

viable population size for Casey's June beetle, nor is there any substantial information concerning the population dynamics of the species. No information was provided in the petition, and we are not aware of any information regarding any genetic analyses of the species to determine the presence of skewed sex ratios or inbreeding. Therefore, we find the petition, supporting information, and information readily available to the Service does not present substantial information for this factor indicating that the petitioned action may be warranted.

### Finding

The petition focused on three of the five listing factors: (A) The Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range; (B) the Inadequacy of Existing Regulatory Mechanisms; and (C) Other Natural or Manmade Factors Affecting the Species' Continued Existence. Specifically, under Factor A, the petition indicates the range of the Casey's June beetle has been greatly reduced and is threatened by habitat removal from continued urban development. This is corroborated by information in the Service's files. The petition also presents information under Factor D suggesting that the existing regulatory mechanisms, such as CEQA and NEPA, are inadequate to protect the Casey's June beetle and its habitat. Additionally, while the Casey's June beetle was initially a covered species under the Coachella Valley MSHCP, the finalized version of that plan does not cover the species. The petition also presents information regarding additional threats under Factor E, such as drowning in lighted swimming pools, direct mortality by vehicles, and reduced genetic exchange due to a reduced population size. We are not aware, however, of any substantial information to suggest that any of the threats described under Factor E would threaten the existence of the Casey's June beetle.

According to the petition, five "imminent" projects would destroy over 11 percent of Casey's June beetle habitat in Palm Springs. As cited in the petition, two of the five projects (Monte Sereno and El Portal) considered imminent had been approved by the City Council at the time we received the petition in 2004.

After this review and evaluation, we find the petition presents substantial scientific or commercial information indicating that listing of Casey's June beetle may be warranted. Therefore, we are initiating a status review to determine if listing is warranted. To

ensure the status review is comprehensive, we are soliciting scientific and commercial information regarding this species. Under the terms of a settlement agreement, we are required to make a 12-month finding determining whether listing the Casey's June beetle is warranted on or before June 30, 2007.

The petitioners also requested critical habitat be designated for this species. We consider the need for critical habitat designation when listing species. If we determine in our 12-month finding that listing of Casey's June beetle is warranted, we will address the designation of critical habitat in a subsequent proposed rule.

### References Cited

A complete list of all references cited herein is available, upon request, from the Carlsbad Fish and Wildlife Office (see **ADDRESSES**).

### Author

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

### Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: July 28, 2006.

### Kenneth Stansell,

*Acting Director, U.S. Fish and Wildlife Service.*

[FR Doc. E6-12579 Filed 8-7-06; 8:45 am]

**BILLING CODE 4310-55-P**

## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

### Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List the Hermes Copper Butterfly as Endangered

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of 90-day petition finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list the Hermes copper butterfly (*Hermelycaena [Lycaena] hermes*) as an endangered species under the Endangered Species Act of 1973, as amended. We find the petition does not present substantial scientific or commercial information indicating that listing the Hermes copper butterfly may be warranted.

Therefore, are not initiating a status review in response to this petition. We ask the public to submit to us any new information that becomes available concerning the status of the species or threats to it.

**DATES:** The finding announced in this document was made on August 8, 2006.

**ADDRESSES:** The complete file for this finding is available for public inspection, by appointment, during normal business hours at the Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, 6010 Hidden Valley Road, Carlsbad, CA 92011. New information, materials, comments, or questions concerning this species may be submitted to us at any time at the above address.

**FOR FURTHER INFORMATION CONTACT:** Jim Bartel, Field Supervisor, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section above), by telephone at 760-431-9440, or by facsimile to 760-431-9624. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339, 24 hours a day, 7 days a week.

### SUPPLEMENTARY INFORMATION:

#### Background

Section 4(b)(3)(A) of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*) requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial information to indicate that the petitioned action may be warranted. To the maximum extent practicable, this finding is to be made within 90 days of receipt of the petition, and the finding is to be published in the **Federal Register**.

This finding summarizes information included in the petition and information available to us at the time of the petition review. A 90-day finding under section 4(b)(3)(A) of the Act and § 424.14(b) of our regulations is limited to a determination of whether the information in the petition meets the "substantial information" threshold. Substantial information is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)).

#### Previous Federal Action

The Hermes copper butterfly was included as a Category 2 candidate species in our November 21, 1991 (56 FR 58804), and November 15, 1994 (59 FR 58982), Candidate Notices of Review (CNOR). Category 2 included taxa for which information in the Service's possession indicated that a proposed

listing rule was possibly appropriate, but for which sufficient data on biological vulnerability and threats were not available to support a proposed rule. In the CNOR published on February 28, 1996 (61 FR 7595), the Service announced a revised list of plant and animal taxa that were regarded as candidates for possible addition to the Lists of Endangered and Threatened Wildlife and Plants. The revised candidate list included only former Category 1 species. All former Category 2 species were dropped from the list in order to reduce confusion about the conservation status of these species, and to clarify that the Service no longer regarded these species as candidates for listing. Since the Hermes copper butterfly was a Category 2 species, it was no longer recognized as a candidate species as of the February 28, 1996, CNOR.

On June 4, 1991, the Service received a petition dated May 27, 1991, from David Hogan of the San Diego Biodiversity Project to list the Hermes copper butterfly, Laguna Mountains skipper (*Pyrgus ruralis lagunae*), Harbison's dun skipper (*Euphyes vestries harbisoni*), and Thorne's hairstreak butterfly (*Callophrys [Mitoura] grynea thornei*) as endangered under the Act. In a **Federal Register** notice dated July 19, 1993 (58 FR 38549), the Service announced its finding on the petition. We found that the petition presented substantial information for the Laguna Mountains skipper, but not for the other three butterflies. However, the finding also concluded that other substantial information existed to support a decision that listing may be warranted for Hermes copper butterfly, Harbison's dun skipper, and Thorne's hairstreak butterfly, and we announced our intention to continue a formal status review of these three species. In a proposed rule for the Laguna Mountain skipper and Quino checkerspot butterflies published on August 4, 1994 (59 FR 39868), we clarified that the negative 90-day finding on the Hermes copper butterfly and the other two butterflies "was made because sufficient information was not available regarding the threats to and biological vulnerability of these" butterflies (59 FR 39869). Though we have continued, and will continue, to collect available data on the Hermes copper butterfly and the other two butterflies, we did not complete a formal status review of Hermes copper butterfly under section 4(b)(3)(A) of the Act.

On October 25, 2004, the Service received an updated petition to list the Hermes copper and Thorne's hairstreak

butterflies as endangered from David Hogan of the Center for Biological Diversity. The petitioner also sought emergency listing protection for Thorne's hairstreak and designation of critical habitat for both butterfly species concurrent with listing, if warranted. Included in the petition was information regarding the species' taxonomy, biology, ecology, historical and current distribution, present status, and potential causes of decline and imminent threats. In a letter dated May 9, 2005, the Service determined that despite apparent threats to the Thorne's hairstreak butterfly, such threats did not appear to be of a magnitude and severity to warrant emergency listing. In our response, we also advised the petitioner that we had insufficient funds to respond to the petition at that time. On March 15, 2005, we received a 60-day notice of intent to sue filed by the Center for Biological Diversity for lack of response to the Hermes copper and Thorne's hairstreak butterfly petition. On October 18, 2005, the Center for Biological Diversity filed a complaint for declaratory and injunctive relief challenging our failure to make the required 90-day findings for these two taxa. The Service agreed to submit 90-day petition findings for Hermes copper and Thorne's hairstreak butterflies to the **Federal Register** by August 1, 2006, and if the 90-day findings was substantial, to submit 12-month findings to the **Federal Register** by June 1, 2007. This notice constitutes our 90-day finding on the petition to list the Hermes copper butterfly; the 90-day finding on the petition to list the Thorne's hairstreak butterfly will be published separately in the **Federal Register**.

