CFR part 17 as set forth below:

PART 17—[AMENDED]

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

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

2. In § 17.11(h) revise the entry for ''Butterfly, bay checkerspot,'' under ''INSECTS,'' to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*	*	*
INSECTS							
*	*	*	*	*	*	*	*
Butterfly, bay checkerspot.	*Euphydryas editha bayensis*.	U.S.A. (CA)	NA	T	288	17.95(i)	NA
*	*	*	*	*	*	*	*

3. Amend § 17.95(i) by adding critical habitat for the bay checkerspot butterfly (*Euphydryas editha bayensis*) in the same alphabetical order as this species occurs in § 17.11(h), to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects*

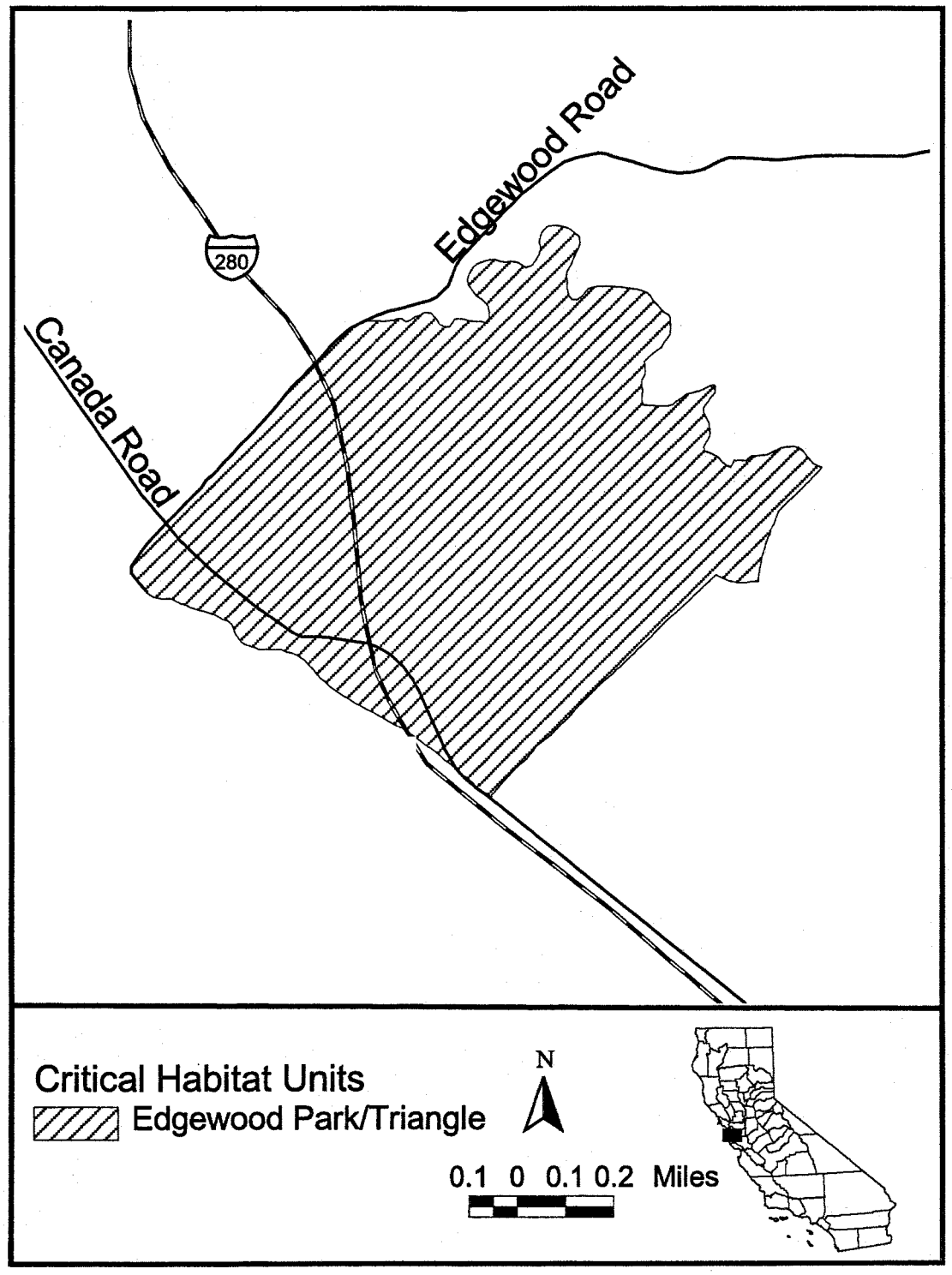
Bay Checkerspot Butterfly (*Euphydryas editha bayensis*)

