DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AU93

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for 11 Species of Picture-Wing Flies From the Hawaiian Islands

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for 11 species of Hawaiian picture-wing flies (*Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. substenoptera*, and *D. tarphytrichia*) pursuant to the Endangered Species Act of 1973, as amended (Act). In total, approximately 18 acres (ac) (7.3 hectares (ha)) fall within the boundaries of the proposed critical habitat designation. The proposed critical habitat is located in four counties (City and County of Honolulu, Hawaii, Maui, and Kauai) in Hawaii. Critical habitat has not been proposed for *D. neoclavisetae*, a species for which we determined critical habitat to be prudent, because the specific areas and physical and biological features essential to its conservation in the Puu Kukui Watershed Management Area are not in need of special management considerations or protection. Therefore, we are not proposing critical habitat for *D. neoclavisetae* because these specific areas and features do not meet the definition of critical habitat in the Act.

DATES: We will accept comments from all interested parties until October 16, 2006. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by September 29, 2006.

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

1. You may submit written comments and information to Patrick Leonard, Field Supervisor, Pacific Islands Fish and Wildlife Office, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 3–122, P.O. Box 50088, Honolulu, HI 96850.

2. You may hand-deliver written comments to our Office at the above address.

3. You may send comments by electronic mail (e-mail) to *fw1pie_pwfchp@fws.gov*. Please see the Public Comments Solicited section below for file format and other information about electronic filing.

4. You may fax your comments to 808/792–9581.

5. Federal eRulemaking Portal: *http://www.regulations.gov*. Follow the instructions for submitting comments.

Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the Pacific Islands Fish and Wildlife Office, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 3–122, Honolulu, HI (telephone 808/792–9400; facsimile 808/792–9581).

FOR FURTHER INFORMATION CONTACT: Patrick Leonard, Field Supervisor, Pacific Islands Fish and Wildlife Office, (see **ADDRESSES** section) (telephone 808/792–9400; facsimile 808/792–9581). 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:

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 it is prudent to designate critical habitat.

(2) Specific information on the amount and distribution of *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. neoclavisetae*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia* habitat, and what areas should be included in the designations that were occupied at the time of listing that contain the features essential for the conservation of the species and why, and what areas that were not occupied at the time of listing that 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; and

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

(6) We are requesting specific information from the public on *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. neoclavisetae*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia* and their habitat, and which habitat or habitat components (*i.e.*, physical and biological features) are essential to the conservation of these 12 species and why; and

(7) Whether the benefit of exclusion in any particular area will outweigh the benefits of inclusion of that area from critical habitat under Section 4(b)(2) of the Act.

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES** section). Please submit Internet comments to *fw1pie_pwfchp@fws.gov* in ASCII file format and avoid the use of special characters or any form of encryption. Please also include ''Attn: RIN 1018–AU93'' in your e-mail subject header and your name and return address in the body of your message. If you do not receive a confirmation from the system that we have received your Internet message, contact us directly by calling our Pacific Islands Fish and Wildlife Office at phone number 808/792–9400. Please note that the Internet address *fw1pie_pwfchp@fws.gov* will be closed out at the termination of the public comment period.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. We will make all comments available for public inspection in their entirety. Comments and materials received, as well as supporting documentation used in preparation of the proposal to designate critical habitat, will be available for public inspection, by appointment during normal business hours at the Pacific Islands Fish and Wildlife Office (see **ADDRESSES**).

Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

Attention to and protection of habitat is paramount to successful conservation actions. The role that designation of

critical habitat plays in protecting habitat of listed species, however, is often misunderstood. As discussed in more detail below in the discussion of exclusions under ESA section 4(b)(2), there are significant limitations on the regulatory effect of designation under ESA section 7(a)(2). In brief, (1) designation provides additional protection to habitat only where there is a federal nexus; (2) the protection is relevant only when, in the absence of designation, destruction or adverse modification of the critical habitat would in fact take place (in other words, other statutory or regulatory protections, policies, or other factors relevant to agency decision-making would not prevent the destruction or adverse modification); and (3) designation of critical habitat triggers the prohibition of destruction or adverse modification of that habitat, but it does not require specific actions to restore or improve habitat.

Currently, only 475 species, or 36 percent of the 1,310 listed species in the U.S. under the jurisdiction of the Service, have designated critical habitat. We address the habitat needs of all 1,310 listed species through conservation mechanisms such as listing, section 7 consultations, the Section 4 recovery planning process, the Section 9 protective prohibitions of unauthorized take, Section 6 funding to the States, the Section 10 incidental take permit process, and cooperative, nonregulatory efforts with private landowners. The Service believes that it is these measures that may make the difference between extinction and survival for many species.

In considering exclusions of areas proposed for designation, we evaluated the benefits of designation in light of *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004). In that case, the Ninth Circuit invalidated the Service's regulation defining ''destruction or adverse modification of critical habitat.'' In response, on December 9, 2004, the Director issued guidance to be considered in making section 7 adverse modification determinations. This proposed critical habitat designation does not use the invalidated regulation in our consideration of the benefits of including areas in this proposed designation. The Service will carefully manage future consultations that analyze impacts to designated critical habitat, particularly those that appear to be resulting in an adverse modification determination. Such consultations will be reviewed by the Regional Office prior to finalizing to ensure that an adequate analysis has been conducted that is informed by the Director's guidance.

On the other hand, to the extent that designation of critical habitat provides protection, that protection can come at significant social and economic cost. In addition, the mere administrative process of designation of critical habitat is expensive, time-consuming, and controversial. The current statutory framework of critical habitat, combined with past judicial interpretations of the statute, make critical habitat the subject of excessive litigation. As a result, critical habitat designations are driven by litigation and courts rather than biology, and made at a time and under a time frame that limits our ability to obtain and evaluate the scientific and other information required to make the designation most meaningful.

In light of these circumstances, the Service believes that additional agency discretion would allow our focus to return to those actions that provide the greatest benefit to the species most in need of protection.

Procedural and Resource Difficulties in Designating Critical Habitat

We have been inundated with lawsuits for our failure to designate critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species, and final listing determinations on existing proposals are all significantly delayed.

The accelerated schedules of court-ordered designations have left the Service with limited ability to provide for public participation or to ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals, due to the risks associated with noncompliance with judicially imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, and is very expensive, thus diverting resources from conservation actions that may provide relatively more benefit to imperiled species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with the National Environmental Policy Act (NEPA). These costs, which are not required for many other conservation actions, directly reduce the funds available for direct and tangible conservation actions.

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on the 11 species of Hawaiian picture-wing flies for which we are proposing to designate critical habitat, refer to the final listing rule for the 12 species picture-wing flies published in the **Federal Register** on May 9, 2006 (71 FR 26835—pages 26835–26852). For reasons explains later in this document, we are not proposing critical habitat for one of the listed species' *Drosophila neoclavisetae*.

Previous Federal Actions

For more information on previous Federal actions concerning the 11 species of Hawaiian picture-wing flies, refer to the Determination of Status for 12 Species of Picture-Wing Flies from the Hawaiian Islands, published in the **Federal Register** on May 9, 2006 (71 FR 26835). In accordance with an amended settlement agreement approved by the United States District Court for the District of Hawaii on August 31, 2005 (*CBD* v. *Allen*, CV–05–274–HA), the Service published in the May 9, 2006, **Federal Register**, a determination that designation of critical habitat for the 12 species of Hawaiian picture-wing flies, pursuant to the Act's sections 4(b)(6)(A) and (C), is prudent. Since critical habitat is prudent, the settlement stipulates that we must submit, for publication in the **Federal Register**, a proposed critical habitat designation for the listed species for which critical habitat is prudent on or by September 15, 2006, and a final critical habitat determination by April 17, 2007.

Critical Habitat

Critical habitat is defined in section 3 of the Act as: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' means the use of all methods and procedures to bring species to the point at which the protection under the Act measures is no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 requires consultation on Federal actions that are likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow government or public access to private lands. Section 7 is a purely protective measure and does not require implementation of restoration, recovery, or enhancement measures.

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

Habitat occupied at the time of listing may be included in critical habitat only if the essential features thereon may require special management or protection. (As discussed below, such areas may also be excluded from critical habitat pursuant to section 4(b)(2).) Accordingly, when the best available scientific data do not demonstrate that the conservation needs of the species require additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species at the time of listing. An area currently occupied by the species but was not known to be occupied at the time of listing will likely, but not always, be essential to the conservation of the species and, therefore, typically included in the critical habitat designation.

The Service's Policy on Information Standards Under the Endangered Species Act, published in the **Federal Register** on July 1, 1994 (59 FR 34271), and Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service, provide criteria, establish procedures, and provide guidance to ensure that decisions made by the Service represent the best scientific data available. They require Service biologists to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information is generally the listing package for the species. Additional information sources include the recovery plan for the species, if there is one, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological assessments, or other unpublished materials and expert opinion or personal knowledge. All information is used in accordance with the provisions of Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658) and the associated Information Quality Guidelines issued by the Service.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Habitat is often dynamic, and species may move from one area to another over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery.

Areas that support populations, but are outside the critical habitat designation, will continue to be appropriate for conservation actions implemented under section 7(a)(1) of the Act and subject to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, as determined on the basis of the best available information at the time of the action. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases.

Methods

As required by section 4(b) of the Act, we used the best scientific data available in determining areas that contain the features that are essential to the conservation of *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. neoclavisetae*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia*.

We have reviewed the available information that pertains to the habitat requirements for these species and evaluated all known occurrence locations using data from numerous sources. The following geospatial, tabular data sets were used in proposing critical habitat: occurrence data for all 12 species (K. Kaneshiro 2005a—pages 1–16); vegetation mapping data for the Hawaiian Islands (GAP Data—Hawaiian Islands 2005); color mosaic 1:19,000 scale digital aerial photographs for the Hawaiian Islands (dated April to May 2005); and 1:24,000 scale digital raster graphics of USGS topographic quadrangles. Land ownership was determined from geospatial data sets associated with parcel data from Oahu County (2006); Hawaii County (2005); Kauai County (2005); and Maui County (2004).

We reviewed a variety of peer-reviewed and non-peer-reviewed articles for this proposal, which included background information on the species' biology (e.g., Montgomery 1975—pages 83, 94, 96–98, and 100; Foote and Carson 1995—pages 1–4; Kaneshiro and Kaneshiro 1995—pages 1–47), plant ecology and biology (e.g., Wagner et al. 1999—pages 45, 52–53, 971, 1,314–1,315, and 1,351–1,352), and ecology of the Hawaiian Islands and the areas considered (e.g., Smith 1985—pages 227–233; Stone 1985—pages 251–253, 256, and 260–263; Cuddihy and Stone 1990—pages 59–66, 73–76, and 88–94). Additional information

available included the final rule listing the plant species *Urera kaalae* as endangered (Service 1995—pages 81–83; 56 FR 55770, October 29, 1991,—page 55779); the final listing rule for these species (71 FR 26835, May 9, 2006,—pages 26835–26852); unpublished reports by The Nature Conservancy of Hawaii (TNCH); and aerial photographs and satellite imagery of the Hawaiian Islands.

Additional information was obtained through personal communications with scientists and land managers familiar with the species and habitats. Contributing individuals included Dr. Ken Kaneshiro (Director of the University of Hawaii at Manoa's Center for Conservation and Research Training Program; Dr. David Foote, research entomologist for the U.S. Geological Survey, Biological Resources Discipline; Dr. Steve Montgomery, Bishop Museum Research Associate; other staff from Bishop Museum; landowners; and staff from the Hawaii State Department of Land and Natural Resources, TNCH, and the U.S. Department of the Army (U.S. Army).

Specific information from these sources included estimates of historic and current distribution, abundance, and territory sizes for the 12 species, as well as data on resources and habitat requirements. A recovery plan for this group of species has not been completed.

As presented in the final listing rule (71 FR 26835; May 9, 2006), below is the specific information concerning the distribution and host-plants for each of the 11 species for which we are proposing critical habitat. This information is directly relevant to the primary constituent elements and thus repeated below. Each species of Hawaiian picture-wing fly described in this document is found only on a single island, and the larvae of each are dependant upon only a single or a few related species of plants (summarized in Table 1).

Critical habitat has not been proposed for *D. neoclavisetae*, a species for which we determined critical habitat to be prudent, because, the specific areas and physical and biological features essential to its conservation in the Puu Kukui Watershed Management Area are not in need of special management considerations or protection. Therefore, we are not proposing critical habitat for *D. neoclavisetae* because these specific areas and features does not meet the definition of critical habitat in the Act.

TABLE 1.—DISTRIBUTION OF 12 HAWAIIAN PICTURE-WING FLIES BY ISLAND, GENERAL HABITAT TYPE, AND PRIMARY HOST PLANT(S).

Species	Island	Elevation range	General habitat type	Primary host plants
Oahu Species				
Drosophila aglaia	Oahu	1,700 to 2,900 ft (520–885 m).	Mesic forest	*Urera glabra.*
D. hemipeza	Oahu	1,500 to 2,900 ft (460 to 885 m).	Mesic forest	*Cyanea sp., Lobelia sp., & Urera kaalae (E).*
D. montgomeryi	Oahu	1,900 to 2,900 ft (580–885 m).	Mesic forest	*Urera kaalae (E).*
D. obatai	Oahu	1,500 to 2,500 ft (460–760 m).	Dry to mesic forest	*Pleomele aurea & Pleomele forbesii.*
D. substenoptera	Oahu	1,300 to 4,000 ft (395 to 1,220 m).	Wet forest	*Cheirodendron sp. & Tetraplasandra sp.*
D. tarphytrichia	Oahu	1,300 to 4,000 ft (395 to 1,220 m).	Mesic forest	*Charpentiera sp.*
Hawaii (Big Island) Species				
D. heteroneura	BI	3,400 to 6,000 ft (1,035 to 1,830 m).	Mesic to wet forest	*Cheirodendron sp., Clermontia sp., and Delissea sp.*
D. mulli	BI	3,150 to 3,250 ft (960–990 m).	Wet forest	*Pritchardia beccariana.*
D. ochrobasis	BI	3,400 to 5,400 ft (1,035 to 1,645 m).	Mesic to wet forest	*Clermontia sp., Marattia sp., & Myrsine sp.*
Molokai, Kauai, and Maui Species				
D. differens	Molokai	3,650 to 4,500 ft (1,115 to 1,370 m).	Wet forest	*Clermontia sp.*
D. musaphilia	Kauai	3,000 to 3,700 ft (915–1,130 m).	Mesic forest	*Acacia koa.*
D. neoclavisetae	Maui	3,500 to 4,500 ft (1,070 to 1,370 m).	Wet forest	*Cyanea sp.*

Oahu Species

Drosophila aglaia

Drosophila aglaia is historically known from five localities in the Waianae Mountains of Oahu between 1,700 and 2,900 feet (ft) (520 to 885 meters (m)) above sea level. *Drosophila aglaia* is restricted to the natural distribution of its host plant, Urera glabra (family Urticaceae), which is a small shrub-like endemic tree. The larvae of D. aglaia develop in the decomposing bark and stem of *U. glabra.* This plant does not form large stands, but is infrequently scattered throughout slopes and valley bottoms in mesic and wet forest habitat on Oahu.