In completing this 90-day finding, the Service has reviewed not only the information submitted in the petition but also information in our files. This includes all of the data we had obtained prior to the July 19, 1993, not substantial finding that would have been considered in an internal status review (had one been completed), as well as all of the information we have collected on this species to date. Further, based on all new information and our analysis below, we have determined that the petition does not present substantial information indicating that listing the Hermes copper butterfly may be warranted or that a status review should be conducted.

## Species Information

### Taxonomy

The Hermes copper butterfly was first described as *Chrysophanus hermes* by Edwards in 1870 (cited in Thorne 1963). Comstock placed the species in the genus *Tharsalea* in 1927 (cited in Thorne 1963). According to Faulkner and Klein (2005), Hoffman moved it to the genus *Lycaena* in 1940. In a subsequent study of American copper butterflies, Miller and Brown (1979) placed the species in the monotypic genus *Hermelycaena* on the basis of anatomical features that resemble two butterfly genera and other unique morphological characters. The authors concluded the Hermes copper butterfly was "perhaps \* \* \* our most evolved Copper." In an allozyme phylogenetic study of North American copper butterflies, Pratt and Wright (2002) suggested that the Hermes copper butterfly "could belong to a separate genus or subgenus." *Lycaena hermes* is the name predominantly used in recent literature (North American Butterfly Association 2001; Opler and Warren 2003; Faulkner and Klein 2005), and we recognize it as such for the purposes of this finding.

### Description

The Hermes copper butterfly is a small, brightly-colored butterfly approximately 1 to 1.25 inches (2.5 to 3.2 centimeters) in length, with one tail on the hindwing. On the upperside, the forewing is brown with a yellow or orange area enclosing several black spots, and the hindwing has orange spots that may be merged into a band along the margin. On the underside, the forewing is yellow with 4 to 6 black spots, and the hindwing is bright yellow with 3 to 6 black spots (USGS 2006). Emmel and Emmel (1973) provide a description of the early stages of the species (eggs, larvae, and pupae).

The Hermes copper butterfly has a single flight period per year (univoltine), and spends about two thirds of its life in the egg stage (Thorne 1963). The adult flight period is from mid-May through early July, depending on elevation. Its peak flight period is typically around June 10 for males and June 20 for females. Recent observations indicate that some diapausing (low metabolic rate resting stage) Hermes copper butterfly eggs may remain in that state for multiple years as a drought adaptation (Faulkner and Klein 2005). Eggs are laid singly on stems of its larval host plant, spiny redberry (*Rhamnus crocea*) (Faulkner and Klein 2005). Pupation also occurs on spiny redberry.

Males are territorial and perch on plants along the edge of trails (Thorne 1963). Hermes copper butterflies are rarely seen far from their host or nectar plants, and form geographically small but locally abundant "colonies" that probably number in the hundreds. These "colonies" are hypothesized to be relatively independent from each other, even when in close proximity; inter-colony dispersal, which helps maintain the gene pool, may be limited to occasional males (Thorne 1963; Faulkner and Klein 2005). Mark-release-recapture data recorded a maximum movement of 92 yards (84 meters) (Marschalek 2004).

#### Habitat

The Hermes copper butterfly is restricted to areas that contain its larval host plant, spiny redberry (Thorne 1963; Emmel and Emmel 1973). This plant is a low-growing, spreading shrub with a widespread range that includes the coastal ranges of northern California, along the foothills of the Sierra Nevada, on the Channel Islands (including the Mexican islands), the Mojave Desert in southwestern Arizona, and south into Baja California Norte and Sonora, Mexico (Thorne 1963; Sawyer 1993; Flesch and Hahn 2005; Christie et al. 2006). Spiny redberry commonly grows in coastal-sage scrub, chaparral, and woodlands in California (Sawyer 1993).

Faulkner and Brown (1993) described the habitat of the Hermes copper butterfly's habitat as coastal sage scrub and open southern mixed chaparral communities in which spiny redberry "is a common component." The authors further noted that "these habitat types range from near sea level along the coast to 1250 m [4,100 feet] at the western edge of the Laguna Mountains." Habitat consists of continuous stands of mixed chaparral/sage scrub in well-drained soil, usually found in canyon bottoms or on hillsides with a northern exposure. Host and nectar plants need to be in close proximity to one another (Faulkner and Klein 2005). Adult butterflies are typically observed feeding on nectar from flat-topped buckwheat (*Eriogonum fasciculatum*) (Marschalek 2004), but have also been observed nectaring on chamise (*Adenostoma fasciculatum*), golden yarrow (*Eriophyllum confertiflorum*), slender sunflower (*Helianthus gracilentus*), other species in the sunflower family (*Asteraceae*), and short-podded mustard (*Hirshfeldia incana*) (Faulkner and Klein 2005). Klein and Faulkner (2003) hypothesized host plants must be mature to support Hermes copper butterflies, although the

petitioner acknowledged such evidence is anecdotal.

#### Historical Range/Distribution

Faulkner and Brown (1993) described the known range of the Hermes copper butterfly as from near Fallbrook in San Diego County, California, to 18 miles (mi) (29 kilometer (km)) south of Santo Tomas in Baja California Norte, Mexico (a north-south distance of approximately 155 mi (250 km)), and from near the immediate coast inland to Pine Valley in San Diego County (an east-west distance of about 40 mi (65 km)). Thorne's (1963) map had 33 unnamed "known" colony locations, all within San Diego County in the United States.

According to the petition, Hermes copper butterflies have been reported approximately 100 mi (160 km) south of the U.S.-Mexico border, yet only three populations have been identified (Brown et al. 1992). The petitioner asserts the lack of Baja California populations may reflect both a dearth of suitable habitat and survey efforts and cites surveys conducted east of Tecate that yielded negative results despite extensive stands of high quality habitat (D. Faulkner, pers. comm.) [document not submitted with petition].

#### Current Range/Distribution

According to the petition, the current species' distribution has been reduced to approximately 18 known populations following years of continuing urban development and the huge wildfires of 2003. The petition included "Table 1: Hermes Copper Populations and Status," which outlines the site location, estimated population at each site, current land manager, and years the species has been observed at each site. According to information in Table 1, Hermes copper butterflies have been observed, or specimens collected from, 48 sites in San Diego County and 4 sites in Baja, Mexico, since the early 1900s. This table also highlights 22 sites "presumed lost to fire," 6 sites "presumed lost to urban development," 2 sites that have "unknown specific locations and unknown status," and 8 sites "identified during environmental review of development projects," leaving the 18 sites with known populations referred to above. The petitioner also stated that, while the status of the Baja populations is unknown, they are presumed to be extant for the purposes of the petition.

Based on information available to us, Hermes copper butterfly has been recorded from at least 29 different sites in San Diego County (Engelhard 2004a, 2004b). Of these, 2 sites or areas have

not been resurveyed since the 1930s (Fallbrook and Pala), 3 sites have incomplete survey information (surveyor name and/or date) (Scripps Gateway, East Elliott Ranch, Flinn Springs County Park), 3 sites were proposed for residential development or have been developed (the Crosby property, Scripps Gateway, Presky/Gonya property), and 5 sites were burned in the 2003 fires (Mission Trails Regional Park, Crestridge Ecological Reserve, Sycamore Canyon Open Space Preserve, Rancho Jamul Ecological Reserve, and portions of Miramar [Marine Corp Air Station]). However, as indicated in Engelhard's (2004a, 2004b) assessment, much of the information about the status of the site relative to development, extent of development (e.g., area impacted), and fire was not determined at that time. Therefore, this assessment did not constitute a complete review of the species' status at that time.