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

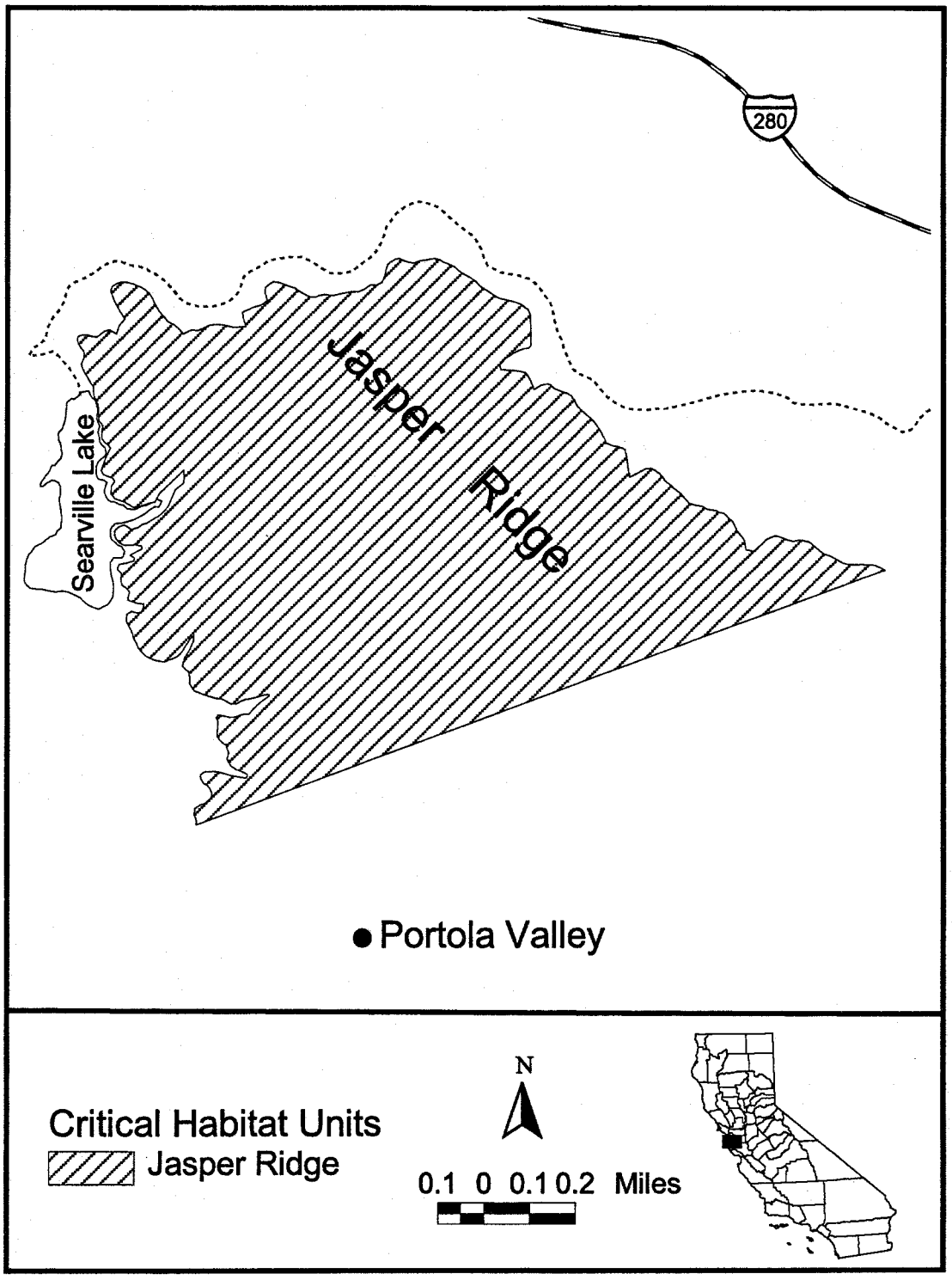
2. Within these areas, the primary constituent elements are those habitat components that are essential for the primary biological needs of foraging, sheltering, breeding, maturation and dispersal. The primary constituent elements are areas of open grassland; stands of *Plantago erecta, Castilleja exserta*, or *Castilleja densiflora*; spring flowers providing nectar; pollinators of the bay checkerspot's food and nectar plants; soils derived from serpentinic rock; stable holes or cracks in the soil and surface rocks or rock outcrops; wetlands providing moisture during times of spring drought; and space for dispersal between habitable areas. In addition, topography with varied slopes and aspects is a primary constituent element to be conserved when it is present in combination with one or more of the primary constituent elements above.

3. Within these areas, existing features and structures, such as buildings, roads, railroads, urban development, and other features not containing primary constituent elements, are not considered critical habitat.

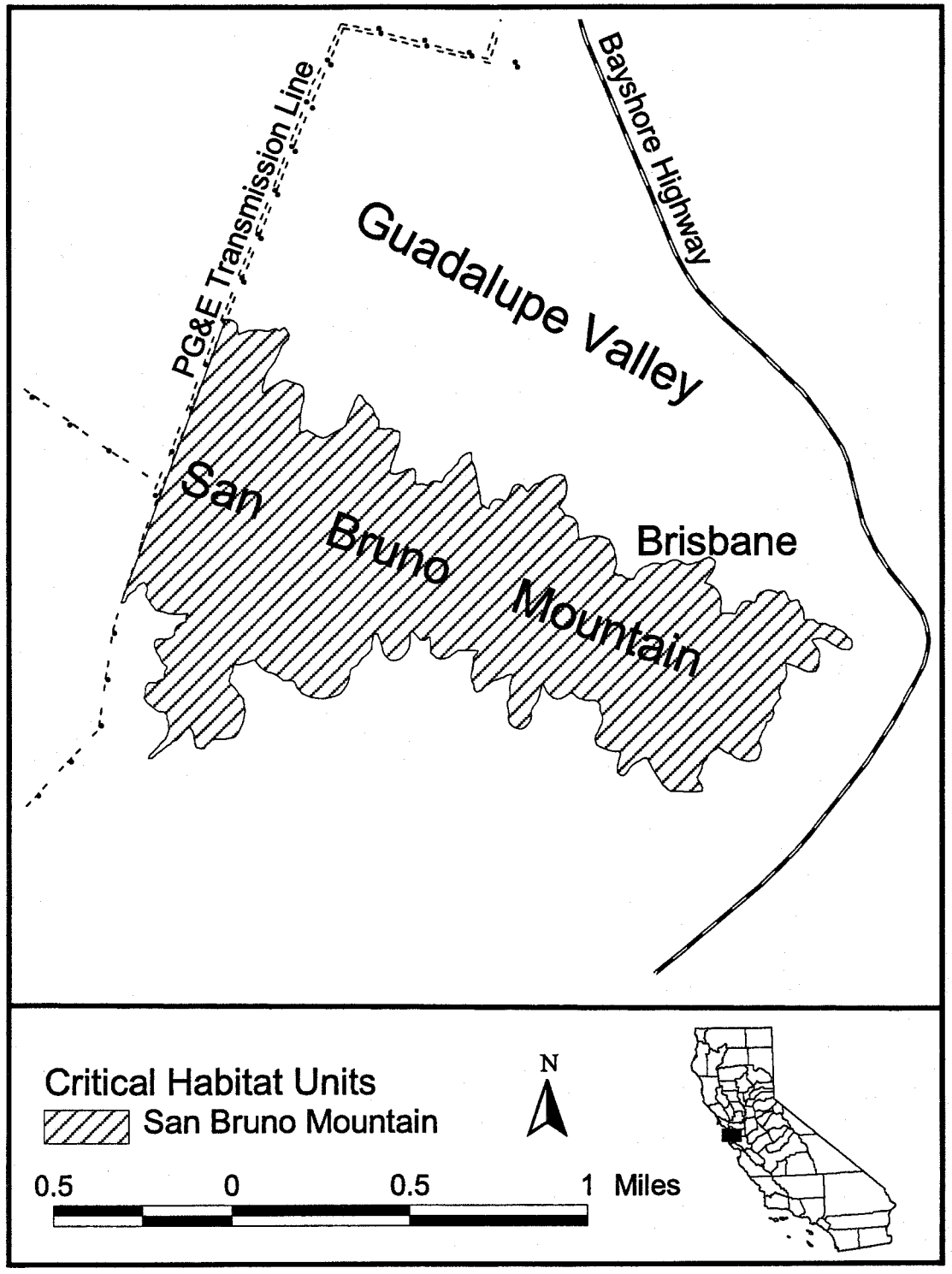
Unit 1 (Edgewood Park/Triangle Unit): San Mateo County, California. Bounded as follows: beginning at the intersection of Edgewood Road and Canada Road; southwesterly, south, and southeasterly along the light-duty extension of Edgewood Road southwest of Canada Road to its intersection with an unnamed intermittent drainage tributary to Upper Crystal Springs Reservoir as shown on the USGS Woodside 7.5 minute quadrangle (1961, photorevised 1968 and 1973); then southwesterly along this drainage to its intersection with I–280; then southeasterly along the eastern edge of pavement of I–280 to a point due southwest of the southernmost corner of Edgewood Natural Preserve (this just south of a substation shown on the Woodside quadrangle, where the State Fish and Game Refuge boundary meets Canada Road and an elevation of 161 m (528 ft) is marked); then due northeast to the southernmost corner of Edgewood Natural Preserve; then northeast along the southeast boundary of Edgewood Natural Preserve to the 159 m (520 ft) elevation contour as shown on the Woodside quadrangle; then northwesterly along this contour to its intersection with Edgewood Road; then southwesterly along the south edge of pavement of Edgewood Road to the starting point.