Drosophila hemipeza

Drosophila hemipeza is restricted to the island of Oahu where it is historically known from seven localities between 1,500 and 2,900 ft (460 to 885 m) above sea-level (not including the Pupukea site of discovery which is considered an extripated population). Montgomery (1975—page 96)

determined that D. hemipeza larvae feed within decomposing portions of several different mesic forest plants. The larvae inhabit the decomposing bark of Urera kaalae (family Urticaceae), a federally-endangered plant (Service 1995—pages 81–83; 56 FR 55770—page 55779) that grows on slopes and in gulches of diverse mesic forest. In 2004, only 41 individuals of U. kaalae were known to remain in the wild (Service 2004—page 9). In 2005, TNCH outplanted many seedlings of this species within several locations within D. hemipeza's historic range (TNCH 2005—page 6). The larvae also feed within the decomposing stems of Lobelia sp. (family Campanulaceae) and the decomposing bark and stems of Cyanea sp. (family Campanulaceae) in mesic forest habitat (Kaneshiro and Kaneshiro 1995—page 17; Science Panel 2005—page 16).

Drosophila montgomeryi

Drosophila montgomeryi is historically known from three localities in the Waianae Mountains on western Oahu between 1,900 and 2,900 ft (580 to 885 m) above sea level. Montgomery (1975—page 97) reported that the larvae of this species feed within the decaying bark of Urera kaalae, a federally-endangered plant (Service 1995—pages 81–83; 56 FR 55770—page 55779) that grows on slopes and in gulches of diverse mesic forest (Wagner et al. 1999—pages 1,314–1,315). In 2004, only 41 individuals of U. kaalae were known to remain in the wild (Service 2004—page 9). In 2005, TNCH outplanted many seedlings of this species within several locations within D. montgomeryi's historic range (TNCH 2005—page 6).

Drosophila obatai

Drosophila obatai is historically known from two localities between 1,500 and 2,500 ft (460 to 760 m) above sea level on the island of Oahu. *Drosophila obatai* larvae feed within decomposing portions of Pleomele forbesii (family Agavaceae), a candidate for Federal listing (70 FR 24870—page 24883) (Kaneshiro and Kaneshiro 1995—page 27; Montgomery 1975—page 98). These host plants grow on slopes in dry forest and diverse mesic forest, and occur singly or in small clusters, rarely forming large stands (Wagner et al. 1999—pages 1,351–1,352).

Drosophila substenoptera

Drosophila substenoptera is historically known from seven localities in both the Koolau and Waianae Mountains on the island of Oahu at elevations between 1,300 and 4,000 ft (395 to 1,220 m) above sea level. Montgomery (1975—page 100) determined that *D. substenoptera* larvae inhabit only the decomposing bark of *Cheirodendron sp.* trees (family Araliaceae) and *Tetraplasandra sp.* trees (family Araliaceae) in localized patches of wet forest habitat.

Drosophila tarphytrichia

Drosophila tarphytrichia was historically known from both the Koolau and the Waianae Mountains between 1,900 and 2,900 ft (580 to 885 m) above sea level on the island of Oahu. *Drosophila tarphytrichia* is now apparently extirpated from the Koolau range where it was originally discovered near Manoa Falls, and is presently known from four localities in the Waianae Mountains (Kaneshiro and Kaneshiro 1995; HBMP 2005; K. Kaneshiro 2005a). The larvae of *D. tarphytrichia* feed only within the decomposing portions of the stems and branches of *Charpentiera obovata* trees (family Amaranthaceae) in mesic forest habitat (Montgomery 1975—page 100).

Hawaii (Big Island) Species

Drosophila heteroneura

Drosophila heteroneura has been the most intensely studied of the 12 species discussed in this proposed rule (Kaneshiro and Kaneshiro 1995—page 19). This species is restricted to the island of Hawaii where, historically, it was known to be relatively widely distributed between 3,400 and 6,000 ft (1,035 to 1,830 m) above sea level. *Drosophila heteroneura* has been recorded from 24 localities on 4 of the island's 5 volcanoes (Hualalai, Mauna Kea, Mauna Loa, and Kilauea) in 5 different montane environments (K. Kaneshiro 2005a—pages 4–8). *Drosophila heteroneura* larvae primarily inhabit the decomposing bark and stems of *Clermontia sp.* (family Campanulaceae), including *C. clermontioides,* and *Delissea sp.* (family Campanulaceae), but it is also known to feed within decomposing portions of *Cheirodendron sp.* (family Araliaceae) in open mesic and wet forest habitat (Kaneshiro and Kaneshiro 1995—page 19).

Drosophila mulli

Drosophila mulli is restricted to the island of Hawaii and is historically known from two locations between 3,150 and 3,250 ft (960 to 990 m) above sea level. Adult flies are found only on the leaf undersides of the endemic fan palm, *Pritchardia beccariana* (family Arecaceae), which is the only known association of a Drosophila species with a native Hawaiian palm species. The larval feeding site on the plant remains unknown because attempts to rear this species from decaying parts of *P. beccariana* have thus far been unsuccessful (W.P. Mull, Biologist, pers. comm. 1994—page 1; Science Panel 2005—page 21).

Drosophila ochrobasis

Historically, *Drosophila ochrobasis* was relatively widely distributed between 3,400 and 5,400 ft (1,035 to 1,645 m) above sea level on the island of Hawaii. Drosophila ochrobasis has been recorded from 10 localities on 4 of the island's 5 volcanoes (Hualalai, Mauna Kea, Mauna Loa, and the Kohala mountains). The larvae of this species have been reported to use the decomposing portions of three different host plant groups—Myrsine sp. (family Myrsinaceae), Clermontia sp. (family Campanulaceae), and Marattia sp. (family Marattiaceae) (Montgomery 1975—page 98; Kaneshiro and Kaneshiro 1995—page 29).

Kauai Species

Drosophila musaphilia

Drosophila musaphilia is historically known from only four sites, one at 1,900 ft (579 m) above sea level, and three sites between 2,600 and 3,700 ft (790 to 1,130 m) above sea level on the island of Kauai. Montgomery (1975—page 97) determined that the host plant for *D. musaphilia* is Acacia koa. The females lay their eggs upon, and the larvae develop in, the moldy slime flux (seep) that occasionally appears on certain trees with injured plant tissue and seeping sap. Understanding the full range of *D. musaphilia* is difficult because its host plant, Acacia koa, is fairly common and stable within, and surrounding, its known range on Kauai; however, the frequency of suitable slime fluxes occurring on the host plant appears to be much more restricted and temporally unpredictable (Science Panel 2005—pages 23–24).

Maui Species

Drosophila neoclavisetae

Two populations of *Drosophila neoclavisetae* were found historically along the Puu Kukui Trail within montane wet ohia forests on State land in West Maui. One habitat site was found in 1969 at 4,500 ft (1,370 m) and the other in 1975 at 3,500 ft (1,070 m) above sea level (Kaneshiro and Kaneshiro 1995—page 26; K. Kaneshiro 2005a—page 11). The host plant of *D. neoclavisetae* has not yet been confirmed, although it is likely associated with Cyanea sp. (family

Campanulaceae). Because both collections of this species occurred within a small patch of Cyanea sp. and many other species in the D. adiastola species group use species in this genus and other plants in the family Campanulaceae, researchers believe the Cyanea sp. found at Puu Kukui is likely the correct host plant for *D. neoclavisetae* (Science Panel 2005—pages 19–20; Kaneshiro and Kaneshiro 1995—page 26).

Molokai Species

Drosophila differens

Drosophila differens is historically known from three sites on private land between 3,650 and 4,500 ft (1,115 to 1,370 m) above sea level, within montane wet ohia forest (K. Kaneshiro 2005a—page 2) on the island of Molokai. Montgomery (1975—page 83) found that *D. differens* larvae inhabit the bark and stems of Clermontia sp. (family Campanulaceae) in wet rainforest habitat (Kaneshiro and Kaneshiro 1995—page 16).

Primary Constituent Elements

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

The specific primary constituent elements required for these 12 picture-wing flies are derived from the biological needs of these species as described in the listing rule, published in the **Federal Register** on May 9, 2006 (71 FR 26835—pages 26835–26840), with specific requirements described below.

Space for Individual and Population Growth and Normal Behavior

The general life cycle of Hawaiian Drosophilidae is typical of that of most flies: after mating, females lay eggs from which larvae (immature stage) hatch; as larvae grow, they molt (shed their skin) through three successive stages (instars); when fully grown, the larvae change into pupae (a transitional form) in which they metamorphose and emerge as adults.

Breeding for all 11 species of flies included in this proposal generally occurs year-round, but egg laying and larval development increase following the rainy season as the availability of decaying matter, which the flies feed on, increases in response to the heavy rains (K. Kaneshiro 2005b—pages 1–2). In general, *Drosophila* lay between 50 and 200 eggs in a single clutch. Eggs develop into adults in about a month, and adults generally become sexually mature 1 month later. Adults generally live for 1 to 2 months.

It is unknown how much space is needed for these flies to engage in courtship and territorial displays and mating activities. Adult behavior may be disrupted or modified by less than ideal conditions such as decreased forest cover or loss of suitable food material (K. Kaneshiro 2005b—pages 1–2). Additionally, adult behavior may be disrupted and the flies themselves may be susceptible to the preying activities of nonnative hymenoptera including yellow jacket wasps and ants (Kaneshiro and Kaneshiro 1995—pages 41–42). The larvae generally pupate within the soil located below their host plant material, and it is presumed that they require relatively undisturbed and unmodified soil conditions to complete this stage before reaching adulthood (Science Panel 2005—page 5). Lastly, it is well-known that these and most picture-wing flies are susceptible to even slight temperature increases, an issue that may be exacerbated by loss of suitable forest cover (K. Kaneshiro 2005b—pages 1–2).

Food

Each species of Hawaiian picture-wing fly described in this document is found only on a single island, and the larvae of each are dependent upon only a single or a few related species of plants (summarized in Table 1). The adult flies feed on a variety of decomposing plant matter. The water or moisture requirements for all 12 of these species is unknown; however, during drier seasons or during times of drought, it is expected that available adult and larval stage food material in the form of decaying plant matter may decrease (K. Kaneshiro 2005b—pages 1–2).

Primary Constituent Elements for Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. neoclavisetae, D. obatai, D. ochrobasis, D. substenoptera, and D. tarphytrichia

Pursuant to our regulations, we are required to identify the known physical and biological features (PCEs) essential to the conservation of *Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. neoclavisetae, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia.* All areas proposed as critical habitat for *these species* are based on documented occurrences within these species' historic geographic range, and contain sufficient PCEs to support at least one life history function.

Based on our current knowledge of the life history, biology, and ecology of the species and the requirements of the habitat to sustain the essential life history functions of the species, we have determined the following PCEs for *Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. neoclavisetae, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia.*

Oahu Species

The PCEs for *Drosophila aglaia* are:

(1) Dry to mesic, lowland, *Diospyros* sp., ohia and koa forest; and

(2) The larval host plant *Urera glabra.*

The PCEs for *Drosophila hemipeza* are:

(1) Dry to mesic, lowland, ohia and koa forest; and

(2) The larval host plants *Cyanea angustifolia, C. calycina, C. grimesiana* ssp. *grimesiana, C. grimesiana ssp. obatae, C. membranacea, C. pinnatifida, C. sessifolia, C. superba ssp. superba, Lobelia hypoleuca, L. hiihauensis, L. yuccoides,* and *Urera kaalae.*

The PCEs for *Drosophila montgomeryi* are:

(1) Dry to mesic, lowland, diverse ohia and koa forest; and

(2) The larval host plant *Urera kaalae.*

The PCEs for *Drosophila obatai* are:

(1) Dry to mesic, lowland, ohia and koa forest; and

(2) The larval host plant *Pleomele forbesii.*

The PCEs for *Drosophila substenoptera* are:

(1) Mesic to wet, lowland to montane, ohia and koa forest; and

(2) The larval host plants *Cheirodendron platyphyllum* ssp. *platyphyllum, C. trigynum* ssp.

trigynum, *Tetraplasandra kavaiensis*, and *T. oahuensis.*

The PCEs for *Drosophila tarphytrichia are:*

(1) Dry to mesic, lowland, ohia and koa forest; and

(2) The larval host plant *Charpentiera obovata.*

Hawaii (Big Island) Species

The PCEs for *Drosophila heteroneura* are:

(1) Mesic to wet, montane, ohia and koa forest; and

(2) The larval host plants *Cheirodendron trigynum* ssp. *trigynum*, *C. clermontioides*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. paviflora*, *C. peleana*, and *C. pyrularia.*

The PCEs for *Drosophila mulli* are:

(1) Wet, montane, ohia forest; and

(2) The larval host plant *Pritchardia beccariana.*

The PCEs for *Drosophila ochrobasis* are:

(1) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest; and

(2) The larval host plants *Clermontia calophylla*, *C. clermontioides*, *C. drepanomorpha*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, *C. waimeae*, *Myrsine lessertiana*, and *M. sandwicensis.*

Kauai Species

The PCEs for *Drosophila musaphilia* are:

(1) Mesic, montane, ohia and koa forest; and

(2) The larval host plant *Acacia koa.*

Maui Species

The PCEs for *Drosophila neoclavisetae* are:

(1) Wet, montane, ohia forest; and

(2) The larval host plants *Cyanea kunthiana* and *C. macrostegia* ssp. macrostegia.