Some of the sites identified as being historically or currently occupied in the petition are likely the same sites identified by Engelhard (2004a, 2004b), and both references likely utilized the same sources of information. However, information used to create Table 1 in the petition was not provided by the petitioner; therefore it was not possible for us to compare location information available to us to that provided in the petition. Therefore, it appears that between 18 (according to the petition) and 21 (Engelhard 2004a, 2004b) sites were considered occupied by Hermes copper butterflies in 2004.

#### Population Estimates/Status

According to the petition, the Crestridge Ecological Reserve supports the largest known population of the species, and field surveys of the reserve between 1999 and 2001 revealed population fluctuations ranging from 1,000 butterflies in 2001, to one single butterfly in 2002 (M. Klein pers. comm.) [document not submitted with petition], to 400 butterflies in 2003. The petitioner asserted these fluctuations may be due to variations in rainfall in San Diego County. Other occupied sites have not been systematically surveyed, as illustrated in Table 1 in the petition and in Engelhard (2004a, 2004b). Therefore, no quantitative data exist on the total population size of Hermes copper butterfly.

#### Threats Analysis

Section 4 of the Act and its implementing regulations (50 CFR 424) set forth the procedures for adding species to the Federal List of Endangered and Threatened Wildlife

and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural or manmade factors affecting its continued existence. In making this finding, we evaluated whether threats to the Hermes copper butterfly presented in the petition and other information readily available to us may pose a concern with respect to the species' survival such that listing under the Act may be warranted. Our evaluation of these threats is presented below.

#### *A. The Present or Threatened Destruction, Modification, or Curtailment of Habitat or Range*

The petition, its appendices, and referenced documents discuss the following threats that we have grouped under Factor A: Urban development, wildfire, and prescribed fire.

##### Urban Development

*Information provided by the petitioner.* The petitioner asserts the "Hermes copper [butterfly] is highly vulnerable to extinction due to loss of populations and dispersal habitat to expanding urban development in San Diego County and northern Baja California," and "the threat of urban development is compounded by the additional threat of wildfire." The petitioner cited two publications (Comstock 1927; Wright 1930) that predict probable extinction if rapid expansion of development were to continue within San Diego County. The petitioner cited Brown (1991), "[b]ecause continued development in the San Diego County threatens to eliminate additional colonies of this insect [Hermes copper butterfly], it is considered highly sensitive and vulnerable to extirpation."

The petitioner stated many populations recorded from El Cajon, Fairmont Canyon, Kearny Mesa, Scripps Gateway, and numerous sites near the urban core of the city of San Diego have been lost to urban development and cites Murphy (1991) [document not submitted with petition] as stating, "[Hermes copper butterfly] has been virtually extirpated in nearly all of its best known historical localities around [the] City of San Diego." The petitioner also stated that loss of populations and dispersal habitat to urban development

is a significant threat to the species in the unincorporated portion of the San Diego County foothills west of the Cleveland National Forest, especially unburned areas near Jamul and northern portions of San Diego County. The petitioner further stated that ongoing urban development in Harbison Canyon, Marine Air Corps Station Miramar, San Marcos Creek, and Santee reduces likelihood of recolonization by the species. The petition also stated that Hermes copper butterfly populations identified in several locations by recent development project biological surveys may not persist following construction, especially considering resulting habitat fragmentation and increased risk of fire with an expanded, proximate human population.

*Analysis of information provided in the petition.* Rapid urban development is occurring within the current known range of the Hermes copper butterfly. Coastal and interior San Diego County is projected to grow about 44 percent by the year 2020 (San Diego Association of Governments 1999). While we acknowledge development has likely reduced the amount of occupied habitat for Hermes copper butterfly, the extent to which the reduction of habitat has impacted the species has not been quantitatively estimated.

The petition stated many populations recorded from El Cajon, Fairmont Canyon, Kearny Mesa, Scripps Gateway, and numerous sites near the urban core of the city of San Diego have been lost to urban development. While not explicitly stated in the petition, we assumed for the purposes of our review that the above statements were based on information in Table 1 in the petition. According to Table 1, six sites/areas appear to correspond to these areas and are referred to as "presumed lost to urban development": El Cajon ("3 miles south of El Cajon" and "El Cajon"), Fairmont Canyon ("Fairmont Canyon"), Kerny Mesa ("Kerny Mesa"), Scripps Gateway ("Scripps Gateway"), and numerous sites in San Diego (collectively referred to as "San Diego"). However, no information was provided with the petition documenting site development, site location, the extent of the development (e.g., area developed), or the extent of habitat loss due to development.

The petition also stated several populations have been identified during recent development project biological surveys and asserts these populations may not persist following construction. Table 1 identifies eight such sites. However, no information was provided documenting proposed or ongoing development at these sites, site location,

the extent of development (e.g., area developed), or extent of habitat loss due to development.

The status of Hermes copper butterfly distribution compiled by Engelhard (2004a, 2004b) lists 21 occupied locations known as of 2004; Table 1 in the petition lists 18 sites. As discussed above, information used to create Table 1 in the petition was not provided; therefore it was not possible for us to compare location information available to us (i.e., in Engelhard (2004a, 2004b)) to information provided in the petition. While Engelhard's (2004a, 2004b) assessment included total area and development status for some sites, such information for most sites was not determined at that time. Without complete and specific information about butterfly locations or past and proposed development projects and their associated impacts to habitat, we were unable to determine the extent to which urban development has reduced the known range of the Hermes copper butterfly. Further, according to Thorne (1963), urbanization is not as great a threat as commonly assumed:

"There is rather general belief that [the Hermes copper butterfly] is in a last ditch struggle for survival in San Diego County. This isn't true! Colonies have survived in areas that have been overrun with houses for many years; in areas being grazed by livestock; in areas being farmed (avocado orchards); and in areas that have been burned over with some frequency. The map \* \* \* shows the wide distribution of known colonies which should ensure survival for the foreseeable future."

Thorne's (1963) map had 33 unnamed "known" colony locations, all within San Diego County in the United States. Although some colonies near urban centers referred to by Thorne (1963) have been destroyed by development, many recent discoveries (i.e., post-1993) of extant colonies within the known species' range have also been reported, and the range of the species remains relatively widely distributed. Examples of colonies that have been reported since 1993 include Black Mountain, and multiple colonies on both the California Department of Fish and Game (CDFG) Crestridge Ecological Reserve and San Diego National Wildlife Refuge (Engelhard 2004b). In addition, the biology of the species has not changed; therefore Thorne's (1963) assessment of individual colony resilience with regard to development and fire should still be considered valid.

In addition, much uncertainty exists regarding the distribution of the species because the range of its host plant, spiny redberry, extends well beyond the known range of the butterfly, and

surveys have not been conducted throughout the host plant's range (especially inland San Diego County and northwestern Baja California Norte). Even the survey information for sites historically or currently occupied by the species is limited. The information in Table 1 of the petition and in Engelhard (2004a, 2004b) illustrates the fact that most occupied sites have only been surveyed on one or two occasions and many have not been surveyed since the 1950s or 1960s. Therefore, it is difficult to assess the species' current status in the absence of more current information.

In conclusion, we agree with the petitioner that urban development has likely reduced and fragmented habitat for Hermes copper butterfly in San Diego County. However, the habitat loss and fragmentation has not been quantitatively estimated, and the species remains relatively widely distributed. Therefore, we have determined that information in the petition and available to us does not substantiate the claim that urban development has significantly reduced the amount of available Hermes copper butterfly habitat to the point at which the butterfly may become threatened or endangered in the foreseeable future.