Unit 2 (Jasper Ridge Unit): San Mateo County, California. Bounded as follows: to the east, north, and west by the 110 m (360 ft) elevation contour around Jasper Ridge (USGS Palo Alto 7.5 minute quadrangle, 1991); and to the south by the current boundary of the Jasper Ridge Biological Reserve, which is largely coincident with the northern boundary of the town of Portola Valley.

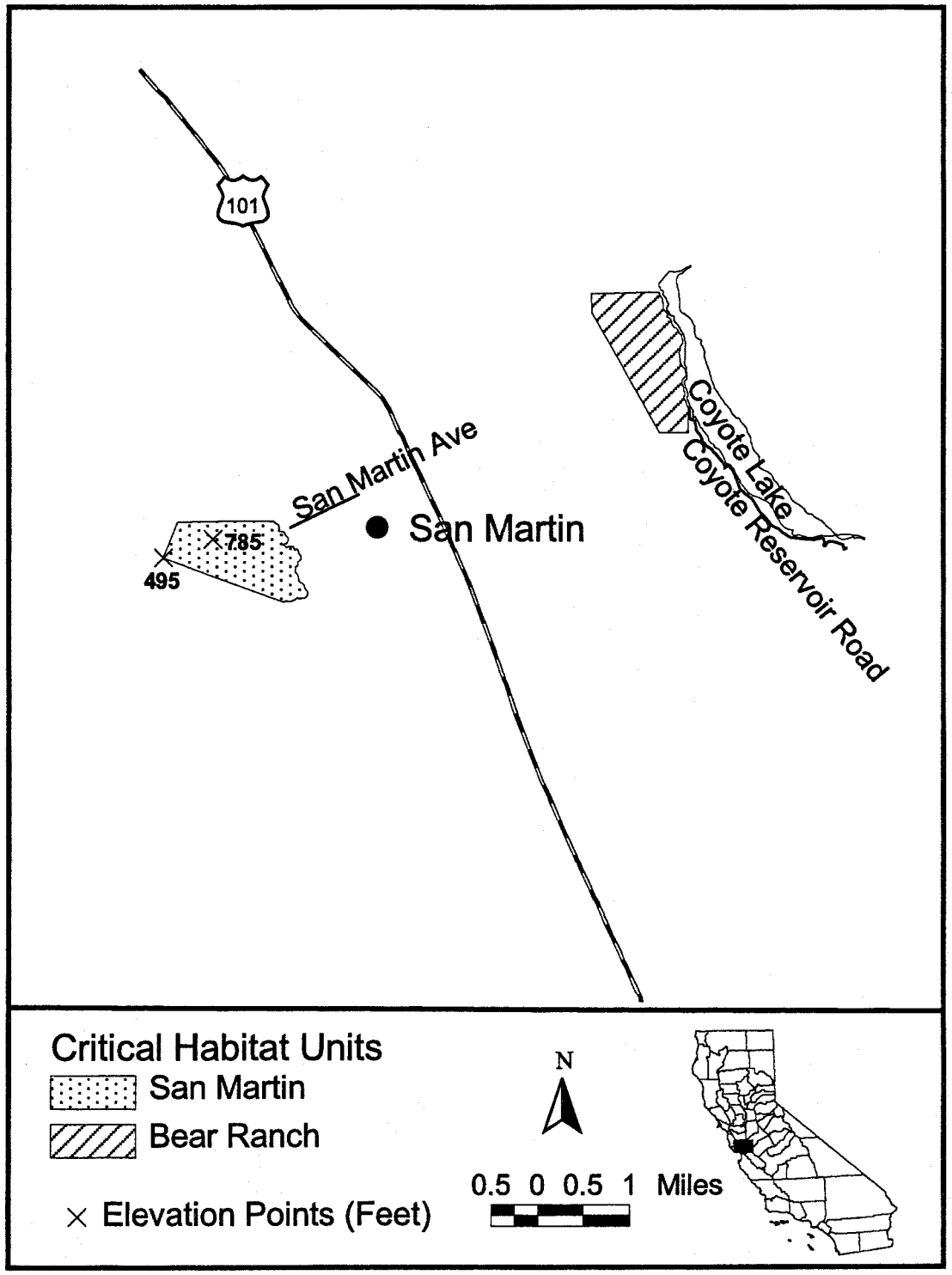


Unit 3 (San Bruno Mountain Unit): San Mateo County, California. All area on San Bruno Mountain above the 152 m (500 ft) elevation contour and east of the western Pacific Gas and Electric transmission corridor (this transmission corridor runs south to southwesterly from the west end of Guadalupe Valley to the South San Francisco/Colma City border) as shown on the USGS San Francisco South 7.5 minute quadrangle, 1956).