Molokai Species

The PCEs for *Drosophila differens* are:

(1) Wet, montane, ohia forest; and

(2) The larval host plants *Clermontia arborescens* ssp. *waihiae*, *C. granidiflora* ssp. *munroi*, *C. oblongifolia* ssp. *brevipes*, and *C. pallida.*

This proposed designation is for the conservation of PCEs necessary to support the life history functions which were the basis for the proposal. Each of the areas proposed in this rule have been determined to contain sufficient PCEs to provide for one or more of the life history functions of the *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.* In some cases, the PCEs exist as a result of ongoing Federal actions. As a result, ongoing Federal actions at the time of designation will be included in the baseline in any consultation conducted subsequent to this designation.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we use the best scientific data available in determining areas that contain the features that are essential to the conservation of *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.* We are proposing to designate critical habitat on lands with documented occurrences and that contain the primary constituent elements for these 11 Hawaiian picture-wing flies. The primary dataset we used to document observations of these 11 picture-wing flies spans the years 1965 to 1999 (K. Kaneshiro 2005a—pages 1–16). Additional data were obtained from individuals familiar with particular species and locations, and other sources of information as described above in the Methods section. Many sites were surveyed infrequently or have not been surveyed in a long time while others have relatively complete records from 1966 to 1999. We selected areas based on sites surveyed since 1971 that were occupied during the date of the last survey (or within 1 year of that last occupied survey date) and were identified as ''occupied.'' Surveys locate adult flies, but adult flies are relative generalists and do not have the specific habitat requirements of the larval stage, which typically require a specific species (in some cases, several species or genera) of host plants for successful development. Though the primary constituent elements of the proposed critical habitat focus on these host plants, we use known adult locations as the starting center point for each critical habitat unit and include a surrounding area measuring 1 acre (0.405 ha) in size consisting of the features essential to the conservation species.

While there has been considerable survey work conducted for Hawaiian picture-wing flies overall, some areas where these 11 species are found have not been surveyed in many years. We decided to propose critical habitat by relying on the results of the most recent surveys conducted since 1971. If that survey located adult flies of the particular species, we identified that site as occupied; if no adult flies of the species were found, we identified that site as not occupied. Because of the time that has passed since some of these surveys were conducted, it is possible that some of the sites we are considering as unoccupied (and so not included in the proposed critical habitat) have since been re-occupied by the species. However, we believe that the most recent survey results are the best information available to determine if a site is occupied.

When determining proposed critical habitat boundaries, we made every effort to avoid including within the boundaries of the map contained within this proposed rule, developed areas such as buildings, paved areas, and other structures that lack PCEs for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.* The scale of the maps prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the land under them inadvertently left inside critical habitat boundaries shown on the maps of this proposed rule are excluded by text in this proposed rule and are not proposed for designation as critical habitat. Therefore, Federal actions limited to these areas would not trigger section 7 consultation, unless they affect the species or primary constituent elements in adjacent critical habitat.

We are proposing to designate critical habitat on lands that we have determined are occupied by the 11 species at the time of listing and contain sufficient primary constituent elements to support life history functions essential for the conservation of the species.

Twenty-two units are proposed based on sufficient PCEs being present to support life processes for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.* Some units contained all PCEs and supported multiple life processes. Some segments contained only a portion of the PCEs necessary to support the particular use of that habitat for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.*

Special Management Considerations or Protections

When designating critical habitat, we determine whether areas occupied at the time of listing and containing the primary constituent elements may

require special management considerations or protections.

Nonnative plants and animals pose the greatest threats to these 11 picture-wing flies. In order to alleviate and reverse the ongoing degradation and loss of habitat caused by feral ungulates and invasive nonnative plants, active management or control of nonnative species is necessary for the conservation of all populations of the 11 picture-wing flies (Kaneshiro and Kaneshiro 1995—pages 37–38). Without active management or control, native habitat containing the features that are essential for the conservation of the 11 picture-wing flies is degraded and/or destroyed. In addition, habitat degradation and destruction as a result of fire and predation by nonnative insects, such as the western yellow-jacket wasp (*Vespula pennsylvanica*) and several species of ants, pose significant threats to many populations of the 12 picture-wing flies.

All of the proposed critical habitat units for the 11 picture wing flies may require special management to address feral ungulates, invasive nonnative plants, and yellow-jacket wasps. In addition, the units in dry or mesic habitats may also require special management to address fire and ants. These threats are discussed below.

Feral Ungulates

Feral ungulates have devastated native vegetation in many areas of the Hawaiian Islands (Cuddihy and Stone 1990—pages 60–66). Because the endemic Hawaiian flora evolved without the presence of browsing and grazing ungulates, many plant groups have lost their adaptive defenses such as spines, thorns, stinging hairs, and defensive chemicals (University of Hawaii Department of Geography 1998—page 138). Pigs (*Sus scrofa*), goats (*Capra hircus*), and cattle (*Bos taurus*) disturb the soil, and readily eat native plants, including the native host plants for 1 or more of the 11 picture-wing flies, as well as distribute nonnative plant seeds that can alter the ecosystem. In addition, browsing and grazing by feral ungulates in steep and remote terrain causes severe erosion of whole watersheds due to foraging and trampling behaviors (Cuddihy and Stone 1990—pages 60–64 and 66).

Feral Pigs (Sus scrofa)

Feral pigs threaten all populations of the 11 picture-wing flies. Feral pigs are found from dry coastal grasslands through rain forests and into the subalpine zone on all of the main Hawaiian Islands (Cuddihy and Stone 1990—pages 64–65). An increase in pig densities and expansion of their distribution has caused widespread damage to native vegetation (Cuddihy and Stone 1990—pages 64–65). Feral pigs create open areas within forest habitat by digging up, eating, and trampling native species (Stone 1985—pages 262–263). These open areas become fertile ground for nonnative plant seeds spread through their excrement and by transport in their hair (Stone 1985—pages 262–263). In nitrogen-poor soils, feral pig excrement increases nutrient availability, enhancing establishment of nonnative weeds that are more adapted to richer soils than are native plants (Cuddihy and Stone 1990—pages 64–65). In this manner, largely nonnative forests replace native forest habitat (Cuddihy and Stone 1990—pages 64–65).

Foote and Carson (1995—pages 2–4) found that pig exclosures on the island of Hawaii supported significantly higher relative frequencies of picture-wing flies compared to other native and nonnative *Drosophila* species (7 percent of all observations outside of the exclosure and 18 percent of all observations inside the exclosure) and their native host plants. Loope *et al.* (1991—pages 9–10 and 19) showed that excluding pigs from a montane bog on northeastern Haleakala, Maui, resulted in an increase in native plant cover from 6 to 95 percent after 6 years of protection.

Feral Goats (Capra hircus)

Feral goats threaten populations of the picture-wing flies on Oahu (*Drosophila aglaia*), Hawaii (*D. heteroneura*), and Kauai (*D. musaphilia*). Feral goats occupy a wide variety of habitats on Kauai, Oahu, Molokai, Maui, and Hawaii, from lowland dry forests to montane grasslands where they consume native vegetation, trample roots and seedlings, accelerate erosion, and promote invasion of nonnative plants (van Riper and van Riper 1982—pages 34–35; Stone 1985—page 261). On Oahu, goat populations are increasing and spreading in the dry upper slopes of the Waianae Mountains, becoming an even greater threat to the native habitat (K. Kawelo, U.S. Army Environmental Division, pers. comm. 2005—page 1).

Feral Cattle (Bos taurus)

Feral cattle threaten populations of *Drosophila heteroneura* on the island of Hawaii. Large-scale ranching of cattle began in the 19th century on the islands of Kauai, Oahu, Maui, and Hawaii (Cuddihy and Stone 1990—pages 59–62). Large ranches, tens of thousands of acres in size, still exist on the islands of Maui and Hawaii (Cuddihy and Stone 1990—pages 59–62). In addition, cattle grazing continues in several lowland regions in the northern portion of the Waianae Mountains of Oahu. Degradation of native forests used for ranching activities is evident. Feral cattle occupy a wide variety of habitats from lowland dry forests to montane grasslands, where they consume native vegetation, trample roots and seedlings, accelerate erosion, and promote the invasion of nonnative plants (van Riper and van Riper 1982—page 36; Stone 1985—pages 256 and 260).

Nonnative Plants

The invasion of nonnative plants contributes to the degradation of native forests and the host plants of picture-wing flies (Kaneshiro and Kaneshiro 1995—pages 38–39; Wagner *et al.* 1999—pages 52–53 and 971; Science Panel 2005—page 28), and threatens all populations of the 11 picture-wing flies. Some nonnative plants form dense stands, thickets, or mats that shade or out-compete native plants. Nonnative vines cause damage or death to native trees by overloading branches, causing breakage, or by forming a dense canopy cover, intercepting sunlight and shading out native plants below. Nonnative grasses burn readily and often grow at the border of forests, and carry fire into areas with woody native plants (Smith 1985—pages 228–229; Cuddihy and Stone 1990—pages 88–94). The nonnative grasses are more fire-adapted and can spread prolifically after a fire, ultimately creating a stand of nonnative grasses where native forest once existed. Some nonnative plant species produce chemicals that inhibit the growth of other plant species (Smith 1985—page 228; Wagner *et al.* 1999—page 971).

Fire

Fire threatens habitat of the Hawaiian picture-wing flies in dry to mesic grassland, shrubland, and forests on the islands of Kauai (*Drosophila musaphilia*), Oahu (*D. aglaia*, *D. hemipeza*, *D. mongomeryi*, *D. obatai*, and *D. tarphytrichia*), and Hawaii (*D. heteroneura*). Dry and mesic regions in Hawaii have been altered in the past 200 years by an increase in fire frequency, a condition to which the native flora is not adapted. The invasion of fire-adapted alien plants, facilitated by ungulate disturbance, has contributed to wildfire frequency. This change in fire regime has reduced the amount of forest cover for native species (Hughes et al.1991—page 743; Blackmore and Vitousek 2000—page 625) and resulted in an intensification of feral ungulate herbivory in the remaining native forest areas. Habitat damaged or destroyed by fire is more likely to be revegetated by

nonnative plants that cannot be used as host plants by these picture-wing flies (Kaneshiro and Kaneshiro 1995—page 47).

Nonnative Predatory Species

Nonnative arthropods pose a serious threat to Hawaii's native *Drosophila*, both through direct predation or parasitism as well as competition for food or space (Howarth and Medeiros 1989—pages 82–83; Howarth and Ramsay 1991—pages 80–83; Kaneshiro and Kaneshiro 1995—pages 40–45 and 47; Staples and Cowie 2001—pages 41, 54–57). Due to their large colony sizes and systematic foraging habits, species of social Hymenoptera (ants and some wasps) and parasitic wasps pose the greatest threat to the Hawaiian picture-wing flies (Carson 1982—page 1, 1986—page 7; Gambino *et al.* 1987—pages 169–170; Kaneshiro and Kaneshiro 1995—pages 40–45 and 47).

Ants

Ants are believed to threaten populations of picture-wing flies in mesic areas on Oahu (*Drosophila aglaia*, *D. hemipeza*, D. *mongomeryi*, *D. obatai*, and *D. tarphytrichia*) and Hawaii (*D. heteroneura*). At least 44 species of ants are known to be established on the Hawaiian Islands (Hawaii Ecosystems at Risk Project (HEAR) database 2005—page 2) and 4 particularly aggressive ant species have severely affected the native insect fauna (Zimmerman 1948—page 173; HEAR database 2005—page 4). Ants are not a natural component of Hawaii's arthropod fauna, and native species evolved in the absence of predation pressure from ants. Ants can be particularly destructive predators because of their high densities, recruitment behavior, aggressiveness, and broad range of diet (Reimer 1993—pages 14–15, 17). The threat to picture-wing flies is amplified by the fact that most ant species have winged reproductive adults (Borror 1989—pages 737–738) and can quickly establish new colonies, spreading throughout suitable habitats (Staples and Cowie 2001—pages 55–57). These attributes and the lack of native species' defenses to ants allow some ant species to destroy isolated prey populations (Nafus 1993—page 151). Hawaiian picture-wing flies pupate in the ground where they are exposed to predation by ants. Newly emerging adults have been observed with ants attached to their legs (Kaneshiro and Kaneshiro 1995—page 43).

Western Yellow-jacket Wasp

An aggressive race of the western yellow-jacket wasp became established in the State of Hawaii in 1978, and this species is now abundant between 1,969 and 3,445 ft (600 and 1,050 m) in elevation (Gambino et al. 1990-page 1,088). On Maui, yellow-jackets have been observed carrying and feeding upon recently captured adult Hawaiian *Drosophila* (Kaneshiro and Kaneshiro 1995—page 41). While there is no documentation that conclusively ties the decrease in picture-wing fly observations at historical sites with the establishment of yellow-jacket wasps within their habitats, the concurrent arrival of wasps and decline of picture-wing fly observations for all 11 picture-wing flies on all islands (Kauai, Oahu, Maui, Molokai, and Hawaii) suggests that the wasps may have played a significant role in the decline of some picture-wing fly populations (Carson 1982—page 1, 1986—page 7; Foote and Carson 1995—page 3; Kaneshiro and Kaneshiro 1999; Science Panel 2005—page 28).

Proposed Critical Habitat Designation

Critical habitat has not been proposed for *D. neoclavisetae*, a species for which we determined critical habitat to be prudent, because, the specific areas and physical and biological features essential to its conservation in the Puu Kukui Watershed Management Area are not in need of special management considerations or protection. Therefore, we are not proposing critical habitat for *D. neoclavisetae* because these specific areas and features does not meet the definition of critical habitat in the Act.

We are proposing 22 units as critical habitat for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia.* In total, approximately 18 acres (ac) (7.3 hectares (ha)) fall within the boundaries of the proposed critical habitat designation. The critical habitat areas described below constitute our best assessment at this time of areas determined to be occupied at the time of listing, contain the primary constituent elements, and that may require special management. The areas proposed as critical habitat are:

(1) Island of Oahu: *Drosophila aglaia*—Unit 1—Palikea; *Drosophila hemipeza*—Unit 1—Makaha Valley East; *Drosophila hemipeza*—Unit 2—Palikea; *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch; *Drosophila montgomeryi*—Unit 2—Palikea; *Drosophila obatai*—Unit 1—Wailupe; *Drosophila substenoptera*—Unit 1—Mt. Kaala; *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch; *Drosophila tarphytrichia*—Unit 2—Palikea;

(2) Hawaii (Big Island): *Drosophila heteroneura*—Unit 1—Kau Forest Reserve; *Drosophila heteroneura*—Unit 2—Pauahi; *Drosophila heteroneura*—Unit 3—Waiea; *Drosophila heteroneura*—Unit 4—Waihaka Gulch; *Drosophila heteroneura*—Unit 5—Gaspar's Dairy; *Drosophila heteroneura*—Unit 6—Kipuka at 4,900 ft; *Drosophila heteroneura*—Unit 7—Pit Crater; *Drosophila mulli*—Unit 1—Olaa Forest; *Drosophila mulli*—Unit 2—Waiakea Forest; *Drosophila ochrobasis*—Unit 1—Kipuka 14; *Drosophila ochrobasis*—Unit 2—Kohala Mountains;

(3) Island of Kauai: *Drosophila musaphilia*—Unit 1—Waimea Canyon Road at 2,600 ft;

(4) Island of Molokai: *Drosophila differens*—Unit 1—Puu Kolekole.