#### Wildfire

*Information provided by the petitioner.* The petitioner asserted Hermes copper butterfly is highly vulnerable to extinction due to the threat of fire as a result of direct mortality of individuals and indirect mortality due to loss of the species' larval host plant, spiny redberry. The petitioner further asserts, "Excessive, human induced fire poses a significant threat to the survival of the species, even on lands otherwise protected from development." The threat of fire as it relates to direct mortality of individual butterflies is also discussed here.

Table 1 of the petition identifies areas "presumed to be burned" during the October 2003 fires in San Diego County, which are estimated to have burned 39 percent of Hermes copper butterfly habitat (Betzler et al. 2003). According to the petition, the largest concentration of the species ever documented was lost when the 2003 fire burned nearly all of the California Department of Fish and Game's Crestridge Ecological Reserve. The petition further stated 2001 surveys at Crestridge identified approximately 52 Hermes copper butterfly colonies with a total estimated population of 1,000 butterflies (CDFG 2001), of which all appear to have been destroyed by the 2003 fires (M. Klein pers. comm.) [document not submitted with petition].

The petition stated that fires in 2003 also impacted the second largest concentration of Hermes copper butterfly when they burned through 4 populations in the City of San Diego's Mission Trails Regional Park (Mission Grove, Mission Dam, Oak Creek, and Spring Canyon) and at least 15 populations (although only 14 were listed) throughout San Diego County: (1) Anderson Road (Viejas Mountain), (2) Boulder Creek Road, (3) Descanso, (4) El Monte County Park, (5) Flinn Springs, (6) Gooden Ranch reserve, (7) Harbison Canyon, (8) Little Cedar Canyon, (9) Miramar, (10) Old Viejas Grade Road, (11) Otay-Foothill area, (12) Rancho Jamul, (13) Santee (Fanita Ranch area), and (14) Sycamore Canyon reserve. The petition also stated at least three Hermes copper butterfly populations were likely lost to past fires on Bernardo Mountain near Escondido, Dictionary Hill in Spring Valley, and San Marcos Creek.

According to the petition, increased human population density and utilization of wildlands correlates with increased southern California wildfire frequency (Keeley et al. 1999; Keeley 2001 [document not submitted with petition]; Keeley and Fotheringham 2003; Wells et al. 2004). The petitioner asserted close proximity to large human populations increases vulnerability of the Hermes copper butterfly and its host plant, the spiny redberry populations to "excessive" fire.

The petitioner cited two references, Brooks et al. (2002 [correct citation 2004]) and Keeley and Fotheringham (2003), that provide examples of excessive fire harming chaparral ecosystems and dependent species in a number of ways. The petition quoted Keeley and Fotheringham (2003), " \* \* \* ecosystem health of shrublands is threatened not by lack of fire but by high fire frequencies that exceed the resilience of many species."

The petitioner stated excessive fire may prevent chaparral and coastal sage scrub plant species, like spiny redberry, from reaching maturity, thereby reducing or eliminating reproduction and recruitment of replacement chaparral plants. An example cited by the petitioner of an exotic species type conversion within an area occupied by Hermes copper butterflies was Bernardo Mountain. The petition stated that in 2002, Michael Klein visited the known occupied area burned in 1986, and found it dominated by weedy exotic forbs and grasses, with no spiny redberry plants or Hermes copper butterflies (M. Klein pers. comm.) [document not submitted with petition].

According to a supplemental letter and map provided by the petitioner, 44

fires had burned through known Hermes copper butterfly habitat, and 788 fires have burned through "modeled" habitat between 1900 and 2003 (CBD 2005). The letter stated, "This rate of fire return appears to exceed natural fire frequency in coastal sage scrub and chaparral ecosystems." The letter further stated that the combined effects of limited dispersal behavior, urban development, and excessive fires have reduced available habitat, limited recolonization, and increased vulnerability of remaining Hermes copper butterfly populations, greatly increasing likelihood of the species' extinction.

According to the petition, Hermes copper butterfly biology appears to reduce the likelihood of escape from fire, because adults, eggs, larvae, and pupae are likely killed when fire burns spiny redberry plants and other coastal sage scrub or chaparral vegetation. Also, excessive fires over the last several decades have reduced patches of mature spiny redberry used by Hermes copper butterfly, thereby reducing butterfly populations and disrupting metapopulation dynamics and stability. Due to the amount of past and potential future fires, any butterfly that escapes a fire is unlikely to locate other suitable habitat.

Also according to the petition, Hermes copper butterfly recovery following a fire is confounded by very slow recovery of its host plant (Zedler et al. 1983) and very slow recolonization by the butterfly. The petition cited Brown (1991): "Even after recovery of the host, the sedentary behavior of the butterfly may make natural colonization a very slow process, especially where sources of potential colonists previously have been extirpated."

*Analysis of information provided in the petition.* The petition claimed Hermes copper butterfly is highly vulnerable due to the threat of fire, citing a 39 percent loss of the species' habitat burned in the 2003 fires. The petitioner also claimed that the 2003 fires destroyed or impacted two of the largest concentrations of the species and at least 15 other populations throughout San Diego County.

As cited in the petition, 39 percent of Hermes copper butterfly habitat is believed to have burned during the 2003 fires, a reduction from 317,451 ac (128,468 ha) to 192,924 ac (78,074 ha) (Betzler et al. 2003). However, this 39 percent reduction is an estimate based on vegetation mortality for areas occupied by the species (Betzler et al. 2003). Since this estimate is not based on actual post-fire surveys, it is not possible to determine the actual amount

of occupied Hermes copper habitat that burned in the 2003 fire.

Table 1 of the petition highlights 22 sites that were “presumed lost to fire.” However, neither the petition nor the supplemental map provided by the petitioners had information on location of sites “presumed lost to fire” or extent of habitat lost due to fire (i.e., area burned). While Engelhard (2004a, 2004b) attempted to compile information on specific sites known to be occupied by the species, the total acres of the site and the fire status (i.e., burned in 2003 fires) for most of the sites was not determined at that time and is still unknown. Regardless, as discussed above, extant colonies continue to be discovered, and the species appears to have maintained a relatively wide range.

The petitioner also claimed the largest known concentration of the species ever documented was lost in the 2003 fire that burned nearly all of the Crestridge Ecological Reserve, further asserting a total estimated population of 1,000 butterflies (per 2001 surveys) was lost. However, as discussed in the “Population Estimate/Status” section of this finding, the petitioner stated that surveys conducted between 1999 and 2001 documented fluctuations in individual abundance ranging from 1,000 butterflies in 2001, to a single butterfly in 2002 (M. Klein pers. comm.) [document not submitted with petition] to 400 butterflies in 2003 (pre-fire). The petition asserted that these fluctuations may be due to variations in rainfall in San Diego County. It is also not clear how good an index survey counts are of population size. While it is clear that the 2003 fire impacted the Hermes copper butterfly habitat at Crestridge, and presumably the butterfly itself, it is unclear how resilient this population is since wide fluctuations in the species’ abundance had been documented prior to the fire. Also, while a few historically occupied territories burned in the 2003 fires were visited in 2004 (Faulkner and Klein 2005), we are unaware of any systematic post-fire monitoring conducted to document the extent of the impact of the fires on Hermes copper butterfly.

The petitioner also claimed that the 2003 fires impacted a large concentration of Hermes copper butterflies at Mission Trails Regional Park and at least 15 other populations throughout San Diego County. However, the petitioner did not provide any information on the extent of the area impacted by fire (e.g., area burned) or on post-fire surveys done at these sites; additional monitoring is needed at these sites to determine their status,

particularly as it relates to the impact of fire on butterfly populations and habitat.