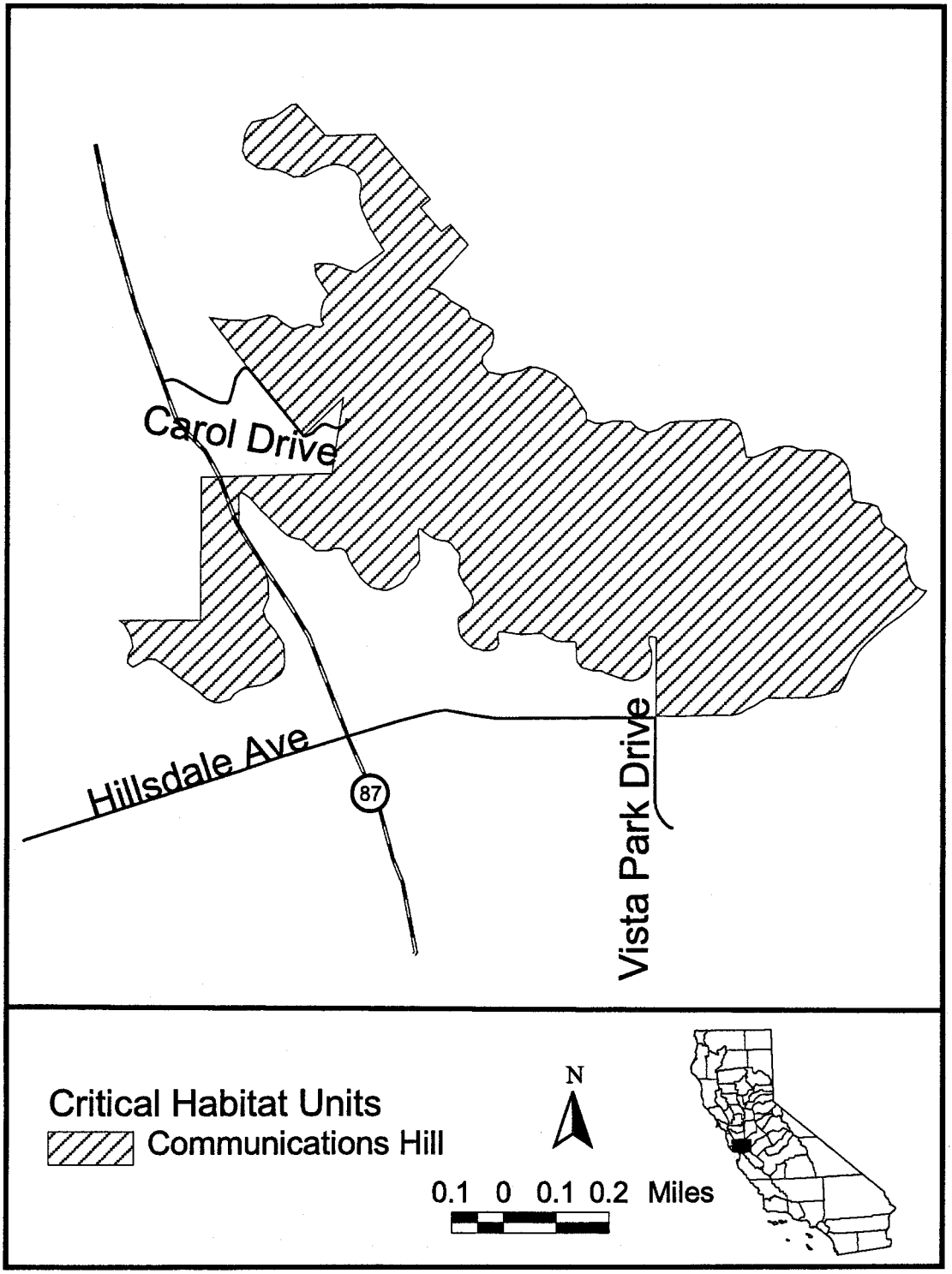


Unit 4 (Bear Ranch Unit): Santa Clara County, California. Those portions of section 32, T.9 S., R.4 E. and section 5, T.10 S., R.4 E., westerly of Coyote Reservoir Road—a light-duty road shown but not named on the USGS Gilroy 7.5 minute quadrangle (1955, photorevised 1968 and 1973).

Unit 5 (San Martin Unit): Santa Clara County, California. Bounded on the north by a line running due east-west through a point 305 m (1000 ft) due north of a hilltop marked 239 m (785 ft) in elevation on the USGS Mt. Madonna 7.5 minute quadrangle (1955, photorevised 1968). This hilltop is near latitude 37 degrees 4 minutes 42 seconds north, longitude 121 degrees 38 minutes 19 seconds west (Hayes Lane, not shown on the Mt. Madonna quadrangle, also runs in the vicinity of this hilltop). The north boundary runs as far east as its intersection with the 97 m (320 ft) elevation contour west of Coolidge Avenue as shown on the Mt. Madonna quadrangle. From this point the boundary runs southeasterly, southerly, and westerly following this contour, continuing onto the USGS Gilroy 7.5 minute quadrangle (1955, photorevised 1968 and 1973) and back to its intersection with longitude 121 degrees 37 minutes 30 seconds west (the junction between the two quadrangles). The unit is bounded on the south-southwest by a straight line running from this latter point for a distance of about 2,228 m (7,310 ft) slightly south of west-northwest (bearing 291.5 degrees) to a hilltop labeled 152 m (495 ft) in elevation on the Mt. Madonna quadrangle. The west boundary of the unit runs from this hilltop due north-northeast (bearing 22.5 degrees) to the north boundary.


101
San Martin Ave
San Martin
785
495
Coyote Lake
Coyote Reservoir Road
Critical Habitat Units
San Martin
Bear Ranch
× Elevation Points (Feet)
N
0.5 0 0.5 1 Miles

Unit 6 (Communications Hill Unit): Santa Clara County, California. Starting at a point on the 73 m (240 ft) elevation contour due south of the 133 m (435 ft) summit of Communications Hill, the Communications Hill unit is bounded to the south by the 73 m (240 ft) elevation contour as shown on the USGS San Jose East 7.5 minute quadrangle map (1961, photorevised 1980; the hill is not named on this map but the county communications center is shown), as far west as its intersection with Highway 87 (this highway is not shown on the San Jose East quadrangle); then south along Highway 87 (west edge of pavement) to the 55 m (180 ft) elevation contour (all contours in this description are as shown on the San Jose East quadrangle); then south, west, and north along this contour to a point due west of the southernmost point of the southern of the two water tanks on the top of the hill west of Highway 87; then due east for a distance of about 238 m (780 ft) to a point due south of the easternmost point of the eastern of the two water tanks; then due north for about 439 m (1,440 ft) to the intersection with the 85 m (280 ft) elevation contour; then slightly north of east on a straight line to the southern corner of the property of the county communications facility; then on a line to the northern corner of this property; then due southwest to Carol Drive (not named on the San Jose East quadrangle); then slightly north of northwest (bearing 322 degrees) to the 55 m (180 ft) elevation contour; then along this contour easterly and northeasterly until it reaches the second dirt road as shown on the San Jose East quadrangle; then due northeast across the Southern Pacific railroad tracks to the 55 m (180 ft) elevation contour; then northwesterly and northeasterly along this contour to the boundary of Oak Hill Memorial Park cemetery; then following the cemetery boundary southeasterly, skirting a hill summit marked 98 m (323 ft) on the San Jose East quadrangle, to the first 67 m (220 ft) elevation contour southeast of this summit; then due southwest to the 49 m (160 ft) elevation contour immediately west of the railroad tracks; then southeasterly along this contour as shown on the 1961 San Jose East quadrangle to its intersection with Hillsdale Avenue; then southwesterly along Hillsdale Avenue (north edge of pavement) to its intersection with Vista Park Drive (not shown on the San Jose East quadrangle); then due north to the 73 m (240 ft) elevation contour; then westerly along this contour to the starting point.