The areas identified as containing the features essential to the conservation of the 11 Hawaiian picture-wing flies for which we are proposing critical habitat includes a variety of undeveloped, forested areas that are used for larval stage development and adult fly stage foraging. Areas that meet the definition of critical habitat, but are proposed for exclusion pursuant to section 4(b)(2) include TNCH's Kamakou Preserve on Molokai (*Drosophila differens*) and lands owned by Kamehameha Schools on the island of Hawaii (*D. heteroneura*). Proposed critical habitat includes land under State, City and County, and private ownership, with excluded Federal lands being managed by the Department of the Interior. The approximate area and land ownership within each unit are shown in Table 2.

TABLE 2.—CRITICAL HABITAT UNITS PROPOSED FOR DROSOPHILA AGLAIA, D. DIFFERENS, D. HEMIPEZA, D. HETERONEURA, D. MONTGOMERYI, D. MULLI, D. MUSAPHILIA, D. OBATAI, D. OCHROBASIS, D. SUBSTENOPTERA, AND D. TARPHYTRICHIA

Proposed critical habitat unit	Land ownership	Acres/hectares	Proposed action
OAHU			
Drosophila aglaia—Unit 1—Palikea *	James Campbell Estate	1 ac (.405 ha)	Proposed.
Drosophila hemipeza—Unit 1—Makaha Valley East	City & County of Honolulu	1 ac (.405 ha)	Proposed.
Drosophila hemipeza—Unit 2—Palikea *	James Campbell Estate	1 ac (.405 ha)	Proposed.
Drosophila montgomeryi—Unit 1—Kaluaa Gulch **	James Campbell Estate	1 ac (.405 ha)	Proposed.
Drosophila montgomeryi—Unit 2—Palikea *	James Campbell Estate	1 ac (.405 ha)	Proposed.
Drosophila obatai—Unit 1—Wailupe	State	1 ac (.405 ha)	Proposed.
Drosophila substenoptera—Unit 1—Mt. Kaala	State	1 ac (.405 ha)	Proposed.
Drosophila tarphytrichia—Unit 1—Kaluaa Gulch **	James Campbell Estate	1 ac (.405 ha)	Proposed.
Drosophila tarphytrichia—Unit 2—Palikea *	James Campbell Estate	1 ac (.405 ha)	Proposed.
HAWAII (Big Island)			
Drosophila heteroneura—Unit 1—Kau Forest Reserve	State	1 ac (.405 ha)	Proposed.
Drosophila heteroneura—Unit 2—Pauahi	Koa Road LLC	1 ac (.405 ha)	Proposed.
Drosophila heteroneura—Unit 3—Waiea	State	1 ac (.405 ha)	Proposed.
Drosophila heteroneura—Unit 4—Waihaka Gulch	State	1 ac (.405 ha)	Proposed.
Drosophila heteroneura—Unit 5—Gaspar's Dairy	Kamehameha Schools	1 ac (.405 ha)	Proposed for exclusion under 4(b)2.
Drosophila heteroneura—Unit 6—Kipuka at 4,900 ft	Kamehameha Schools	1 ac (.405 ha)	Proposed for exclusion under 4(b)2.
Drosophila heteroneura—Unit 7—Pit Crater	Kamehameha Schools	1 ac (.405 ha)	Proposed for exclusion under 4(b)2.
Drosophila mulli—Unit 1—Olaa Forest	State	1 ac (.405 ha)	Proposed.
Drosophila mulli—Unit 2—Waiakea Forest	State	1 ac (.405 ha)	Proposed.
Drosophila ochrobasis—Unit 1—Kipuka 14	State	1 ac (.405 ha)	Proposed.
Drosophila ochrobasis—Unit 2—Kohala Mountains	State	1 ac (.405 ha)	Proposed.
KAUAI			
Drosophila musaphilia—Unit 1—Waimea Canyon Road at 2,600 ft.	State	1 ac (.405 ha)	Proposed.
MOLOKAI			
Drosophila differens—Unit 1—Puu Kolekole	Molokai Ranch Ltd.	1 ac (.405 ha)	Proposed for exclusion under 4(b)2 .
Total		18 ac (7.3 ha)	22 units.

Several units overlap and, therefore, the proposed designation totals 18 acres:
* The units at Palikea for *D. aglaia*, *D. hemipeza*, *D. montgomeryi*, and *D. tarphytrichia* overlap each other.
** The units at Kaluaa Gulch for *D. montgomeryi* and *D. tarphytrichia* overlap each other.

All of the proposed critical habitat units for 11 of the 12 Hawaiian picture-wing flies were occupied by the species at the time of listing. We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia*, below. All of the critical habitat units are 1 acre (0.405 ha) in size. For each of the units, threats to PCEs that may require special management considerations or protections are described above in the Special Management Considerations or Protections section.

Oahu Species

Drosophila aglaia

Drosophila aglaia—Unit 1—Palikea consists of lowland, mesic, koa, and ohia forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—pages 1–2). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,840 ft (865 m), the unit is entirely owned by the James Campbell Estate, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

Drosophila hemipeza

Drosophila hemipeza—Unit 1—Makaha Valley East consists of lowland, mesic, koa, and ohia forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—pages 2–4). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,780 ft (850 m), the unit is entirely owned by the City and County of Honolulu, and is adjacent to and north of the State-owned Waianae Kai Forest Reserve.

Drosophila hemipeza—Unit 2—Palikea consists of lowland, mesic, koa, and ohia forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 3). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,840 ft (865 m), the unit is entirely owned by the James Campbell Estate, and is part of a larger area called the

Honouliuli Preserve, administered and managed by TNCH.

Drosophila montgomeryi

Drosophila montgomeryi—Unit 1—Kaluaa Gulch consists of diverse, mesic forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 1,940 ft (590 m), the unit is entirely owned by the James Campbell Estate, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

Drosophila montgomeryi—Unit 2—Palikea consists of lowland, mesic, koa, and ohia forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 8–9). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,840 ft (865 m), the unit is entirely owned by the James Campbell Estate, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

Drosophila obatai

Drosophila obatai—Unit 1—Wailupe consists of lowland, mesic, koa, and ohia forest within the southeastern Koolau Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 12). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 1,560 ft (475 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Drosophila substenoptera

Drosophila substenoptera—Unit 1—Mt. Kaala consists of montane, wet, ohia forest within the northern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 14). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 3,900 ft (1,190 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Drosophila tarphytrichia

Drosophila tarphytrichia—Unit 1—Kaluaa Gulch consists of diverse, mesic forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 1,940 ft (590 m), the unit occurs on lands owned by the James Campbell Estate, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

Drosophila tarphytrichia—Unit 2—Palikea consists of lowland, mesic, koa, and ohia forest within the southern Waianae Mountains of Oahu. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 15). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,840 ft (865 m), the unit occurs on lands owned by the James Campbell Estate, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

Hawaii (Big Island) Species

Drosophila heteroneura

Drosophila heteroneura—Unit 1—Kau Forest Reserve consists of montane, wet, closed and open ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 5). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 5,380 ft (1,640 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Drosophila heteroneura—Unit 2—Pauahi consists of montane, mesic, open koa and ohia forest, and is located on the western flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—pages 7–8). This unit contains sufficient PCEs to support at least one of the species' life functions. The unit is located on privately-owned lands at an elevation of 4,395 ft (1,340 m).

Drosophila heteroneura—Unit 3—Waiea consists of montane, mesic, closed koa and ohia forest, and is located on the western flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 8). This unit contains sufficient PCEs to support at least one of the species' life functions. The unit is located on State-owned lands at an elevation of 5,400 (1,645 m).

Drosophila heteroneura—Unit 4—Waihaka Gulch consists of montane, wet, closed and open koa and ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 8). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 4,200 ft (1,280 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Drosophila heteroneura—Unit 5—Gaspar's Dairy consists of montane, mesic, open koa and ohia forest with mixed grass species, and is located on the western flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 4). This unit contains sufficient PCEs to support at least one of the species' life functions. The unit is located on privately-owned lands at an elevation of 4,430 ft (1,350 m).

We are proposing to exclude this unit under section 4(b)(2) of the Act. Although the unit is being proposed for exclusion from final critical habitat designation, it still contributes to the conservation of the species.

Drosophila heteroneura—Unit 6—Kipuka at 4,900 ft consists of montane, mesic, open koa and ohia forest with mixed grass species, and is located on the western flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 6). This unit contains sufficient PCEs to support at least one of the species' life functions. The unit is located on privately-owned lands at an elevation of 4,975 ft (1,515 m).

We are proposing to exclude this unit under section 4(b)(2) of the Act. Although the unit is being proposed for exclusion from final critical habitat designation, it still contributes to the conservation of the species.

Drosophila heteroneura—Unit 7—Pit Crater consists of montane, mesic, open ohia forest with mixed grass species, and is located on the western flank of Hualalai and south of the Kaupulehu Lava Flow on the island of Hawaii. This unit was occupied by the species at the

time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 8). This unit contains sufficient PCEs to support at least one of the species' life functions. The unit is located on privately-owned lands at an elevation of 3,580 ft (1,090 m).

We are proposing to exclude this unit under section 4(b)(2) of the Act. Although the unit is being proposed for exclusion from final critical habitat designation, it still contributes to the conservation of the species.

Drosophila mulli

Drosophila mulli—Unit 1—Olaa Forest consists of montane, wet, open and closed ohia forest and is located to the northeast of Kilauea Caldera on the southeastern flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing according to the most recent survey data (K. Kaneshiro 2005a—page 10). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 3,210 ft (980 m), the unit occurs on State-owned lands and is part of the Olaa Forest Reserve administered and managed by the State.

Drosophila mulli—Unit 2—Waiakea Forest consists of montane, wet, open and closed ohia forest, and is located to the northeast of Kilauea Caldera on the southeastern flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing (K. Kaneshiro 2005a—page 10). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 3,190 ft (970 m), the unit occurs on State-owned lands and is part of the Waiakea Forest Reserve administered and managed by the State.

Drosophila ochrobasis

Drosophila ochrobasis—Unit 1—Kipuka 14 consists of montane, wet, open and closed ohia forest with native shrubs, and is located within the saddle road area on the north eastern flank of Mauna Loa on the island of Hawaii. This unit was occupied by the species at the time of listing (K. Kaneshiro 2005a—pages 12–13). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 5,110 ft (1,560 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Drosophila ochrobasis—Unit 2—Kohala Mountains consists of montane, wet, open and closed ohia forest with native shrubs and mixed grass species, and is located on the southeastern flank of the Kohala Mountains on the island of Hawaii. This unit was occupied by the species at the time of listing (K. Kaneshiro 2005a—page 12). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 3,860 ft (1,165 m), the unit occurs on State-owned lands and is part of a Forest Reserve administered and managed by the State.

Kauai Species

Drosophila musaphilia

Drosophila musaphilia—Unit 1—Waimea Canyon Road at 2,600 ft consists of lowland, mesic koa and ohia forest, and is located along the Waimea Canyon Road within the Waimea Canyon State Park on the island of Kauai. This unit was occupied by the species at the time of listing (K. Kaneshiro 2005a—page 11). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 2,600 ft (2,545 m), the unit occurs on State-owned lands administered and managed by the Hawaii Division of State Parks.

Molokai Species

Drosophila differens

Drosophila differens—Unit 1—Puu Kolekole consists of montane, wet, ohia forest within the Eastern Molokai Mountains on the island of Molokai. This unit was occupied by the species at the time of listing (K. Kaneshiro 2005a—page 2). This unit contains sufficient PCEs to support at least one of the species' life functions. Located at an elevation of 3,950 ft (1,200 m), the unit occurs on privately-owned lands that are part of a larger area called the Kamakou Preserve, managed and administered by TNCH.

We are proposing to exclude this area under section 4(b)(2) of the Act. Although the unit is being proposed for exclusion from final critical habitat designation, it still contributes to the conservation of the species.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. A recent decision by the 9th Circuit Court of Appeals invalidated our regulatory definition of 'adverse modification' (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, 245 F.3d 434, 442F (5th Cir 2001)). Pursuant to the Director's memo of August 2004, destruction or adverse modification is determined on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species.

Section 7(a)(4) of the Act 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. This is a procedural requirement only. However, once a proposed species becomes listed, or proposed critical habitat is designated as final, the full prohibitions of section 7(a)(2) apply to any Federal action. The primary utility of the conference procedures is to maximize the opportunity for a Federal agency to adequately consider proposed species and critical habitat and avoid potential delays in implementing their proposed action as a result of the section 7(a)(2) compliance process, should those species be listed or the critical habitat designated.

Under conference procedures, the Service may provide advisory conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The Service may conduct either informal or formal conferences. Informal conferences are typically used if the proposed action is not likely to have any adverse effects to the proposed species or proposed critical habitat. Formal conferences are typically used when the Federal agency or the Service believes the proposed action is likely to cause adverse effects to proposed species or critical habitat, inclusive of those that may cause jeopardy or adverse modification.

The results of an informal conference are typically transmitted in a conference report, while the results of a formal conference are typically transmitted in a conference opinion. Conference opinions on proposed critical habitat are typically prepared according to 50 CFR 402.14, as if the proposed critical habitat were designated. We may adopt the conference opinion as the biological opinion when the critical habitat is designated if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)). As noted above, any conservation recommendations in a conference report or opinion are strictly advisory.

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act

requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, the Service may issue: (1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or (2) a biological opinion for Federal actions that are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to result in jeopardy to a listed species or 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 jeopardy to the listed species or 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 a new species is listed or critical habitat is subsequently designated that may be affected 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 with us on actions for which formal consultation has been completed, if those actions may affect subsequently listed species or designated critical habitat or adversely modify or destroy proposed critical habitat.

Federal activities that may affect the 12 species of Hawaiian picture-wing flies or designated critical habitat for the 11 species addressed herein will require section 7 consultation under the Act. Activities on State, Tribal, local or private lands requiring a Federal permit (such as a permit from the Corps under section 404 of the Clean Water Act or a permit under section 10(a)(1)(B) of the Act from the Service) or involving some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency) will also be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local or private lands that are not federally-funded, authorized, or permitted, do not require section 7 consultations.