While it is unlikely that immature Hermes copper butterflies (larvae, pupae, and adults) can survive the burning of occupied habitat, it appears that adult butterflies will recolonize burned habitat over time. In an example of fire recovery, Brown (1991) noted that a 1982 fire apparently eliminated large stands of spiny redberry and a colony of Hermes copper butterfly in Mission Gorge (in Mission Trails Regional Park). Although the species was not observed again during annual surveys following the fire until 2000 (Klein and Faulkner 2003), the host plant and butterfly did eventually return 18 years later. During limited post-fire monitoring at Crestridge, one adult male Hermes copper was observed in 2005 on three different dates by two observers (Klein 2006), indicating that the population had not been extirpated as hypothesized in Klein and Williams (2003). We are not aware of any additional surveys conducted at Crestridge in 2005. While Faulkner and Klein (2005) state that no butterflies were observed during 2004 visits to only a few of the historically occupied territories burned in the 2003 fires, we are unaware of any systematic post-fire monitoring conducted to document the extent of the impact of the fires to Hermes copper butterfly and its habitat or to document recolonization rates. Additional monitoring is needed to determine the survival and recolonization rate of immature and adult butterflies following a fire.

The petition claimed increased human populations and utilization of wildlands correlates with increased southern California wildfire frequency. The petition also asserted that, between 1900 and 2003, from 44 to 788 fires had burned through known and “modeled” habitat, respectively, and this rate of fire return appears to exceed natural fire frequency in coastal sage scrub and chaparral ecosystems.

In a GIS modeling study, Wells et al. (2004) largely concurred with Keeley et al. (1999) (cited in the petition) that increasing human population (especially at lower elevations) has resulted in a greater number of fires and an increase in area burned overall in southern California. However, looking at fire frequency for coastal sage scrub and chaparral in San Diego County specifically, Wells et al. (2004) concluded that for “coastal sage scrub habitats, there has been an increase in burning over the course of the past century” but that the “trend in burning in chaparral is virtually flat over the past century, and if the years following

1950 are considered, there has been a marked decrease in area burned since then.” Contrary to the interpretation of the petitioner, Keeley et al. (1999) actually reported that fire rotation intervals (i.e., the time needed to burn an equivalent area of shrubland) actually increased in San Diego County after 1950.

The supplemental letter and map provided by the petitioner (stating that between 1900 and 2003, 44 fires had burned through known Hermes copper butterfly habitat, and 788 fires have burned through “modeled” habitat) does not provide sufficient information to allow us to verify the extent of the impact caused by these historic and more recent fires. In an attempt to outline fire frequency in Hermes copper butterfly habitat, the map overlays “approximate location of past and current Hermes copper colonies” and “modeled” Hermes copper habitat with a data layer indicating areas where from one to nine fires had occurred. “Modeled” habitat is defined on the map as being “based on very broad vegetation, soil, elevation and other categories and therefore includ[ing] many unsuitable habitat areas.” No information about the Hermes copper butterfly location data or the data on which the fire layer is based were provided by the petitioner. The petitioner did not explain how information on the map was used to determine that 44 fires had burned through known Hermes copper butterfly habitat or 788 fires have burned through “modeled” habitat. Also, the petitioner did not indicate where fires that burned between 1900 and 2003 overlapped or calculate a fire frequency/rate of return for any particular geographic area. Therefore, it is not clear how the petitioner determined that “This rate of fire return appears to exceed natural fire frequency in coastal sage scrub and chaparral ecosystems.” Without specific information on the extent of the impact caused by historic and current fires, including the 2003 fires, it does not appear the Hermes copper butterfly is currently threatened with extinction due to fire.

The petition also stated “excessive” fires prevent chaparral and coastal sage scrub species (like spiny redberry, the Hermes copper butterfly’s host plant) from reaching maturity, thereby reducing or eliminating reproduction and recruitment of replacement chaparral, and allowing for the invasion of nonnative species.

Spiny redberry plants, like other large-seeded shrubs, are “obligate resprouters” after fires (Keeley 1998). Because such taxa resprout from a deep

root system or lignotuber and establish few seedlings immediately following fire, obligate resprouters “successfully recruit in the long-term absence of fire” (Keeley 1998). Post-fire seedling establishment of obligate resprouters is always quite limited, although seedling recruitment has been reported as “abundant” in older unburned chaparral stands (Keeley 1992a and 1992b). In the absence of fire, “obligate resprouting species often gain dominance over obligate seeding species,” but *Rhamnus* species and other obligate resprouters are also “quite resilient to frequent burning” (Keeley 1986). Moreover, Keeley (1986) stated obligate resprouters “have a marked competitive advantage during the first decade after fire,” which is within the current regrowth timeframe of butterfly-occupied spiny redberry stands burned in 2003. In a post-fire recovery and succession study of chaparral and sage scrub in southern California, Keeley et al. (2005) “showed that all vegetation types exhibited a high proportion of structural similarity between pre- and postfire communities” after 5 years. Though Keeley and Fotheringham (2003) concluded that, with continued disturbance like fire, nonnative invasives may replace an entire ecosystem and type convert shrublands to alien grasslands, Keeley (2004) noted that invasive alien plants typically will not displace obligate resprouting species in mesic shrublands that burn once a decade “because rapid resprout growth recaptures the site and replenishes vitality of roots and lignotubers.” Therefore, based on the species’ biology, it appears that spiny redberry should recover in these burned areas.

Though recent fires may have temporarily reduced the extent of Hermes copper butterfly habitat (i.e., spiny redberry and associated chaparral/coastal sage scrub plants), information in the petition and available to us does not substantiate a permanent loss of or a downward trend in the extent of the species’ habitat as a result of increased fire frequency and associated alien plant invasion.

The petitioner did not provide information or data to substantiate the claim that excessive fires over the last several decades have reduced Hermes copper butterfly population numbers and disrupted metapopulation dynamics and stability. As stated in the “Population Estimates/Status” section of this finding, no quantitative data on population size exists nor do we have any information on the dispersal or movement behavior of this species. Without this information, it is not possible to determine the species’

population structure (e.g., metapopulation or panmictic) and, subsequently, the impact of fire on population numbers and structure.

#### Prescribed Fire

*Information provided by the petition.* The petitioner, citing Schlicht and Orwig (1999) [document not submitted with petition], claimed prescribed fire is likely to harm vulnerable Hermes copper butterfly populations by further contributing to excessive fire, and controlled burns often differ from natural fires in frequency, intensity, timing, and patchiness. These aforementioned factors could reduce the likelihood of the butterfly’s survival through prescribed fire. The petitioners also maintained that the Cleveland National Forest has aggressively prescribed fire as a vegetation management tool in an attempt to benefit native wildlife. In addition, they asserted the County of San Diego “has generally rejected effective fire safety techniques of limiting poorly planned rural [development] and retrofitting existing structures with fire resistant materials. The County has instead focused on \* \* \* excessive brush clearing around homes and communities, and has pushed for expanded prescribed fire on both National Forest and private land.”

*Analysis of information provided in the petition.* The petitioner asserted that a number of Hermes copper butterfly populations located under the jurisdiction of the Cleveland National Forest and San Diego County are being impacted by prescribed burning practices and policies undertaken by these entities. However, the petition does not provide documentation of instances where prescribed burning is being conducted in occupied Hermes copper butterfly habitat.

Review of San Diego County fire management regulations and recommendations (San Diego County 2004, 2006a; California Fire Safety Council 2006) contradicts the petitioner’s claim that San Diego County rejected effective fire safety techniques and has pushed for expanded prescribed fire. San Diego County does recommend clearing within 100 feet (30.5 m) of structures (San Diego County 2006), and places emphasis on replacement of flammable roofing material with fire-resistant shingles, planting of fire-resistant landscape vegetation, use of fire-resistant native plant species, avoidance of invasive exotic species in landscaping, and other effective conservation-oriented fire management techniques (San Diego County 2006; California Fire Safety Council 2006). No

readily available documents support a rejection of conservation-oriented rural planning in favor of fire-safe planning, or a recent push for prescribed fire. Koelander and Bowman (2004), in a report designed to identify how San Diego County (and the City of San Diego) could better prepare and respond to fire hazards, concluded, “Adoption of new building codes will only resolve the problem for the new structures \* \* \* For existing structures, the removal of highly flammable vegetation within 100-feet of structures and the replacement of combustible roofing will provide a heightened level of wildland fire protection.”