Carol Drive
Hillsdale Ave
87
Vista Park Drive
Critical Habitat Units
Communications Hill
N
0.1 0 0.1 0.2 Miles

Unit 7 (Kalana Hills Unit): Santa Clara County, California. Bounded as follows: beginning at the intersection of San Bruno Avenue and the 94 m (310 ft) elevation contour as shown on USGS Morgan Hill 7.5 minute topographic quadrangle (1955, photorevised 1968); by a line running due northwest to the 79 m (260 ft) elevation contour; then due west for 419 m (1,375 ft) (approximately to the second intersection with a canal); then due south for about 1 km (0.6 mi) to an unnamed intermittent stream shown on the Morgan Hill quadrangle; then by a straight line slightly east of southeast to the westernmost point on the intermittent stream draining San Bruno Canyon (this point is nearly on a line between hilltop elevations marked 227 m (744 ft) and 230 m (756 ft), to the east and the west, respectively, on the Morgan Hill quadrangle); then by a line running north of northeast back to the starting point on San Bruno Avenue.

Unit 8 (Kirby Unit): Santa Clara County, California. Beginning at the intersection of the intermittent creek draining Metcalf Canyon (Metcalfe Canyon on the USGS Morgan Hill 7.5 minute quadrangle, 1955, photorevised 1980) with Highway 101 (current alignment, not shown on Morgan Hill quadrangle), the unit is bounded on the east, southeast, and south by Highway 101 (east edge of pavement, current alignment, not shown on the Morgan Hill quadrangle), south to where it crosses Coyote Creek. From there the boundary runs southeasterly up along Coyote Creek to the Anderson Lake dam; then east-northeasterly up the face of the dam to Anderson Lake (Anderson Reservoir). The unit is bounded on the southeast by Anderson Lake. From the northernmost tip of Anderson Lake (at latitude 37 degrees 12 minutes 15 seconds north) the boundary runs slightly north of west for a distance of about 1,097 m (3,600 ft) to a hilltop marked 379 m (1,243 ft) in elevation on the Morgan Hill quadrangle; then slightly west of northwest for a distance of about 1,707 m (5,600 ft) to a hilltop marked 411 m (1,347 ft) in elevation on the Morgan Hill quadrangle; then slightly north of northwest for a distance of about 2,886 m (9,470 ft) to a hilltop marked 444 m (1,457 ft) in elevation on the Morgan Hill quadrangle; then on a line running from this hilltop south of west-southwest (bearing 237 degrees) to the intersection of the Metcalf Canyon drainage with the 354 m (1,160 ft) elevation contour as shown on the Morgan Hill quadrangle. The north boundary of the unit then continues westerly down the Metcalf Canyon drainage to the starting point.

Unit 9 (Morgan Hill Unit): Santa Clara County, California. Bounded as follows: beginning at the intersection of the 107 m (350 ft) elevation contour (USGS Morgan Hill 7.5 minute quadrangle, 1955, photorevised 1968) with Hale Road east of the intersection of Cochrane Road and Monterey Highway; running north-northwesterly along this contour to where it again meets Hale Avenue near the intersection of Hale Avenue with Tilton Avenue (these roads are not named on the Morgan Hill quadrangle); then on a line due southwest to the 122 m (400 ft) elevation contour; then west-southwesterly along this contour to its intersection with Willow Springs Road; then along Willow Springs Road southwesterly to the land survey line running approximately east-southeast from Laurel Hill (elevation marked 349 m (1,145 ft) on the Morgan Hill quadrangle); then east-southeasterly along this land survey line to its end at the R.2 E./R.3 E. dividing line (Mount Diablo meridian/base line); then continuing from this point along the same bearing as the land survey line to Llagas Road (called Llagas Avenue on the Morgan Hill quadrangle); then northeasterly along Llagas Road to its intersection with Castle Lake Drive (not shown on the Morgan Hill quadrangle); then east-northeasterly along a straight line connecting this intersection and the intersection of Christeph Drive and Llagas Vista Drive (not shown on the Morgan Hill quadrangle); then northeasterly parallel to Llagas Road to Hale Avenue; then north-northwesterly along Hale Avenue to the starting point.