Application of the Jeopardy and Adverse Modification Standards for Actions Involving Effects to the Eleven Species of Hawaiian Picture-wing Flies and Their Critical Habitat

Jeopardy Standard

Prior to and following designation of critical habitat, the Service will apply an analytical framework for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. neoclavisetae*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia* jeopardy analyses that relies heavily areas identified as occupied in this rule and the listing rule. The jeopardy analysis is focused not only on these populations but also on the habitat conditions necessary to support them.

The jeopardy analysis would likely express the survival and recovery needs of the 11 species of Hawaiian picture-wing flies in a qualitative fashion without making distinctions between what is necessary for survival and what is necessary for recovery. Generally, if a proposed Federal action is incompatible with the viability of the affected population(s), to such an extent that the continued existence of the species is jeopardized, a jeopardy finding would be considered.

Adverse Modification Standard

The analytical framework described in the Director's December 9, 2004, memorandum would be used to complete section 7(a)(2) analyses for Federal actions affecting *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia* critical habitat. The key factor related to the adverse modification determination would be whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional (or retain the current ability for the primary constituent elements to be functionally established) to serve the intended conservation role for the species. Generally, the conservation role of the 11 picture-wing flies' critical habitat units would be to support the populations identified in this rule.

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

Activities that may destroy or adversely modify critical habitat are those that alter the PCEs as described in the Director's memo of August, 2004. Activities that, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and therefore result in consultation for *Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia* include, but are not limited to:

(1) Activities including, but not limited to: overgrazing; maintenance of feral ungulates; clearing or cutting of native live trees and shrubs, whether by burning or mechanical, chemical, or other means (*e.g.,* woodcutting, bulldozing, construction, road building, mining, herbicide application); introducing or enabling the spread of nonnative species (*e.g.,* nonnative plant species that may compete with native host plants, or nonnative arthropod pests that prey upon native host plants); and taking actions that pose a risk of fire.

(2) Construction where a permit under section 404 of the Clean Water Act would be required by the U.S. Army Corps of Engineers. Construction in wetlands, where a 404 permit would be required, could affect the habitat of *Drosophila heteroneura.*

(3) Recreational activities that appreciably degrade vegetation.

(4) Introducing or encouraging the spread of nonnative plant species into critical habitat units.

(5) The purposeful release or augmentation of any dipteran predator or parasitoid.

We consider all of the units proposed as critical habitat, as well as those that have been proposed for exclusion or not included, to contain features essential to the conservation of the 11 picture-wing flies. All units are within the geographic

range of each of the species, all were occupied by the 11 species at the time of listing (based on observations made within the last 35 years), and are likely to be used by the 11 species of picture-wing flies. Federal agencies already consult with us on activities in areas currently occupied by the 12 picture-wing flies, or if the species may be affected by the action, to ensure that their actions do not jeopardize the continued existence of the 12 picture-wing flies.

Application of Section 3(5)(A) and Exclusions Under Section 4(b)(2) of the Act

Section 3(5)(A) of the Act defines critical habitat as the specific areas within the geographical area occupied by the species on which are found those physical and biological features (i) essential to the conservation of the species, and (ii) which may require special management considerations or protection. Therefore, areas within the geographical area occupied by the species that do not contain the features essential to the conservation of the species are not, by definition, critical habitat. Similarly, areas within the geographical area occupied by the species that require no special management or protection also are not, by definition, critical habitat. Thus, for example, areas that do not need special management may not need protection if there is lack of pressure for change, such as areas too remote for anthropogenic disturbance.

There are multiple ways to provide management for species habitat. Statutory and regulatory frameworks that exist at a local level can provide such protection and management, as can lack of pressure for change, such as areas too remote for anthropogenic disturbance. Finally, State, local, or private management plans as well as management under Federal agencies jurisdictions can provide protection and management to avoid the need for designation of critical habitat. When we consider a plan to determine its adequacy in protecting habitat, we consider whether the plan, as a whole will provide the same level of protection that designation of critical habitat would provide. The plan need not lead to exactly the same result as a designation in every individual application, as long as the protection it provides is equivalent, overall. In making this determination, we examine whether the plan provides management or protection of the PCEs that is at least equivalent to that provided by a critical habitat designation, and whether there is a reasonable expectation that the management or protection actions will continue into the foreseeable future. Each review is particular to the species and the plan, and some plans may be adequate for some species and inadequate for others.

Section 4(b)(2) of the Act states that critical habitat shall be designated, and revised, on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact, of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the Secretary is afforded broad discretion and the Congressional record is clear that in making a determination under section 4(b)(2) the Secretary has discretion as to which factors to consider and how much weight will be given to any factor.

Under section 4(b)(2), in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If an exclusion is contemplated, then we must determine whether excluding the area would result in the extinction of the species. In the following sections, we address a number of general issues that are relevant to the exclusions we considered. In addition, the Service is conducting an economic analysis of the impacts of the proposed critical habitat designation and related factors, which will be made available for public review and comment. Based on public comment on that document, the proposed designation, and the information in the final economic analysis, additional areas beyond those identified in this assessment may be excluded from critical habitat by the Secretary under the provisions of section 4(b)(2) of the Act. This is provided for in the Act, and in our implementing regulations at 50 CFR 424.19. Pursuant to 50 CFR 424.19, we must propose an area as critical habitat prior to making an exclusion of that area pursuant to section 4(b)(2) of the Act from the final critical habitat designation to receive public comment. We have therefore included these units or portions thereof in the regulation portion of this proposed critical habitat rule.

Conservation Partnerships on Non-Federal Lands

Most federally listed species in the United States will not recover without the cooperation of non-Federal landowners. More than 60 percent of the United States is privately owned (National Wilderness Institute 1995) and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002—page 720). Stein *et al.* (1995—page 3) found that only about 12 percent of listed species were found almost exclusively on Federal lands (i.e., 90–100 percent of their known occurrences restricted to Federal lands) and that 50 percent of federally listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to land ownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-federal landowners (Wilcove and Chen 1998—page 1,407; Crouse *et al.* 2002—page 720; James 2002—page 270). Building partnerships and promoting voluntary cooperation of landowners is essential to understanding the status of species on non-federal lands and is necessary to implement recovery actions such as reintroducing listed species, habitat restoration, and habitat protection.

Many non-Federal landowners derive satisfaction in contributing to endangered species recovery. The Service promotes these private-sector efforts through the Four Cs philosophy—conservation through communication, consultation, and cooperation. This philosophy is evident in Service programs such as Habitat Conservation Plans (HCPs), Safe Harbors, Candidate Conservation Agreements (CCAs), Candidate Conservation Agreements with Assurances (CCAAs), and conservation challenge cost-share grants. Many private landowners, however, are wary of the possible consequences of encouraging endangered species to their property, and there is mounting evidence that some regulatory actions by the Federal Government, while well-intentioned and required by law, can under certain circumstances have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996—pages 2 and 5; Bean 2002—pages 409, 412, 414–415, and 419–420; Conner and Mathews 2002—page 2; James 2002—page 270;

Koch 2002—pages 508–510). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where threatened or endangered species are found. Consequently, harboring endangered species is viewed by many landowners as a liability, resulting in anti-conservation incentives because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main *et al.* 1999—pages 1,263–1,265).

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7 of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999—pages 1,263–1,265; Bean 2002—pages 409, 412, 414–415, and 419–420). The magnitude of this negative outcome is greatly amplified in situations where active management measures (*e.g.,* reintroduction, fire management, control of invasive species) are necessary for species conservation (Bean 2002—pages 414 and 419–420).

The Service believes that the judicious use of excluding specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a superior level of conservation than critical habitat alone. For example, less than 17 percent of Hawaii is federally owned, but the State is home to more than 24 percent of all federally listed species, most of which will not recover without State and private landowner cooperation. On the island of Lanai, Castle and Cooke Resorts, LLC, which owns 99 percent of the island, entered into a conservation agreement with the Service. The conservation agreement provides conservation benefits to target species through management actions that remove threats (e.g., axis deer, mouflon sheep, rats, invasive nonnative plants) from the Lanaihale and East Lanai Regions. Specific management actions include fire control measures, nursery propagation of native flora (including the target species) and planting of such flora. These actions will significantly improve the habitat for all currently occurring species. Due to the low likelihood of a Federal nexus on the island we believe that the benefits of excluding the lands covered by the MOA exceeded the benefits of including them. As stated in the final critical habitat rule for endangered plants on the Island of Lanai:

> On Lanai, simply preventing ''harmful activities'' will not slow the extinction of listed plant species. Where consistent with the discretion provided by the Act, the Service believes it is necessary to implement policies that provide positive incentives to private landowners to voluntarily conserve natural resources and that remove or reduce disincentives to conservation. While the impact of providing these incentives may be modest in economic terms, they can be significant in terms of conservation benefits that can stem from the cooperation of the landowner. The continued participation of Castle and Cooke Resorts, LLC, in the existing Lanai Forest and Watershed Partnership and other voluntary conservation agreements will greatly enhance the Service's ability to further the recovery of these endangered plants.

Conservation through communication, consultation, and cooperation is the foundation for developing the tools of conservation. These tools include conservation grants, funding for Partners for Fish and Wildlife Program, the Coastal Program, and cooperative-conservation challenge cost-share grants. Our Private Stewardship Grant program and Landowner Incentive Program provide assistance to private land owners in their voluntary efforts to protect threatened, imperiled, and endangered species, including the development and implementation of HCPs.

Conservation agreements with non-Federal landowners, contractual conservation agreements, easements, and stakeholder-negotiated State regulations enhance species conservation by extending species protections beyond those available through section 7 consultations. In the past decade we have encouraged non-Federal landowners to enter into conservation agreements, based on a view that we can achieve greater species conservation on non-Federal land through such partnerships than we can through coercive methods (61 FR 63854, December 2, 1996—page 63856).

Maui Land and Pineapple Co., Ltd.

Maui Pineapple Company's Puu Kukui Watershed Management Area, Located in the West Maui Mountains

Lands within Maui Land and Pineapple Company's (ML&P's) Puu Kukui Watershed Management Area (WMA), located in the West Maui Mountains, are occupied habitat and have the features essential for the conservation of *Drosophila neoclavisetae*. In a September 2002 letter to the Service, the Puu Kukui Watershed Supervisor stated that since 1988 ML&P has proactively managed Puu Kukui Watershed and is currently in their second, 6-year contract with the State of Hawaii's NAP program to preserve the native biodiversity of their conservation lands. They are also receiving funding from the Service to survey for rare plants on their lands and build feral ungulate control fences for the protection of listed and other native plants, including the host plants for *D. neoclavisetae*. In other words, ML&P has a history of funding and conducting proactive conservation efforts in Puu Kukui that provide a benefit for *D. neoclavisetae*; they are enrolled in the State's NAP program; and they receive funding from the Service to support their conservation efforts. Therefore, we have determined that the private land within Puu Kukui WMA does not meet the definition of critical habitat under section 3(5)(A) of the Act as discussed below, and, therefore, are not proposing critical habitat for *Drosophila neoclavisetae* on ML&P land.

At just over 3,483 ha (8,600 ac), the Puu Kukui WMA is the largest privately owned preserve in the State. In 1993, the Puu Kukui WMA became the first private landowner participant in the NAP program. In the NAP program, Puu Kukui WMA staff are pursuing four management programs stipulated in their Long Range Management Plan with an emphasis on reducing nonnative species that immediately threaten the management area (Maui Pineapple Company 1999—pages 2–21). There is a reasonable expectation, based on ML&P's management efforts to date, that the management programs currently implemented in Puu Kukui WMA and described below will continue into the foreseeable future.

The primary management goals within Puu Kukui WMA are to (1) eliminate ungulate activity in all Puu Kukui management units; (2) reduce the range of habitat-modifying weeds and prevent introduction of nonnative plants; (3) reduce the negative impacts of nonnative invertebrates and small animals; (4) monitor and track biological and physical resources in the watershed in order to improve management understanding of the watershed's resources; and (5) prevent the extinction of rare species within the watershed. Implementation of the specific management actions (described below) addresses the threats to *Drosophila neoclavisetae* and the features essential for its conservation from feral ungulates

and nonnative plants and, thus, removes the need for special management and protection.

Specific management actions to address feral ungulates include the construction of fences surrounding 10 management units and removal of ungulates within the Puu Kukui WMA. The nonnative plant control program within Puu Kukui WMA focuses on habitat-modifying weeds, prioritizing them according to the degree of threat to native ecosystems, and preventing the introduction of new weeds. The weed control program includes mapping and monitoring along established transects and manual/mechanical control. Biological control of *Clidemia hirta* was attempted by releasing *Antiblemma acclinalis* moth larvae. Natural resource monitoring and research address the need to track biological and physical resources of the Puu Kukui WMA and evaluate changes to these resources in order to guide management programs. Vegetation is monitored through permanent photo points, nonnative species are monitored along permanent transects, and rare, endemic, and indigenous species are monitored. Additionally, logistical and other support for approved research projects, interagency cooperative agreements, and remote survey trips within the watershed is provided.

For these reasons, Puu Kukui WMA meets the three criteria for determining that an area is not in need of special management or protections as discussed above. Therefore, we have determined that the private land within Puu Kukui WMA does not meet the definition of critical habitat pursuant to 3(5)(A) in the Act, and we are not proposing this land as critical habitat. Should the status of this reserve change, for example by non-renewal of a partnership agreement or termination of NAP funding, we will reconsider whether it then meets the definition of critical habitat. If so, we have the authority to propose to amend critical habitat to include such area at that time (50 CFR 424.12(g)).

In summary, we believe that the habitat within Puu Kukui WMA is being adequately protected and managed for the conservation of the listed *Drosophila neoclavisetae,* including all of its known sites and features that are essential to its conservation that occur within this area, and is not in need of special management considerations or protection. Therefore, we have determined that this specific area does not meet the definition of critical habitat pursuant to the Act, and we, therefore, do not propose this specific area as critical habitat for *D. neoclavisetae.*

Hakalau Forest National Wildlife Refuge, Kona Forest Unit, Island of Hawaii

Lands within the U.S. Fish and Wildlife Service's Kona Forest Unit of the Hakalau Forest National Wildlife Refuge are occupied habitat and have the necessary features that are essential for the conservation of *Drosophila heteroneura.* The Kona Forest Unit of Hakalau Forest National Wildlife Refuge was established in 1997 to protect endangered forest birds and their habitat. Management actions for this refuge unit are outlined in our Conceptual Management Plan (Service 1997a—pages ii-iii) and in our Wildland Fire Management Plan (Service 1997b—pages 2–3). The Conceptual Management Plan for the Kona unit describes planned management activities (Service 1997a—pages 10–13) for the area including listed species recovery; monitoring; habitat management; maintenance of biodiversity; alien plant control; feral ungulate control; and wildfire management, all of which will benefit *Drosophila heteroneura* and its host plants. The Hakalau Wildland Fire Management Plan, details the Services wildfire management objectives, strategy, responsibilities, and consultation protocol (Service 1997b—pages 11–20), all of which will benefit *D. heteroneura* and its host plants.