Regarding the U.S. Forest Service, of the U.S. Department of Agriculture, the agency stated in its final environmental impact statement (Volume 1) that the Hermes copper butterfly “[c]ould be affected by prescribed fire or fuel reduction projects in habitat that affect [its] host plant, *Rhamnus crocea*,” but that Vegetation Management Standard 37 addressed this threat (USDA Forest Service 2005a). However, according to the Forest Service’s Land Management Plan (2005b), Standard 37 requires the Forest Service when implementing fire management activities to “[d]esign and manage fuel treatments to minimize the risk that treated areas will be used by unauthorized motorized and mechanized vehicles [and to m]itigate impacts where such use does occur.” It is not clear how Standard 37 (USDA Forest Service 2005a) addresses the threat of prescribed fire to the species. In the Cleveland National Forest’s Land Management Plan (USDA Forest Service 2005c), the Forest Service’s primary strategy for threatened, endangered, proposed, candidate, and sensitive species management is to “[m]anage habitat to move listed species toward recovery and delisting” and “[p]revent listing of proposed and sensitive species” by implementing the priority conservation strategies in Table 529. According to this table (USDA Forest Service 2005c), a priority conservation strategy task over the next 3 to 5 years is to protect Hermes copper butterfly habitat by preventing and suppressing fires.

Though the above guidance is general in nature, we could find no support for the claim that the Cleveland National Forest has aggressively prescribed fire as a vegetation management tool in an attempt to benefit other native wildlife at the expense of the Hermes copper butterfly. Based on the above discussion, we have determined that the petition does not substantiate the claim that prescribed burning impacts

occupied Hermes copper butterfly habitat.

We have determined that information in the petition does not substantiate the claim that urban development, wildfire, and prescribed fire has significantly reduced the amount of available Hermes copper butterfly habitat. While we acknowledge that urban development and fire has likely reduced and fragmented habitat for Hermes copper butterfly in San Diego County, the extent of impact to the species and its habitat has not been quantitatively estimated, and the species appears to have multiple colonies within a relatively wide geographic range. Thus, we do not believe the petition has presented substantial information to suggest the butterfly is likely to become endangered in the foreseeable future.

#### *B. Overutilization for Commercial, Recreational, Scientific or Educational Purposes*

##### Commercial Harvest

*Information provided in the petition.* The petitioner stated the Hermes copper butterfly may be endangered by overutilization for commercial purposes and identifies one commercial enterprise that may contribute to the imperiled status of the butterfly. A company, "Morningstar Flower and Vibrational Essences," markets a "Hermes copper butterfly essence" over the Internet. These essences are available in 2-ounce and 4-ounce sizes by special order.

The petitioner claimed that over-collection is another potential threat to the Hermes copper butterfly because of their value to butterfly collectors. They cite an example, in 1986, where a female Hermes copper butterfly was worth \$20.00.

*Analysis of information provided in the petition.* No evidence exists to support the use of Hermes copper butterfly in developing butterfly essences. According to Morning Star Essences (2006), no butterfly parts are used in "essences" production. While there are a number of other businesses that advertise sale of "butterfly essences," no information exists to support the claim that this activity threatens the species.

Some collection of Hermes copper butterflies may occur given their value to collectors. As the number of colonies is reduced, lepidopterists may increasingly collect individuals to include rare species in their collections, or obtain surplus specimens for exchange or sale. On June, 26, 2004, two different advertisements on the Internet offered specimens of *Lycaena hermes*

for sale. Both were priced at 125 Euros (= approximately \$152.00) (Martin 2004b). Nonetheless, no substantial data exist to substantiate such trade still exists or, if any trade continues, the extent to which it impacts the Hermes copper butterfly population. As a result, we conclude trade or collection probably does not pose a significant threat to the species at this time.

##### *C. Disease or Predation*

The petitioner did not provide any information with respect to disease on Hermes copper butterfly.

##### Predation

*Information provided by the petition.* The petitioner stated the Hermes copper butterfly may be endangered by predation. The petition claimed experts suspect birds, predatory insects, parasitic insects, and spiders prey upon Hermes copper butterfly, and that the harmful effects of otherwise normal predation or parasitism might be exacerbated by population reduction from urban development and excessive fires.

*Analysis of information provided in the petition.* The petitioner did not provide specific information validating the claim that the Hermes copper butterfly may be endangered by predation. We are not aware of any documentation that suggests that predation poses a significant threat to the species, and, therefore, we are unable to validate whether predation may endanger the Hermes copper butterfly.

##### *D. The Inadequacy of Existing Regulatory Mechanisms*

*Information provided by the petition.* The petition, its appendices, and referenced documents discuss five regulatory mechanisms that provide some potential for Hermes copper butterfly conservation, but the petition claimed none of these mechanisms have proven effective in reducing the primary threats to the butterfly from urban development, fire, and related habitat degradation. The five regulatory mechanisms include: (1) California Environmental Quality Act; (2) National Environmental Policy Act; (3) Forest Service Management; (4) San Diego Multiple Species Conservation Plan or "San Diego MSCP"; and (5) County of San Diego Resource Protection Ordinance.

##### California Environmental Quality and National Environmental Policy Act

The petitioner claimed the Service has previously provided extensive discussion of the inadequacy of the

California Environmental Quality Act (CEQA) to protect imperiled species, identifying several listings in the **Federal Register** (62 FR 2318, January 16, 1997; 62 FR 4935, February 3, 1997; 61 FR 25829, May 23, 1996; 69 FR 47236, August 4, 2004). The petitioner implies the Service's previous conclusions are fully applicable in consideration of protections under CEQA for the Hermes copper butterfly.

*Analysis of information provided in the petition.* California Department of Fish and Game can only designate "native species or subspecies of a bird, mammal, fish, amphibian, or plant" as either endangered or threatened under the California Endangered Species Act (Fish and Game Code, Sections 2062 and 2067). However, the California Environmental Quality Act or CEQA (Public Resources Code, Sections 21000–21178, and Title 14 CCR, Section 753, and Sections 15000–15387) has and should continue to require proposed project effects to Hermes copper butterflies be evaluated under the provisions of this State environmental statute, although CEQA does not require any species to be protected. CEQA requires public agencies to disclose environmental impacts of a project on native species and natural communities during the land use planning process and to identify mitigation measures and project alternatives. This allows public comments to influence the planning process. The National Environmental Policy Act (NEPA) (42 U.S.C. 4321–4347) requires the Federal Government to disclose adverse impacts of a proposed action that cannot be avoided, but NEPA does not require any species to be protected. Although these statutes provide limited protection for the Hermes copper butterfly, we are not aware of any documentation that suggests that implementation of these laws, especially land use development projects under CEQA, pose a significant threat to the species. Also, as discussed under Factor A above, information in the petition and available to us does not substantiate the claim that urban development subject to these laws has significantly reduced the amount of available Hermes copper butterfly habitat.

##### Forest Service Management

*Information provided in the petition.* The petitioner claimed Forest Service regulations and management activities appear to provide few protections to the Hermes copper butterfly. The petitioner states that aside from monitoring survey results by others, there is no indication that the Cleveland National Forest is engaged in the conservation of the

Hermes copper butterfly. In addition, the petitioner states the Hermes copper butterfly is not formally recognized as a "sensitive species" by the Forest Service, and recognition of Hermes copper butterfly as a sensitive species would still be unlikely to generate any important, pro-active conservation activities necessary to improve the status of the species.