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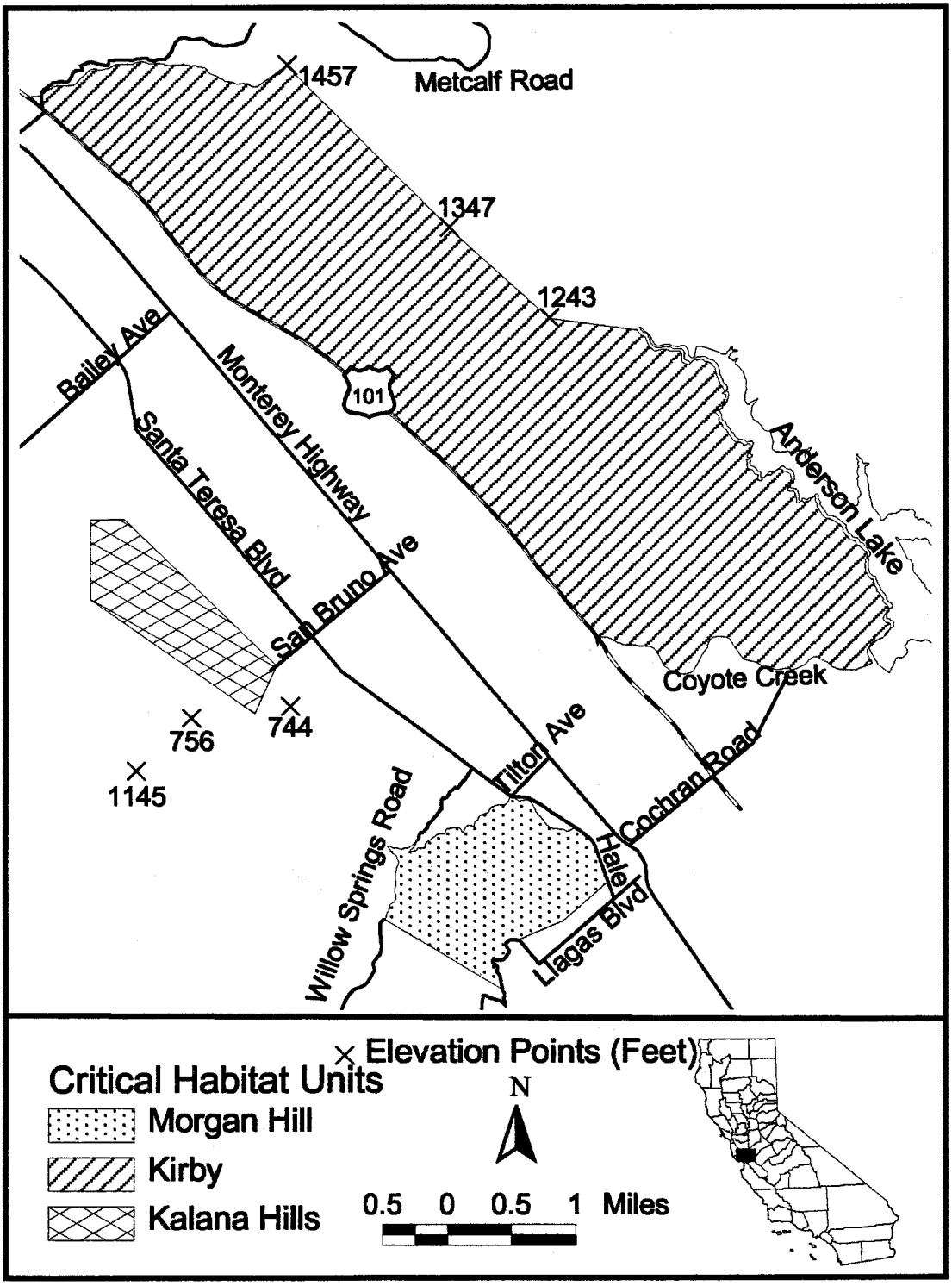
1457
Metcalf Road
1347
1243
Bailey Ave
Monterey Highway
101
Santa Teresa Blvd
San Bruno Ave
Anderson Lake
Coyote Creek
744
756
1145
Tilton Ave
Cochran Road
Willow Springs Road
Hale
Llagas Blvd
Elevation Points (Feet)
Critical Habitat Units
Morgan Hill
Kirby
Kalana Hills
N
0.5 0 0.5 1 Miles

Unit 10 (Metcalf Unit): Santa Clara County, California. This unit shares its southern border with the northern border of the Kirby unit, running from Highway 101 (current alignment, not shown on USGS Morgan Hill 7.5 minute quadrangle, 1955, photorevised 1980) up the Metcalf Canyon drainage and to the 444 m (1,457 ft) peak of the ridge as described for the Kirby unit. The Metcalf unit boundary then runs north-northeasterly from this hilltop for a distance of about 1,740 m (5,710 ft) to a hilltop marked 440 m (1,445 ft) in elevation on the Morgan Hill quadrangle (this segment crosses Metcalf Road (appears as Metcalfe Road on the Morgan Hill quadrangle) about 0.5 km (0.3 mi) easterly of the high point of this road over Coyote Ridge). The Metcalf unit boundary then continues, abutting the San Felipe unit, from this hilltop due west to Silver Creek; then northwesterly down Silver Creek to the first intersection with Silver Creek Road (sic) (T.8 S., R.2 E; USGS San Jose East 7.5 minute quadrangle, 1961, photorevised 1980) (see San Felipe unit description). From this crossing of Silver Creek Road over Silver Creek, the Metcalf unit boundary follows Silver Creek Road west-northwesterly to the 152 m (500 ft) elevation contour as shown on the San Jose East quadrangle (just north of a benchmark labeled 153 m (502 ft) on the quadrangle); then continues due southwest for about 445 m (1,460 ft) to a fence line marked on the San Jose East quadrangle; then slightly north of west following that fence line as shown for a distance of about 1,027 m (3,370 ft) to its second (westerly) intersection with the 226 m (740 ft) elevation contour as shown on the San Jose East quadrangle; then northwest in a straight line to the intersection of Silver Creek Valley Road (sic) (not shown on the San Jose East quadrangle) with the 195 m (640 ft) elevation contour as shown on the San Jose East quadrangle; then southwesterly along Silver Creek Valley Road to Coyote Creek; then southeasterly along Coyote Creek to its first undercrossing of Highway 101 (current alignment, not shown but would fall on USGS Santa Teresa Hills 7.5 minute quadrangle, 1953, photorevised 1980); then southerly along Highway 101 (current alignment, east edge of pavement, not shown on USGS 7.5 minute quadrangles) to the Metcalf Canyon drainage.

Unit 11 (San Felipe Unit): Santa Clara County, California. The east boundary of the San Felipe critical habitat unit begins at the 440 m (1,445 ft) hilltop identified in the northeast boundary of the Metcalf unit (this peak is labeled on the USGS Morgan Hill 7.5 minute quadrangle (1955, photorevised 1980), near latitude 37 degrees 15 minutes north, longitude 121 degrees 43 minutes west); and proceeds from that hilltop due north to San Felipe Road at an elevation of about 296 m (970 ft) (USGS Lick Observatory 7.5 minute quadrangle, 1955, photorevised 1968); then west-northwesterly along San Felipe Road (southwest edge of pavement) for a distance of about 2.7 km (1.7 mi) to Silver Creek Road (sic). The north boundary is formed by Silver Creek Road (south edge of pavement) from San Felipe Road to Silver Creek (the creek crossing is on the USGS San Jose East 7.5 minute quadrangle, 1961, photorevised 1980). The west boundary, which abuts the Metcalf unit, runs from Silver Creek Road southeasterly along Silver Creek (mostly on Lick Observatory quadrangle). The south boundary also abuts the Metcalf unit, and runs from Silver Creek (Morgan Hill quadrangle) due east to the starting point.

Unit 12 (Silver Creek Unit): Santa Clara County, California. Bounded as follows: on the west by Highway 101 (east edge of pavement, current alignment) from Yerba Buena Road in San Jose south to the crossing of Coyote Creek (Yerba Buena Road and the full current alignment of Highway 101 are not shown on the USGS San Jose East 7.5 minute quadrangle, 1961, photorevised 1980); then by Coyote Creek southeasterly from this crossing south to Silver Creek Valley Road (not shown on the San Jose East quadrangle); then by Silver Creek Valley Road from Coyote Creek northeasterly to its intersection with the 195 m (640 ft) elevation contour shown on the San Jose East quadrangle (this segment abuts the northwestern boundary of the Metcalf unit); then due northwest to the boundary of the Silver Creek Valley Country Club Butterfly Habitat Reserve at an elevation of about 226 m (740 ft); then generally northeast, north, and northwest along the boundary of the reserve to a fence line shown on the San Jose East quadrangle at an elevation of about 168 m (550 ft); then northeasterly following that fence line as shown to Silver Creek at an elevation of about 93 m (305 ft); then northwesterly and westerly following Silver Creek to Yerba Buena Road where Silver Creek passes under it approximately 216 m (710 ft) northeast of Highway 101; then along Yerba Buena Road (south edge of pavement) to Highway 101.