The Hakalau Refuge has received 1.1 million dollars in Fiscal Year 2006 to enclose a large portion of the Kona Refuge unit. This project will involve the construction of approximately 17 miles of fencing designed to exclude pigs, sheep, and cattle. Pigs and cattle are currently the most serious ungulate threats to this area and the construction of this large enclosure will remove the primary threats to *D. heteroneura's* host plant habitat and associated ecosystem. An environmental assessment is currently being prepared for this project and we expect that construction will commence sometime in late 2006 or early 2007 (Richard Wass, Service—Refuges Division, pers. comm. 2006). Additionally, the Kona Refuge unit has been identified as a high priority area for recovery of the Hawaiian crow. Accordingly, we are committed to protecting and managing this area to the best of our ability as future funding allows. Many of the planned management activities for the Hawaiian crow such as rat control will also benefit the host plant habitat of *D. heteroneura* (Gina Shultz, Service—Ecological Services, pers. comm. 2006). We have, therefore, determined that this refuge land does not meet the definition of critical habitat under section 3(5)(A) of the Act, and, therefore, are not proposing critical habitat on the Kona Forest Unit of the Hakalau Forest National Wildlife Refuge.

Hawaii Volcanoes National Park, Island of Hawaii

Lands within Hawaii Volcanoes National Park (HAVO) are occupied habitat and have the necessary features that are essential for the conservation of *Drosophila heteroneura.* Hawaii Volcanoes National Park was established in 1916 to preserve the significant resources that reflect Hawaii's geological, biological, and cultural heritage. In recognition of its outstanding values, the park has been designated an International Biosphere Reserve and a World Heritage Site. Management actions for the biological resources of this park are outlined in natural resources management plans and fire management plans (HAVO 1974—page i, 2002—pages 11–14, 2004—pages 2–6). The natural resources plan broadly describes ongoing management activities within the park including the reestablishment of key plant ecosystem components of the area; the exclusion and removal of pigs and goats; research on rat control; localized rat control and prevention; and the control of numerous nonnative weed species, all of which benefit *D. heteroneura* and its host plants (HAVO 1974—pages 2–6, 8–14, and 16–17). The fire management plan details wildfire management objectives and planned wildfire control within the park including the use of fire to rehabilitate areas infested with non-native grass species infested areas, all of which will benefit *D. heteroneura* once implemented (HAVO 2004—pages 11–14). Within the area containing the Thurston Lava Tube population of *D. heteroneura,* the Park Service currently excludes pigs and targets for removal certain invasive weed species including *Hedychium gardnerianum* (Kahili ginger), *Psidium cattleianum* (strawberry guava), *Morella faya* (faya tree), and *Rubus ellipticus* (Himalayan raspberry) (Rhonda Loh, HAVO, pers. comm. 2006). Because the Park Service is addressing these primary threats to *D. heteroneura*'s host plant habitat in this area, we have therefore, determined that this national park land does not meet the definition of critical habitat under section 3(5)(A) of the Act, and, therefore, are not proposing critical habitat in Hawaii Volcanoes National Park.

General Principles of Section 7 Consultations Used in the 4(b)(2) Balancing Process

The most direct, and potentially largest, regulatory benefit of critical habitat is that federally authorized, funded, or carried out activities require consultation pursuant to section 7 of the Act to ensure that they are not likely to destroy or adversely modify critical habitat. There are two limitations to this regulatory effect. First, it applies only where there is a Federal nexus—if there is no Federal nexus, designation itself does not restrict actions that destroy or adversely modify critical habitat. Second, it limits only destruction or adverse modification of critical habitat. By its nature, the prohibition on adverse modification is designed to ensure those areas that contain the physical and biological features essential to the conservation of the species or unoccupied areas that are essential to the conservation of the species are not eroded to the point that the unit does not perform its intended function. Critical habitat designation alone, however, does not require specific steps to improve habitat conditions.

Once consultation under section 7 of the Act is triggered, the process may conclude informally when the Service concurs in writing that the proposed Federal action is not likely to adversely affect the listed species or its critical habitat. However, if the Service determines through informal consultation that adverse impacts are likely to occur, then formal consultation would be initiated. Formal consultation concludes with a biological opinion issued by the Service on whether the proposed Federal action is likely to jeopardize the continued existence of a listed species or result in destruction or adverse modification of critical habitat, with separate analyses being made under both the jeopardy and the adverse modification standards. For critical habitat, a biological opinion that concludes in a determination of no destruction or adverse modification may contain discretionary conservation recommendations to minimize adverse effects to primary constituent elements, but it would not contain any mandatory reasonable and prudent measures or terms and conditions. Mandatory reasonable and prudent alternatives to the proposed Federal action would only be issued when the biological opinion results in a jeopardy or adverse modification conclusion.

We believe the conservation achieved through implementing habitat conservation plans (HCPs) or other habitat management plans can be greater than would be achieved through multiple site-by-site, project-by-project, section 7 consultations involving consideration of critical habitat. Management plans commit resources to implement long-term management and protection to particular habitat for at least one and possibly other listed or sensitive species. Section 7 consultations only commit Federal agencies to prevent adverse modification to critical habitat caused by the particular project, and they are not committed to provide conservation or long-term benefits to areas not affected by the proposed project. Thus, any HCP or management plan which considers enhancement as the management standard will provide as much or more benefit than a consultation for critical habitat designation conducted under the standards required by the Ninth Circuit in the *Gifford Pinchot* decision.

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat in that it provides the framework for the consultation process.

Educational Benefits of Critical Habitat

A benefit of including lands in critical habitat is that the designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for *Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia.* In general the educational benefit of a critical habitat designation always exists, although in some cases it may be redundant with other educational effects. For example, HCPs have significant public input and may largely duplicate the educational benefit of a critical habitat designation. This benefit is closely related to a second, more indirect benefit: that designation of critical habitat would inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

However, we believe that there would be little additional informational benefit gained from the designation of critical habitat for the exclusions we are making in this rule because these areas have been identified and managed by the landowners as having habitat containing the features essential to the conservation of the species. Consequently, we believe that the informational benefits are already provided even though these areas are not designated as critical habitat. Additionally, the purpose normally served by the designation of informing State agencies and local governments about areas which would benefit from protection and enhancement of habitat for the 11 picture-wing flies is already well established among State and local governments and Federal agencies. State and local governments and Federal agencies have existing knowledge in those areas that we are proposing to exclude from the final designation of critical habitat on the basis of other existing habitat management protections.

The Service is conducting an economic analysis of the impacts of the proposed critical habitat designation and related factors, which will be available for public review and comment. Based on public comment on that document, the proposed designation itself, and the information in the final economic analysis, additional areas beyond those identified in this assessment may be excluded from critical habitat by the Secretary under the provisions of section 4(b)(2) of the Act. This is provided for in the Act, and in our implementing regulations at 50 CFR 424.19.

The information provided in this section applies to all the discussions below that discuss the benefits of inclusion and exclusion of critical habitat.

We are considering excluding The Nature Conservancy of Hawaii's Kamakou Preserve on Molokai and lands owned by Kamehameha Schools on the island of Hawaii from the final designation of critical habitat because we believe that they are appropriate for exclusion pursuant to the ''other relevant factor'' provisions of section 4(b)(2). We specifically solicit comment, however, on the inclusion or exclusion of such areas.

The Nature Conservancy of Hawaii (TNCH)

The Nature Conservancy of Hawaii's Kamakou Preserve is occupied by *Drosophila differens* and contains the necessary features essential to the conservation of the species. Special management considerations and protections for this area include active management such as nonnative species removal and ungulate fencings. Failure to implement these active management measures, all of which require voluntary landowner support and participation, virtually assures the extinction of this species. Many of these types of

conservation actions in the areas of Molokai are carried out as part of TNCH's participation with landowner incentive based programs and by the landowner's own initiative. These conservation activities, which are described in more detail below, require substantial voluntary cooperation by TNCH and other cooperating landowners and local residents.

The following evaluation describes our reasoning in considering that the benefits of excluding the lands outweigh the benefits of including them, and that the exclusion will not result in the extinction of the species. The Service paid particular attention to the following issues: (1) To what extent a critical habitat designation would confer regulatory conservation benefits on this species; (2) to what extent the designation would educate members of the public such that conservation efforts would be noticeably enhanced; and (3) whether a critical habitat designation would have a positive, neutral, or negative impact on voluntary conservation efforts on this privately owned TNCH land, as well as other non-Federal lands on Molokai that could contribute to the recovery of the species. If a critical habitat designation reduces the likelihood that voluntary conservation activities will be carried out on Molokai, and at the same time fails to confer a counter-balancing positive regulatory or educational benefit to the species, then the benefits of excluding such areas from critical habitat outweigh the benefits of including them. Although the results of this type of evaluation will vary significantly depending on the landowners, geographic areas, and species involved, we believe the TNCH lands on Molokai merit this evaluation.

(1) Benefits of Inclusion

The primary direct benefit of inclusion of TNCH's Kamakou Preserve as critical habitat would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed Federal actions do not destroy or adversely modify critical habitat. The benefit of a critical habitat designation would ensure that any actions authorized, funded, or carried out by a Federal agency would not likely destroy or adversely modify any critical habitat. Without critical habitat, some site-specific projects might not trigger consultation requirements under the Act in areas where species are not currently present; in contrast, Federal actions in areas occupied by listed species would still require consultation under section 7 of the Act. However, these lands are already occupied habitat for *Drosophila differens.* Therefore, any Federal activities that may affect these areas will in all likelihood require section 7 consultation.

In the last 10 years, we have conducted 45 informal and 12 formal consultations under section 7 on the entire island of Molokai. None of these consultations involved this TNCH land. As a result of the low level of previous Federal activity on these TNCH lands, and after considering the future Federal activities that might occur on these lands, it is the Service's opinion that there is likely to be a low number of future Federal activities that would negatively affect the species' PCEs on TNCH lands. The land is in permanent conservation status and is not expected to be developed. Section 7 consultations are expected to be limited to projects involving Federal funding for conservation activities to improve the PCEs for this species, rather than negatively impact these features. The possibility of such activity cannot be ruled out entirely, but it can best be described as having a low likelihood of occurrence. Therefore, we anticipate little additional regulatory benefits from including this preserve in critical habitat beyond what is already provided by the existing section 7 nexus for habitat areas occupied by the listed species.

Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area, and this may focus and contribute to conservation efforts by other parties by clearly delineating areas that are occupied by the species and contain the necessary features essential to the conservation of the species. Information provided to a wide audience of the public, including other parties engaged in conservation activities, about *Drosophila differens* and the features that are essential to its conservation identified on TNCH lands on Molokai could have a positive conservation benefit. While we believe this educational outcome is important for the conservation of this species, we believe it has already been achieved through the existing management, education, and public outreach efforts carried out by TNCH and their conservation partners. TNCH has a well-developed public outreach infrastructure that includes magazines, newsletters, and well-publicized public events on Molokai and other areas throughout Hawaii. These and other media provide the education benefits provided in this proposed rule and the conservation importance of this Molokai reserve and its conservation value for *D. differens.* A designation of critical habitat would add little to this effort and would simply affirm what is already known and widely accepted by Hawaii's conservationists, public agencies, and much of the general public concerning the conservation value of these lands.

The following discussion about this preserve demonstrates that the public is already aware of the importance of this area for the conservation of this picture-wing fly. *Drosophila differens* is reported from TNCH's Kamakou Preserve, which is located in the East Molokai Mountains. Kamakou Preserve was established by a grant of a perpetual conservation easement from the private landowner to TNCH. This preserve is included in the State's Natural Area Partnership (NAP) program, which provides matching funds for the management of private lands that have been permanently dedicated to conservation (TNCH1998a—pages 1–10, 1998b—pages 1–12).

Under the NAP program, the State of Hawaii provides matching funds on a two-to-one basis for management of private lands dedicated to conservation. In order to qualify for this program, the land must be dedicated in perpetuity through transfer of fee title or a conservation easement to the State or a cooperating entity. The land must be managed by the cooperating entity or a qualified landowner according to a detailed management plan approved by the Board of Land and Natural Resources. Once approved, the 6-year partnership agreement between the State and the managing entity is automatically renewed each year so that there are always six years remaining in the term, although the management plan is updated and funding amounts are reauthorized by the board at least every six years. By April 1 of any year, the managing partner may notify the State that it does not intend to renew the agreement; however, in such case, the partnership agreement remains in effect for the balance of the existing 6-year term, and the conservation easement remains in full effect in perpetuity.

The conservation easement may be revoked by the landowner only if State funding is terminated without the concurrence of the landowner and cooperating entity. Prior to terminating funding, the State must conduct one or more public hearings. The NAP program is funded through real estate conveyance taxes, which are placed in a Natural Area Reserve Fund. Participants in the NAP program must provide annual reports to the Hawaii Department of Land and Natural

Resources (DLNR), and DLNR makes annual inspections of the work in the reserve areas (See Haw. Rev. Stat. Secs. 195–1–195–11 and Hawaii Administrative Rules Secs. 13–210). Management programs within Kamakou preserve are documented in long-range management plans and yearly operational plans. These plans detail management measures that protect, restore, and enhance the native species and their habitats within the preserve and in adjacent areas (TNCH 1998a—pages 1–10, 1998b—pages 1–12). These management measures address the factors that led to the listing of this species, including control of nonnative species of ungulates, rodents, weeds, and fire control. In addition, habitat restoration and monitoring are also included in these plans.

Kamakou Preserve

The primary management goals within Kamakou Preserve are to prevent degradation of native forest by reducing feral ungulate damage, suppressing wildfires, and improving or maintaining the integrity of native ecosystems in selected areas of the preserve by reducing the effects of nonnative plants. Kamakou Preserve provides occupied habitat for one population of *D. differens.* Specific management actions to address feral ungulate impacts include the construction of fences, including strategic fencing (fences placed in proximity to natural barriers such as cliffs); staff hunting; and implementation of organized hunting through the Molokai Hunters Working Group. By monitoring ungulate activity within the preserve, the staff are able to direct hunters to problem areas (areas of high feral ungulate densities), thereby increasing hunting success. If increased hunting pressure does not reduce feral ungulate activity in the preserve, the preserve staff will work with the hunting group to identify and implement alternative methods for their control (TNCH 1998a—pages 1–2).