*Analysis of information provided in the petition.* The Hermes copper butterfly was included in the table of "Animal Species Evaluated for Viability Concerns (Species of Concern)" by the Forest Service (USDA 2005a); therefore, the petitioners claim the Hermes copper butterfly is not formally recognized as a "sensitive species" by the Forest Service is not currently accurate.

In describing proposed management standards to address threats facing designated "Animal Species-At-Risk," the Forest Service stated the Hermes copper butterfly "[c]ould be affected by prescribed fire or fuel reduction projects in habitat that affect [its] host plant, *Rhamnus crocea*; wildfire risk" and that Vegetation Management Standard 37 addressed this threat (USDA 2005a). As discussed above, Standard 37 of the Forest Service's Land Management Plan (USDA 2005b), requires the Forest Service to "[d]esign and manage fuel treatments to minimize the risk that treated areas will be used by unauthorized motorized and mechanized vehicles [and to m]itigate impacts where such use does occur." However, it is not clear how this standard protects the butterfly from prescribed fire, nor is any other protection apparently provided by this standard because vehicle impacts are not considered a threat to the species.

In the Cleveland National Forest's (USDA 2005c) Land Management Plan, the Forest Service's primary strategy for threatened, endangered, proposed, candidate, and sensitive species management is to "[m]anage habitat to move listed species toward recovery and delisting" and "[p]revent listing of proposed and sensitive species" by implementing the priority conservation strategies in Table 529. According to this table (USDA 2005c), the priority tasks for the next 3 to 5 years in conservation strategy emphasis are to monitor/study "[s]pecies recovery after wildfire (burned area monitoring)" and protect its habitat by preventing and suppressing fires. Although the above guidance is general in nature, the Cleveland National Forest should be engaged to some degree in the conservation of the Hermes copper butterfly; however, no documentation of conservation activities was available.

We acknowledge that Forest Service regulations provide limited protection of the Hermes copper butterfly. However, as discussed in Factor A and Factor E, information in the petition does not substantiate the claim that wildfire or prescribed fire pose a threat to the species or that there is a need to improve the species' status.

#### San Diego Multiple Species Conservation Plan

*Information provided in the petition.* The petition stated: (1) The Hermes copper butterfly is not recognized as a "covered species" under the San Diego Multiple Species Conservation Plan (MSCP) (MSCP 1998); (2) the MSCP cannot provide the necessary management to benefit the species because none is planned, described, or required by the Plan; and (3) the MSCP can benefit the Hermes copper butterfly only in the event of collaterally beneficial conservation activities for other species and habitats. The petitioner claimed the informal treatment of Hermes copper butterfly by the MSCP provides few conservation benefits. The petitioner also stated the MSCP identifies only three sites where the butterfly occurs in one area, the Metro-Lakeside-Jamul Segment, despite the additional occupied sites at the time of Plan approval in the Metro-Lakeside-Jamul and South County segments.

*Analysis of information provided in the petition.* It is true this species is not specifically covered under the San Diego Multiple Species Conservation Plan; however, the San Diego MSCP appears to have already benefited the Hermes copper butterfly where it overlaps with conservation activities for other species (e.g., management of Crestridge Ecological Reserve and the San Diego National Wildlife Refuge). Also, not all potential habitat within the planned MSCP preserve has been fully surveyed yet, and the full distribution of the species within areas protected or managed by the MSCP is unknown.

Land use restrictions within the MSCP County of San Diego Subarea plan will be implemented through the Biological Mitigation Ordinance (BMO). The BMO implements preserve design criteria for urban development and conservation of remaining private land, based on preserve design criteria that establish mitigation ratios and conditions. Mitigation may be required for the species recognized as "sensitive species" as defined by CEQA on land identified as Biological Resource Core Area, and therefore should provide some protection for the species. However, Hermes copper butterfly populations, habitat, and dispersal

corridors will not be protected outside of the Biological Resource Core Area. The BMO within the Biological Core Area requires the County to impose design criteria that could minimize additional losses of populations and habitat, but would not require avoidance of Hermes copper butterfly populations, habitat, or dispersal corridors.

#### City of San Diego and County Open Space Parks

*Information provided in the petition.* The petition stated that remaining Hermes copper butterfly populations are not necessarily protected by nature of their location on the following open space park lands managed by the City or County of San Diego: Black Mountain, McGinty Mountain, and Mission Trails Regional Park. Lacking formal coverage, the Hermes copper butterfly cannot directly benefit from these open spaces.

*Analysis of the information provided in the petition.* The Hermes copper butterfly is now known to occur on approximately 25 different properties in San Diego County, California. Of these, seven properties are under City or County of San Diego ownership. Many of these lands are "designed" open space areas and County parks, which include various types of trails, ball fields, picnic areas, restroom facilities and/or parking lots. Although the impact of recreation on the butterfly is unknown, it is unlikely that limited recreational development and foot and bicycle traffic will destroy significant numbers of host plant shrubs in existing designated open space parklands.

#### County of San Diego Resource Protection Ordinance

*Information provided in the petition.* The petition claimed the County of San Diego's Resource Protection Ordinance (RPO) (County of San Diego 1991) imposes control on development of wetlands, floodplains, steep slopes, sensitive biological habitats, and prehistoric and historic sites. The petition stated RPO provisions address biological resources outside of the boundaries of the County's Subarea Plan under the San Diego MSCP. The RPO does not directly protect species or impose any species-specific management efforts, but rather attempts to minimize the impacts of urban development on habitat. The petition stated that the Hermes copper butterfly would be only inadvertently protected by the County RPO through the land protection ordinance, which would not require measures necessary to prevent extinction of the species, such as a requirement that new urban

development avoid remaining Hermes copper butterfly populations and dispersal corridors. The petition also stated the RPO does not provide measures that could improve the status of the species, such as special conservation management of the Hermes copper butterfly populations, habitat, and dispersal corridors.

*Analysis of the information provided in the petition.* The RPO (County of San Diego 1991) imposes controls on development of wetlands, floodplains, steep slopes, sensitive biological habitat, and prehistoric and historic sites. The RPO requires the Resource Protection Study for certain discretionary projects in order to identify a number of objectives, including identification of environmentally sensitive lands. The County may require conditions to protect sensitive lands including habitats that may protect the Hermes copper butterfly.

Based on the information and analysis provided above, we find that the petition does not present substantial information that the species is threatened at this time by the inadequacy of existing regulatory mechanisms across all or a significant portion of its range.

#### *E. Other Natural or Manmade Factors Affecting Continued Existence*

The petition, its appendices, and referenced documents discuss the following threats that we have grouped under Factor E: Vulnerability of small and isolated populations, and global climate change.

#### Vulnerability of Small and Isolated Populations

*Information provided in the petition.* The petitioner asserts that endemic species, such as the Hermes copper butterfly, are generally considered more prone to extinction than widespread species due to their restricted geographic range. The petitioner claims that the common factors that increase the vulnerability of a small and isolated population to extinction are demographic fluctuations, environmental stochasticity, and reduced genetic diversity.

*Analysis of the information provided in the petition.* Although annual observations of the largest known pre-fire population (Crestridge Ecological Reserve) suggest that numbers of adult butterflies may fluctuate approximately two orders of magnitude from one year to the next, and may be correlated with rainfall (Klein and Faulkner 2003), it is not clear how these observations correlate with population densities of all individuals including immature

diapausing (quiescent) stages. Also, much uncertainty exists regarding the distribution of the species because the range of its host plant, spiny redberry, extends well beyond the known range of the butterfly, and surveys have not been conducted throughout the host plant range (especially inland San Diego County and northwestern Baja California Norte). While it is possible that "small" populations and isolation could subject the butterfly to genetic drift and restricted gene flow that may decrease genetic variability over time and could adversely affect the species' viability, we do not have sufficient information about the species' distribution or population structure to determine that isolation and small population size pose a threat to the species.