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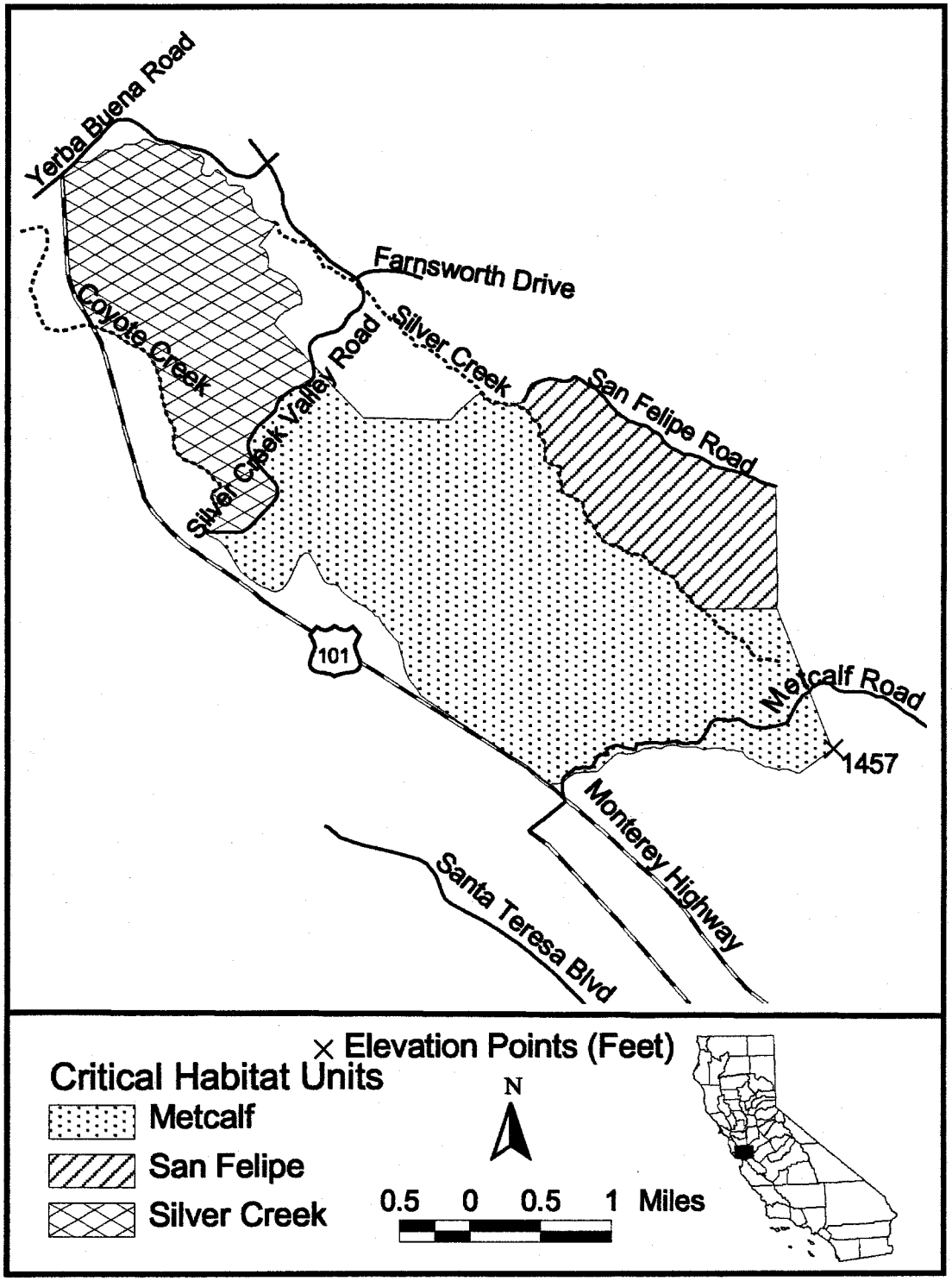
Yerba Buena Road
Farnsworth Drive
Coyote Creek
Silver Creek Valley Road
Silver Creek
San Felipe Road
101
Metcalf Road
1457
Monterey Highway
Santa Teresa Blvd
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Critical Habitat Units
Metcalf
San Felipe
Silver Creek
N
0.5 0 0.5 1 Miles

Unit 13 (San Vicente-Calero Unit): Santa Clara County, California. Bounded on the north and northwest by Calero Reservoir, by the canal and siphon running westerly of the main reservoir dam (dam on the Arroyo Calero), and by the city boundary of the City of San Jose, which follows the canal at an elevation of roughly 152 m (500 ft), as far as its intersection with Chilanian Gulch. The boundary then runs generally southeast following Chilanian Gulch to its intersection with the R.1 E./R.2 E. (Mount Diablo meridian/base line) dividing line, then due south to the Calero County Park border. The park boundary forms the rest of the western, southern, and southeastern border of the unit. The eastern border of the unit is formed by a line running due north from the southern Calero County Park boundary through a hilltop elevation labeled 307 m (1,009 ft) on the USGS Santa Teresa Hills 7.5 minute quadrangle (1953, photorevised 1980) to Calero Reservoir. This hilltop is near latitude 37 degrees 10 minutes 15 seconds north, longitude 121 degrees 46 minutes 15 seconds west.