The nonnative plant control program within Kamakou Preserve focuses on habitat-modifying nonnative plants (weeds) and prioritizes their control according to the degree of threat to native ecosystems. A weed priority list has been compiled for the preserve, and control and monitoring of the highest priority species are ongoing. Weeds are controlled manually, chemically, or through a combination of both techniques. Preventive measures (prevention protocol to keep weeds out) are required by all who enter the preserve. This protocol includes such things as brushing footgear before entering the preserve to remove seeds of nonnative plants. In addition, the preserve staff are actively promoting awareness of detrimental nonnative plants in Hawaii and their impacts to native ecosystems in the local communities on Molokai through public education at schools, fairs, and displays at the airport.

Wildfire pre-suppression and response plans are coordinated with the Maui County Fire Department and the DOFAW Maui District Forester. The Kamakou Wildfire Management Plan is reviewed annually with the fire department and updated as necessary (TNCH 1998b—pages 4–5). In the event of fires in areas bordering the preserve, staff from Kamakou assists with fire suppression in concert with Hawaii Department of Forestry and Wildlife (DOFAW) staff. Natural resource monitoring and research address the need to track the biological and physical resources of the preserve and evaluate changes in these resources to guide management programs. Vegetation is monitored throughout the preserve to document long-term ecological changes; rare plant species are monitored to assess population status; and, following fires on the boundaries or within the preserve, burned areas are assessed for ingress of weeds and recovery of native plants. In addition, the preserve staff provides logistical support to scientists and others who are conducting research within the preserve.

In addition, TNCH, DOFAW, the Service, and other Federal agencies including the National Park Service, and neighboring landowners of East Molokai's watershed areas have formed a partnership (East Molokai Watershed Partnership) through a memorandum of understanding to ensure the protection of over 22,000 ac (8,903 ha) of land on the island. While the partnership is still in its infancy, the members have agreed, in principle, to participate in cooperative management activities within the East Molokai watershed because they believe that effective management is best achieved through the coordinated actions of all major landowners in the watershed.

In sum, the Service believes that a critical habitat designation for *Drosophila differens* on TNCH lands on Molokai would provide a relatively low level of additional regulatory conservation benefit to the fly species and its PCEs beyond what is already provided by existing section 7 consultation requirements due to the physical presence of this species. Any minimal regulatory conservation benefits would accrue through the benefit associated with additional section 7 consultation associated with critical habitat. Based on a review of past consultations and consideration of the likely future activities in this specific area, there is little Federal activity expected to occur on this privately owned land that would trigger section 7 consultation. The Service also believes that a critical habitat designation provides little additional educational benefits since the conservation value is already well known by the landowner, the State, Federal agencies, private organizations, and the general public.

(2) Benefits of Exclusion

Proactive voluntary conservation efforts are necessary to prevent the extinction and promote the recovery of this listed species of picture-wing fly on Molokai (Shogren et al. 1999—page 1,260, Wilcove and Chen 1998—page 1,407, Wilcove et al. 1998—page 614). Consideration of this concern is especially important in areas where species have been extirpated and their recovery requires access and permission for reintroduction efforts (Bean 2002—page 414; Wilcove et al. 1998—page 614). As described earlier, TNCH has a history of entering into conservation agreements with various Federal and State agencies and other private organizations on their lands. The Nature Conservancy's mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. The Service believes that *D. differens* will benefit substantially from TNCH's voluntary management actions due to a reduction in ungulate browsing and habitat conversion, a reduction in competition with nonnative weeds, and a reduction in risk of fire. The conservation benefits of critical habitat are primarily regulatory or prohibitive in nature. But on Molokai, simply preventing ''harmful activities'' will not slow the extinction of listed plant species (Bean 2002—pages 409, 412, 414–415, and 419–420).

Where consistent with the discretion provided by the Act, the Service believes it is necessary to implement policies that provide positive incentives to private landowners to voluntarily conserve natural resources and that remove or reduce disincentives to conservation (Wilcove et al. 1998—page 614). Thus, we believe it is essential for the recovery of this species to build on continued conservation activities such as these with a proven partner, and to provide positive incentives for other private landowners on Molokai who might be considering implementing voluntary conservation activities but

have concerns about incurring incidental regulatory or economic impacts.

Approximately 80 percent of the habitat of one-half of all imperiled species in the United States occurs partly or solely on private lands where the Service has little management authority (Wilcove et al. 1996—page 2). In addition, recovery actions involving the reintroduction of listed species onto private lands require the voluntary cooperation of the landowner (Bean 2002—pages 409, 412, 414–415, and 419–420; James 2002—page 270; Knight 1999—page 224; Main et al. 1999—page 1,264; Norton 2000—pages 1,221–1,222; Shogren et al. 1999—page 1,260; Wilcove et al. 1998—page 614). Therefore, ''a successful recovery program is highly dependent on developing working partnerships with a wide variety of entities, and the voluntary cooperation of thousands of non-Federal landowners and others is essential to accomplishing recovery for listed species'' (Crouse et al. 2002—page 720). Because the Federal Government owns relatively little land on Molokai, and because large tracts of land suitable for conservation of threatened and endangered species are mostly owned by private landowners, successful recovery of listed species on Molokai is especially dependent upon working partnerships and the voluntary cooperation of non-Federal landowners.

Another benefit of excluding this area from the critical habitat designation includes relieving additional regulatory burden and costs associated with the preparation of portions of section 7 consultation documents related to critical habitat. While the cost of adding these additional sections to assessments and consultations is relatively minor, there could be delays which can generate real costs to some project proponents. However, because critical habitat in this case is only proposed for occupied areas already subject to section 7 consultation and jeopardy analysis, we anticipate this reduction would be minimal.

(3) The Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, we have determined that the benefits of excluding TNCH's Kamakou Preserve from the final designation of critical habitat outweigh the benefits of including it as critical habitat for *Drosophila differens*. This conclusion is based on the following factors:

(a) In the past, TNCH has cooperated with Federal and State agencies, and private organizations to implement on their lands voluntary conservation activities that have resulted in tangible conservation benefits.

(b) Simple regulation of ''harmful activities'' is not sufficient to conserve this species. Landowner cooperation and support is required to prevent the extinction and promote the recovery of *Drosophila differens* on Molokai due to the need to implement proactive conservation actions such as ungulate management, weed control, and fire suppression. Future conservation efforts, such as control of nonnative species, will require the cooperation of TNCH and other non-Federal landowners on Molokai. Exclusion of TNCH land from this critical habitat designation will help the Service maintain and improve this partnership by formally recognizing the positive contributions of TNCH to recovery of *D. differens*, and by streamlining or reducing unnecessary regulatory oversight.

(c) Given the current partnership agreements between TNCH and many organizations, the Service believes the additional regulatory and educational benefits of including this land as critical habitat are relatively small. The designation of critical habitat can serve to educate the general public as well as conservation organizations regarding the potential conservation value of an area, but this goal is already being accomplished through the identification of this area in the management plans described above. Likewise, there will be little additional Federal regulatory benefit to the species because (i) there is a low likelihood that this area will be negatively affected to any significant degree by Federal activities requiring section 7 consultation, and (ii) this area is already occupied by the listed species and a section 7 nexus already exists. The Service is unable to identify any other potential benefits associated with critical habitat for this TNCH preserve.

(d) It is well documented that publicly owned lands and lands owned by conservation organizations such as TNCH, alone, are too small and poorly distributed to provide for the conservation of most listed species (Bean 2002—pages 409, 412, 414–415, and 419–420; Crouse et al. 2002—page 720). Excluding this TNCH land from critical habitat may, by way of example, provide positive incentives to other non-Federal landowners on Molokai who own lands that could contribute to listed species recovery if voluntary conservation measures on these lands are implemented (Norton 2000—pages 1,221–1,222; Main et al. 1999—page 1,263; Shogren et al. 1999—page 1,260; Wilcove and Chen 1998—page 1,407). As resources and nondiscretionary workload allow, the Service will consider future revisions or amendments to this proposed critical habitat rule if landowners affected by this rule develop conservation programs or partnerships such that the Service can find the benefits of exclusion outweigh the benefits of inclusion.

In conclusion, we find that the exclusion of critical habitat on TNCH's Kamakou Preserve from the final designation of critical habitat of *Drosophila differens*, would most likely have a net positive conservation effect on the recovery and conservation of the species and the features essential to its conservation when compared to the positive conservation effects of a critical habitat designation. As described above, the overall benefits to this species of a critical habitat designation for this TNCH area is relatively small. In contrast, we believe that this exclusion will enhance our existing partnership with TNCH, and it will set a positive example and provide positive incentives to other non-Federal landowners who may be considering implementing voluntary conservation activities on their lands. We conclude there is a higher likelihood of beneficial conservation activities occurring in this and other areas of Molokai without designated critical habitat than there would be with designated critical habitat in this TNCH preserve and, therefore, we are proposing to exclude these lands from the final designation of critical habitat for *D. differens*.

(4) Exclusion of This Unit Will Not Cause Extinction of the Species

If this proposed exclusion is made final in our final critical habitat designation, no specific areas will be designated as critical habitat for *Drosophila differens*. In considering whether or not exclusion of this preserve might result in the extinction of *Drosophila differens* the Service first considered the impacts to this species. It is the Service's conclusion that the TNCH's mission and management plans will provide as much or more net conservation benefits as would be provided if this preserve was designated as critical habitat. These management plans, which are described above, will provide tangible proactive conservation benefits that will reduce the likelihood of extinction for *D. differens* in this area of Molokai and increase the likelihood of its recovery. Extinction for this species as a consequence of this exclusion is unlikely because there are no known threats in these preserves due to any current or reasonably anticipated Federal actions that might be regulated under section 7 of the Act. Further, this

area is already occupied by *D. differens* and thereby receives benefits from the section 7 protections of the Act, should such an unlikely Federal threat actually materialize. The exclusion of this preserve from the final designation of critical habitat will not increase the risk of extinction to this species, and it may increase the likelihood this species will recover by encouraging other landowners to implement voluntary conservation activities as TNCH has done.

In sum, the Service finds that the benefits of excluding TNCH's Kamakou Preserve from critical habitat outweighs the benefits of including the area, and the proposed exclusion will not result in the extinction of the species because there are no known threats in these preserves due to any current or anticipated Federal actions.

Kamehameha Schools

Lands owned by Kamehameha Schools are within three proposed units (*Drosophila heteroneura*—Unit 5—Gaspar's Dairy, *D. heteroneura*—Unit 6—Kipuka at 4,900′, and *D. heteroneura*—Unit 7—Pit Crater) and are occupied habitat with the features essential to the conservation of *Drosophila heteroneura*. Active management such as fire control, nonnative species removal, and ungulate fencing within these three units will benefit *D. heteroneura*. Failure to implement these active management measures, all of which require voluntary landowner support and participation, virtually assures the extirpation of *D. heteroneura* from these areas. Many of these types of conservation actions on the island of Hawaii are carried out as part of Kamehameha School's participation with landowner incentive based programs and by actions taken on the landowner's initiative. These activities, which are described in more detail below, require substantial voluntary cooperation by Kamehameha Schools and other cooperating landowners and local residents.

The following analysis describes the likely conservation benefits of a critical habitat designation compared to the conservation benefits without critical habitat designation. We paid particular attention to the following issues: To what extent a critical habitat designation would confer regulatory conservation benefits on this species; to what extent the designation would educate members of the public such that conservation efforts would be enhanced; and whether a critical habitat designation would have a positive, neutral, or negative impact on voluntary conservation efforts on this privately owned land as well as other non-Federal lands on the island of Hawaii that could contribute to recovery. If a critical habitat designation reduces the likelihood that voluntary conservation activities will be carried out on the island of Hawaii, and at the same time, fails to confer a counterbalancing positive regulatory or educational benefit to the species, then the benefits of excluding such areas from critical habitat outweigh the benefits of including them. Although the results of this type of evaluation will vary significantly depending on the landowners, geographic areas, and the species involved, we believe the Kamehameha Schools lands on the island of Hawaii merit this evaluation.

(1) Benefits of Inclusion

Critical habitat is proposed for *Drosophila heteroneura* in three units (see above) on lands owned by Kamehameha Schools. The primary direct benefit of inclusion of Kamehameha Schools' lands as critical habitat would result from the requirement under section 7 of the Act that Federal agencies consult with us to ensure that any proposed Federal actions do not destroy or adversely modify critical habitat. The benefit of a critical habitat designation would ensure that any actions funded by or permits issued by a Federal agency would not likely destroy or adversely modify any critical habitat. Without critical habitat, some site-specific projects might not trigger consultation requirements under the Act in areas where the species is not currently present; in contrast, Federal actions in areas occupied by listed species would still require consultation under section 7 of the Act. However, these lands are already occupied habitat for *D. heteroneura*. Therefore, any Federal activities that may affect these areas will in all likelihood require section 7 consultation.

Historically, we have conducted no formal or informal consultations under section 7 on the island of Hawaii on these three areas owned by Kamehameha Schools. Each of these three areas are part of a larger parcel owned by Kamehameha Schools and on which are reported other listed species (both plants and animals). As a result of the low level of previous Federal activity on these Kamehameha Schools lands, and after considering that the likely future Federal activities that might occur on these lands would be minimal and associated with Federal funding for conservation activities, it is our opinion that there is likely to be a low number of future Federal activities that would negatively affect *D. heteroneura* habitat on Kamehameha Schools lands. Therefore, we anticipate little additional regulatory benefit from including the Kamehameha Schools lands in critical habitat beyond what is already provided for by the existing section 7 nexus for habitat areas occupied by the listed species.

Another possible benefit is that the designation of critical habitat can serve to educate the public regarding the potential conservation value of an area, and this may focus and contribute to conservation efforts by other parties by clearly delineating areas that are occupied by the species and contain the necessary features essential to the conservation of the species. Information provided to a wide audience of the public, including other parties engaged in conservation activities, about *Drosophila heteroneura* and the features that are essential to its conservation and identified on Kamehameha Schools lands on the island of Hawaii could have a positive conservation benefit. While we believe this educational outcome is important for the conservation of this species, we believe it has already been achieved through existing management, education, and public outreach efforts carried out by Kamehameha Schools.