#### Global Climate Change

*Information provided in the petition.* The petitioner asserted butterflies are particularly sensitive to small changes in microclimates, such as fluctuations in moisture, temperature, or sunlight. Studies of Edith's checkerspot (*Euphydryas chalceona edithi*) have documented that whole ecosystems may move northward or upward in elevation as the Earth's climate warms.

*Analysis of the information provided in the petition.* The petitioner did not provide specific information validating the claim that the Hermes copper butterfly may be endangered by global climate change. We recognize recent evaluations (e.g., Parmesan and Galbraith 2004) that whole ecosystems are seemingly being shifted northward. We are not aware of any documentation available or provided by the petitioner directly linking global warming as a threat to the Hermes copper butterfly, or explaining how global warming specifically affects this species.

We do not have sufficient information about the species' distribution or population structure to determine that isolation and small population size pose a threat to the species or that global warming poses a threat to the Hermes copper butterfly. Therefore, we have determined that information in the petition and available to us does not substantiate the claim that vulnerability of small and isolated populations and global climate change have significantly impacted Hermes copper butterfly.

#### Finding

We evaluated each of the five listing factors individually, and because the threats to Hermes butterfly are not mutually exclusive, we also evaluated the collective effect of these threats. The petition focused primarily on three

listing factors: Factor A (the Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range), Factor D (Inadequacy of Existing Regulatory Mechanisms), and Factor E (Other Natural or Manmade Factors Affecting Its Continued Existence). More specifically, information in the petition suggests that urban development and fire pose the primary threats to Hermes copper butterfly habitat and populations because the species' range occurs on lands susceptible to both types of impacts.

While it is likely that recent fires have temporarily reduced the extent of Hermes copper butterfly habitat (*i.e.*, spiny redberry and associated chaparral/coastal sage scrub plants), information in the petition and available to us does not substantiate a permanent loss of, or a downward trend in, the extent of the species' habitat as a result of increased fire frequency. Also, within areas that have burned, the species appears able to re-colonize over time.

We also acknowledge that urbanization and fire have further fragmented the species' habitat, but current information indicates development does not currently threaten the species with extinction. Also, much uncertainty exists regarding the distribution of the species because the range of its host plant, spiny redberry, extends well beyond the known range of the butterfly, and surveys have not been conducted throughout the host plant's range.

We have determined that the petition and other information in our files does not present substantial information that the species is threatened at this time by the inadequacy of existing regulatory mechanisms across all or a significant portion of the species' range and that Federal listing would not necessarily provide additional benefits to the species. We will continue to work with the appropriate Federal, State, and local entities to avoid and minimize impacts to this species on their lands.

We have reviewed the petition and literature cited in the petition and evaluated that information in relation to information available to us. After this review and evaluation, we find the petition does not present substantial scientific or commercial information to indicate listing the Hermes copper butterfly may be warranted at this time. Although we are not commencing a status review in response to this petition, we will continue to monitor potential threats and ongoing management actions that might be important with regard to the conservation of the Hermes copper butterfly across its range. We encourage

interested parties to continue to gather data that will assist with the conservation of the species. Information regarding the Hermes copper butterfly may be submitted to the Field Supervisor, Carlsbad Fish and Wildlife Office (see **ADDRESSES** section above) at any time.

#### References Cited

A complete list of all references cited herein is available, upon request, from the Carlsbad Fish and Wildlife Office (see **ADDRESSES** section above).

#### Author

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

#### Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: August 1, 2006.

#### H. Dale Hall,

Director, U.S. Fish and Wildlife Service.

[FR Doc. E6-12744 Filed 8-7-06; 8:45 am]

BILLING CODE 4310-55-P

## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

RIN 1018-AU46

#### Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Endangered Alabama Beach Mouse

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Revised proposed rule; reopening of comment period, notice of availability of draft economic analysis, acreage corrections, and notice of public hearing.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, announce the reopening of the public comment period, a public hearing on the proposed revision of critical habitat for the Alabama beach mouse (*Peromyscus polionotus ammobates*) (ABM), and the availability of the draft economic analysis of the proposed designation of critical habitat under the Endangered Species Act of 1973, as amended (Act). We are also using this comment period to correct minor acreage calculation errors in the February 1, 2006, proposed rule (71 FR 5516), announce the inclusion of an additional 6 acres (distributed among proposed critical habitat units 1, 2, and 3), and solicit

further comments on the proposed rule. The draft economic analysis forecasts that costs associated with conservation activities for the ABM would range from \$18.3 million to \$51.8 million in undiscounted dollars over the next 20 years. Adjusted for possible inflation, the costs would range from \$16.1 million to \$46.8 million over 20 years, or \$1.1 million to \$3.1 million annually using a 3 percent discount; or \$14.2 million to \$41.7 million over 20 years, or \$1.3 million to \$3.9 million annually using a 7 percent discount. We are reopening the public comment period to allow all interested parties an opportunity to comment simultaneously on the proposed rule and the associated draft economic analysis. Comments previously submitted need not be resubmitted as they will be incorporated into the public record and fully considered in preparation of the final rule.

**DATES:** We will accept public comments until September 7, 2006. See Public Hearings, under **SUPPLEMENTARY INFORMATION**, for further details.

**ADDRESSES:** If you wish to comment, you may submit your comments and information concerning this proposal, identified by "Attn: Alabama Beach Mouse Critical Habitat," by any one of several methods:

(1) Mail or hand-deliver to: Field Supervisor, U.S. Fish and Wildlife Service, Daphne Fish and Wildlife Office, 1208-B Main Street, Daphne, Alabama 36526.

(2) Send by electronic mail (e-mail) to [abmcriticalhabitat@fws.gov](mailto:abmcriticalhabitat@fws.gov). Please see the Public Comments Solicited section below for file format and other information about electronic filing.

(3) Provide oral or written comments at the public hearing.

(4) Fax your comments to: 251-441-6222.

5. Submit comments on Federal eRulemaking portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

#### Public Hearings

We have scheduled a public hearing on the proposed critical habitat revision and the draft economic analysis. The hearing will take place from 7 to 9 p.m. on August 24, 2006, at the Adult Activity Center located at 260 Clubhouse Drive, Gulf Shores, Alabama 36542. This will be preceded by a public information session from 6 to 7 p.m. at the same location. Maps of the proposal and other materials will be available for public review.

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 Daphne Fish and Wildlife Field Office at the above address.

**FOR FURTHER INFORMATION CONTACT:** Field Supervisor, U.S. Fish and Wildlife Service, Daphne, Alabama (telephone 251-441-5181; facsimile 251-441-6222).

#### SUPPLEMENTARY INFORMATION:

##### Public Comments Solicited

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

(1) The reasons any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefit of designation will outweigh any adverse impacts to the species due to designation;

(2) Specific information on the presence of Alabama beach mouse habitat, particularly what areas should be included in the designations that were occupied at the time of listing that contain features that are essential for the conservation of the species and why; and what areas that were not occupied at listing are essential to the conservation of the species and why;

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

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

(5) Whether the draft economic analysis identifies all State and local costs attributable to the proposed critical habitat designation, and information on any costs that have been inadvertently overlooked;

(6) Whether the draft economic analysis makes appropriate assumptions regarding current practices and likely regulatory changes imposed as a result of the designation of critical habitat;

(7) Whether the draft economic analysis correctly assesses the effect on regional costs associated with any land use controls that may derive from the designation of critical habitat;

(8) Whether the draft economic analysis appropriately identifies all