Unit 14 (Santa Teresa Hills Unit): Santa Clara County, California. The east and southeast boundary runs as follows, beginning at the westernmost corner of the Tulare Hill Corridor unit: due southeast and then northeast along the Tulare Hill Corridor unit boundary, to the 85 m (280 ft) elevation contour (USGS Santa Teresa Hills 7.5 minute quadrangle, 1953, photorevised 1980); then southeasterly, south, and southwesterly along this elevation contour (continues onto USGS Morgan Hill 7.5 minute quadrangle, 1955, photorevised 1980, and back) to its intersection with Bailey Avenue. The south, southwest, and western border of the unit then continues from this point, along a line running west-southwesterly (bearing 248 degrees) for a distance of about 325 m (1,065 ft) to a bench mark north of Bailey Avenue labeled 108 m (354 ft) in elevation on the Santa Teresa Hills quadrangle; then north of east (bearing 284 degrees) for a distance of about 3,030 m (9,940 ft) to the intersection of a land grant boundary with a transmission line shown on the 1980 photorevised Santa Teresa Hills quadrangle at an elevation of about 152 m (500 ft); then north-northwesterly along this land grant line to the intersection with Fortini Road; then generally west-southwest and west along Fortini Road to the intersection with San Vicente Avenue (these road names do not appear on the Santa Teresa quadrangle); then westerly along San Vicente Avenue to where it turns south south-west; then continuing westerly and northwesterly from this point along a land grant boundary shown on the Santa Teresa Hills quadrangle to its intersection with both Henwood Drive (road name does not appear on the Santa Teresa quadrangle) and an unnamed intermittent drainage (tributary to Arroyo Calero); then northeasterly and northerly up this drainage as marked on the Santa Teresa Hills quadrangle to the 183 m (600 ft) elevation contour; then due north-northeast for a distance of about 424 m (1,390 ft) to the first intersection with the 280 m (920 ft) elevation contour; then west-northwest for a distance of about 265 m (870 ft) to a hilltop over 280 m (920 ft) in elevation, then slightly north of west (bearing 276 degrees) for a distance of about 543 m (1,780 ft) to the end of a dirt road as marked on the 1980 photorevised Santa Teresa Hills quadrangle; then slightly south of west-northwest (bearing 290 degrees) for a distance of about 2,551 (8,370 ft) to a hilltop marked 173 m (568 ft) in elevation on the Santa Teresa Hills quadrangle; then due northeast to the 73 m (240 ft) elevation contour as shown on the Santa Teresa Hills quadrangle. The northern boundary of the unit is formed by the 73 m (240 ft) elevation contour as shown on the Santa Teresa Hills quadrangle.

Unit 15 (Tulare Hill Corridor Unit): Santa Clara County, California. Bounded on the northeast by the most northeasterly edge of pavement of Highway 101 (*i.e.,* the highway itself is included, and the unit abuts the Kirby and Metcalf units). Bounded on the northwest, west, and southwest by a line extending due southwest from the northeast boundary to the corner of Cheltenham Way and Coburn Court, then southwesterly along Cheltenham Way from Coburn Court to the intersection with Santa Teresa Boulevard, then southeasterly along Santa Teresa Boulevard to the 73 m (240 ft) elevation contour as shown on the USGS Santa Teresa Hills 7.5 minute quadrangle (1953, photorevised 1980), then southwesterly along this contour to the border of Santa Teresa County Park, then along a line due southeast to the southeast border of the unit. Bounded on the southeast by a line running due northeast-southwest through the southeastern-most point of the 85 m (280 ft) contour of Tulare Hill, as shown on the Morgan Hill quadrangle.

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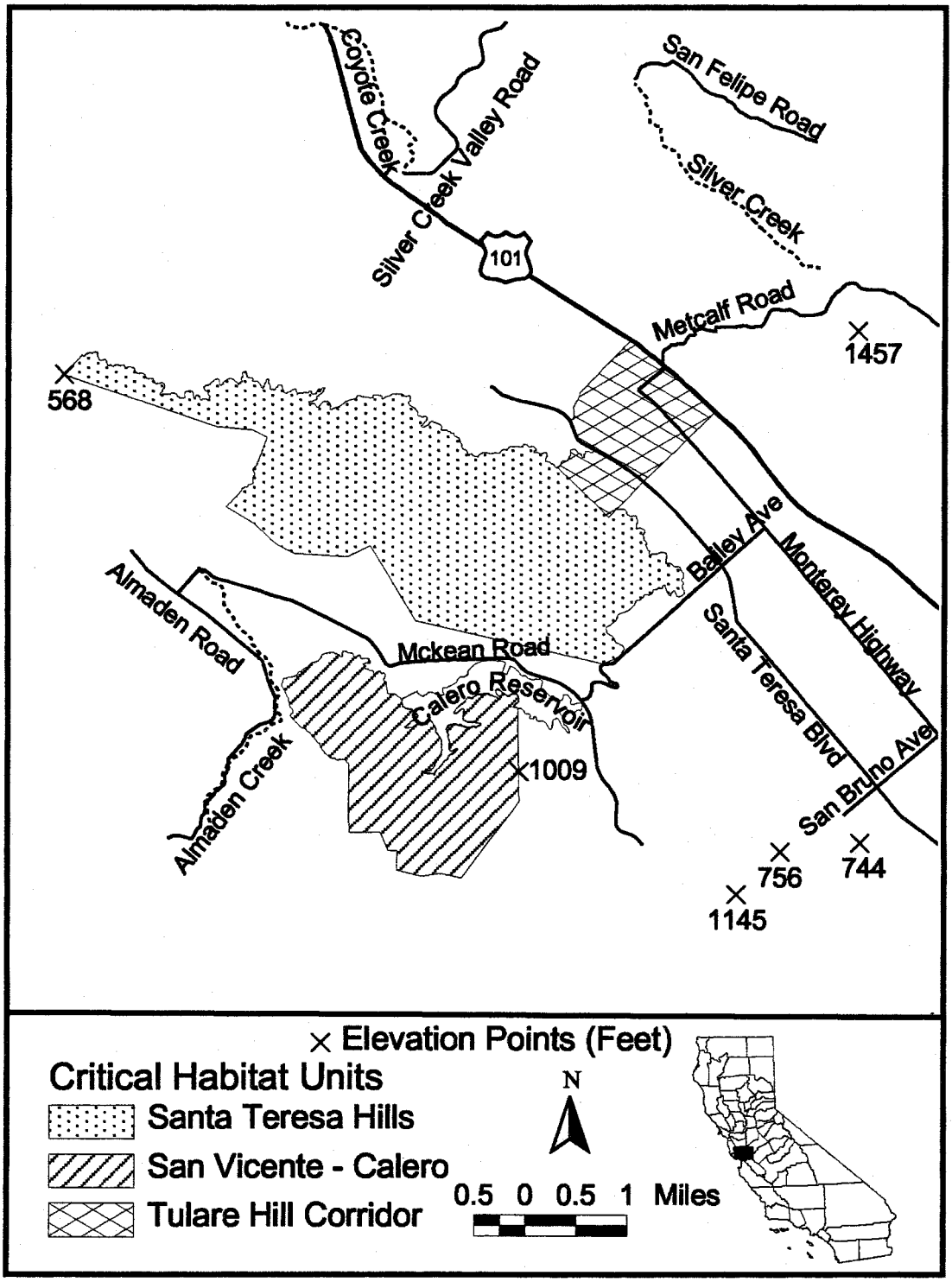

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Dated: October 10, 2000.

Kenneth L. Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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