(2) Benefits of Exclusion

Proactive voluntary conservation efforts are necessary to prevent the extinction and promote the recovery of *Drosophila heteroneura* on the island of Hawaii (Shogren et al. 1991—page 1,260; Wilcove and Chen 1998—page 1,407; Wilcove et al. 1998—page 614). Consideration of this concern is especially important in areas where the species has been extirpated and its recovery may require access and permission for reintroduction efforts (Bean 2002—page 414; Wilcove et al. 1998—page 614). For example, *D. heteroneura* has been extirpated from many of its historical locations, including on other Kamehameha Schools lands, and reestablishment is likely not possible without human assistance and landowner cooperation.

Kamehameha Schools are involved in several important voluntary conservation agreements and are currently carrying out some management activities which contribute to the conservation of this species. They have developed two programs that demonstrate their conservation commitments, Aina Ulu and Malama Aina. The Aina Ulu program implements land-based education programs, whereas Malama Aina

delivers focused stewardship of natural resources. Malama Aina has been focused in two distinct areas, Keauhou in Kau District and North-South Kona, with a budget commitment in 2002 of $1,000,000, not including staff expenses.

Kamehameha Schools North-South Kona natural resource conservation efforts focus on three distinct areas: Honaunau Forest and Honaunau Uka, Kaupulehu Kauila Lama Forest and Kaupulehu Uka, and Pulehua. One proposed unit (*Drosophila heteroneura*—Unit 5—Gaspar's Dairy) is located in the Honaunau Forest and Honaunau Uka area while a second proposed unit (*D. heteroneura*—Unit 7—Pit Crater) is located in the Kaupulehu Kauila Lama Forest and Kaupulehu Uka area. Kamehameha Schools started a weed control program in 2002 in Honaunau Forest and Honaunau Uka. In both the Forest and Uka areas, they will continue the weed control program, along with a timber certification program to write certifiable plans and complete inventories. In the Honaunau Uka area, they will construct an ungulate exclosure fence and issue a contract for a botanical survey. Funds allocated for the implementation of these projects total $52,500 to Honaunau Forest and $29,500 to Honaunau Uka.

Conservation activities in the Aina Ulu program at Kaupulehu Kauila Lama Forest include an intern program, an outreach coordinator, multimedia curriculum development, small mammal and weed control. Funds allocated for these projects total $70,700.

Malama Aina projects at Kaupulehu Uka include timber certification, large mammal and weed control, ungulate exclosure fencing, inventory, monitoring and data analysis of conservation actions and road maintenance. Funds allocated for those projects total $101,000. Partners include Hawaii Forest Industry Association, the Service, DOFAW, local residents, PIA Sports Properties (lessee), U.S. Forest Service, National Tropical Botanical Garden (lessee), and Honokaa High School.

A third proposed unit (*Drosophila heteroneura*—Unit 6—Kipuka at 4,900 ft) is located near Puu Lehua, an area that is under development for protection and restoration of 6,000 ac (2,428 ha) of native forest habitat through fencing and feral ungulate control. Future additional management actions that are planned in this area include additional fencing, control and removal of nonnative species, fire prevention, and reintroduction of rare and listed species (Hawaiian Silversword Foundation 2006—page 1).

As described earlier, Kamehameha Schools has a history of entering into conservation agreements with various Federal and State agencies and private organizations on biologically important portions of their lands. These arrangements have taken a variety of forms. They include partnership commitments such as the Dryland Forest Working Group which provides assistance in managing the Kaupulehu Kauila Lama Forest and Kaupulehu Uka area. *Drosophila heteroneura* will benefit substantially from their voluntary management actions because of a reduction in ungulate browsing and habitat conversion, a reduction in competition with nonnative weeds, and a reduction in risk of fire.

The conservation benefits of critical habitat are primarily regulatory or prohibitive in nature. But on the island of Hawaii, simply preventing ''harmful activities'' will not slow the extinction of listed species including *Drosophila heteroneura*. Where consistent with the discretion provided by the Act, we believe it is necessary to implement policies that provide positive incentives to private landowners to voluntarily conserve natural resources, and that remove or reduce disincentives to conservation (Michael 2001—pages 34 and 36–37). Thus, we believe it is essential for the recovery of *D. heteroneura* to build on continued conservation activities, such as these with a proven partner, and to provide incentives for other private landowners on the island of Hawaii who might be considering implementing voluntary conservation activities but have concerns about incurring incidental regulatory or economic impacts.

Approximately 80 percent of imperiled species in the United States occur partly or solely on private lands where the Service has little management authority (Wilcove et al. 1996 page 2). In addition, recovery actions involving the reintroduction of listed species onto private lands require the voluntary cooperation of the landowner (Bean 2002—page 414; James 2002—page 270; Knight 1999—page 224; Main et al. 1999—page 1,263; Norton 2000—pages 1,221–1,222; Shogren et al. 1999—page 1,260; Wilcove et al. 1998—page 614). Therefore, ''a successful recovery program is highly dependent on developing working partnerships with a wide variety of entities, and the voluntary cooperation of thousands of non-Federal landowners and others is essential to accomplishing recovery for listed species'' (Crouse et al. 2002—page 720).

Because large tracts of land suitable for conservation of threatened and endangered species are mostly owned by private landowners, successful recovery of listed species on the island of Hawaii is especially dependent upon working partnerships and the voluntary cooperation of private landowners.

Another benefit of excluding these areas from the critical habitat designation includes relieving additional regulatory burden and costs associated with the preparation of portions of section 7 consultation documents related to critical habitat. While the cost of adding these additional sections to assessments and consultations is relatively minor, there could be delays which can generate real costs to some project proponents. However, because critical habitat in this case is only proposed for occupied areas already subject to section 7 consultation and jeopardy analysis, we anticipate that this reduction would be minimal.

(3) The Benefits of Exclusion Outweigh the Benefits of Inclusion

Based on the above considerations, we have determined that the benefits of excluding lands owned by Kamehameha Schools from the final designation of critical habitat for *Drosophila heteroneura* outweigh the benefits of including them as critical habitat. This conclusion is based on the following factors:

(a) In the past, Kamehameha Schools has cooperated with Federal and State agencies, and private organizations to implement on their lands voluntary conservation activities that have resulted in tangible conservation benefits.

(b) Simple regulation of ''harmful activities'' is not sufficient to conserve these species. Landowner cooperation and support is required to prevent the extinction and promote the recovery of all of the listed species on this island, because of the need to implement proactive conservation actions such as ungulate management, weed control, and fire suppression. This need for landowner cooperation is especially acute because the three proposed units (Gaspar's Dairy, Pit Crater, and Kipuka at 4,900 ft) are occupied by *Drosophila heteroneura.* In addition, many previously occupied *D. heteroneura* habitat sites on other Kamehameha Schools lands remain unoccupied by this species. Future conservation efforts, such as translocation of this species back into unoccupied habitat on these lands, will require the cooperation of Kamehameha Schools. Exclusion of Kamehameha Schools lands from the final designation of critical habitat will

help the Service maintain and improve this partnership by formally recognizing the positive contributions of Kamehameha Schools to rare species recovery, and by streamlining or reducing unnecessary oversight.

(c) Given the current partnership agreements between Kamehameha Schools and many other organizations, we believe the benefits of including Kamehameha Schools lands as critical habitat are relatively small. The designation of critical habitat can serve to educate the general public as well as conservation organizations regarding the potential conservation value of an area, but this goal is already being accomplished through the identification of this area in the management agreements described above. Likewise, there will be little Federal regulatory benefit to the species because: (i) There is a low likelihood that these three proposed critical habitat units will be negatively affected to any significant degree by Federal activities requiring section 7 consultation, and (ii) these areas are already occupied by the species and a section 7 nexus already exists. We are unable to identify any other potential benefits associated with critical habitat for these proposed units.

(d) We believe it is necessary to establish positive working relationships with representatives of the Native Hawaiian community. This approach of excluding critical habitat and entering into a mutually agreeable conservation partnership strengthens this relationship and should lead to conservation benefits beyond the boundaries of Kamehameha Schools land. It is an important long-term conservation goal of the Service to work cooperatively with the Native Hawaiian community to help recover Hawaii's endangered species. This partnership with Kamehameha Schools is an important step toward this goal.

(e) It is well documented that publicly owned lands and lands owned by private organizations alone are too small and poorly distributed to provide for the conservation of most listed species (Bean 2002—pages 409, 412, 414–415, and 419–420; Crouse et al. 2002—page 720). Excluding these Kamehameha Schools lands from critical habitat may, by way of example, provide positive social, legal, and economic incentives to other non-Federal landowners on the island of Hawaii who own lands that could contribute to listed species recovery if voluntary conservation measures on these lands are implemented (Norton 2000—pages 1,221–1,222; Main et al. 1999—page 1,263; Shogren et al. 1999—page 1,260; Wilcove and Chen 1998—page 1,407).

In conclusion, we find that the exclusion of lands owned by Kamehameha Schools from the final designation of critical habitat would most likely have a net positive conservation effect on the recovery and conservation of *Drosophila heteroneura* when compared to the positive conservation effects of a critical habitat designation. As described above, the overall benefits to this species of a critical habitat designation on Kamehameha Schools lands are relatively small. In contrast, we believe this exclusion will enhance our existing partnership with Kamehameha Schools, and it will set a positive example and provide positive incentives to other non-Federal landowners who may be considering implementing voluntary conservation activities on their lands. We conclude there is a greater likelihood of beneficial conservation activities occurring in these and other areas of the island of Hawaii without designated critical habitat than there would be with designated critical habitat on these Kamehameha Schools lands.

(4) Exclusion of This Unit Will Not Cause Extinction of the Species

In considering whether or not exclusion of Kamehameha Schools lands from the final designation of critical habitat for *Drosophila heteroneura,* we first considered the impacts to the species. The agreements described above will provide tangible proactive conservation benefits that will reduce the likelihood of extinction for the species in these areas of the island of Hawaii and increase the likelihood of its recovery. Extinction of this species as a consequence of this proposed exclusion is unlikely because there are no known threats in the proposed units due to any current or reasonably anticipated Federal actions that might be regulated under section 7 of the Act. Further, these areas are already occupied by the species and thereby benefit from the section 7 protections of the Act, should such an unlikely Federal threat actually materialize.

The exclusion of these Kamehameha Schools lands will not increase the risk of extinction to the species, and it may increase the likelihood the species will recover by encouraging other landowners to implement voluntary conservation activities as Kamehameha Schools has done. In addition, critical habitat is being proposed on other areas of the island of Hawaii for this species (Kau Forest, Pauahi, Waiea, and Waihaka Gulch units) within its historical range. In sum, the above analysis concludes that the proposed exclusion of Kamehameha Schools lands from the final designation of critical habitat on the island of Hawaii will have a net beneficial impact with little risk of negative impacts. Therefore, the exclusion of the Kamehameha Schools lands will not cause extinction and should in fact improve the chances of recovery for *Drosophila heteroneura.*

Economic Analysis

An analysis of the economic impacts of proposing critical habitat for 11 species of Hawaiian picture-wing flies is being prepared. We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.fws.gov/pacificislands,* or by contacting the Pacific Islands Fish and Wildlife Office directly (see **ADDRESSES** section).

Peer Review

In accordance with the December 16, 2004, Office of Management and Budget's ''Final Information Quality Bulletin for Peer Review,'' we will obtain comments from at least three independent scientific reviewers regarding the scientific data and interpretations contained in this proposed rule. The purpose of such review is to ensure that our critical habitat decision is based on scientifically sound data, assumptions, and analyses. We have posted our proposed peer review plan on our Web site at *http://www.fws.gov/midwest/Science/*. Public comments on our peer review were obtained through May 26, 2006, after which we finalized our peer review plan and selected peer reviewers. We will provide those reviewers with copies of this proposal as well as the data used in the proposal. Peer reviewer comments that are received during the public comment period will be considered as we make our final decision on this proposal, and substantive peer reviewer comments will be specifically discussed in the final rule.

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

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal in the **Federal Register**.

Such requests must be made in writing and be addressed to the Field Supervisor at the address in the **ADDRESSES** section above.

Clarity of the Rule

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

Send a copy of any comments that concern how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You also may e-mail your comments to this address: *Exsec@ios.doi.gov.*

Required Determinations

Regulatory Planning and Review

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

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

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

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

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

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

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

Executive Order 13211

On May 18, 2001, the President issued an Executive Order (E.O. 13211) on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This proposed rule to designate critical habitat for 11 species of Hawaiian picture-wing flies is a significant regulatory action under Executive Order 12866 in that it may raise novel legal and policy issues, however, and it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

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

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

(a) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation,

statute or regulation that would impose an enforceable duty upon State, local, tribal governments, or the private sector and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

The designation of critical habitat does not impose a legally binding duty on non-Federal government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply; nor would critical habitat shift the costs of the large entitlement programs listed above on to State governments.

(b) We do not believe that this rule will significantly or uniquely affect small governments. The lands being proposed for critical habitat designation are owned by the State of Hawaii or private citizens. None of these entities fit the definition of ''small governmental jurisdiction.'' As such, a Small Government Agency Plan is not required. We will, however, further evaluate this issue as we conduct our economic analysis and as appropriate, review and revise this assessment as warranted.

Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with DOI and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Hawaii. The designation of critical habitat in areas currently occupied by the 11 species of picture-wing flies may affect Federal actions and would have little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments in that the areas that contain the features essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the conservation of the species are specifically identified. Thus 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 the rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Endangered Species Act. This proposed rule uses standard property descriptions and identifies the primary constituent elements within the proposed areas to assist the public in understanding the habitat needs of the 11 species of Hawaiian picture-wing flies.

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

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

National Environmental Policy Act

It is our position that, outside the Tenth Circuit, we do not need to prepare environmental analyses as defined by the NEPA in connection with designating critical habitat under the Endangered Species Act of 1973, as amended. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld in the courts of the Ninth Circuit (*Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 116 S. Ct. 698 (1996).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of Interior's requirement at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a Government-to-Government basis. We are not proposing to designate critical habitat for these species on Tribal lands as defined in the above documents. Additionally, the proposed designation does not contain any lands that we have identified as impacting Tribal trust resources.

References Cited

A complete list of all references cited in this rule is available upon request from the Field Supervisor, Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section).

Author(s)

The author of this document is the staff of the Fish and Wildlife Service.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—[AMENDED]

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

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

2. In § 17.11(h), revise the entry for ''*Drosophila aglaia*, *D. differens*, *D. hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. mulli*, *D. musaphilia*, *D. obatai*, *D. ochrobasis*, *D. substenoptera*, and *D. tarphytrichia*'' under ''INSECTS'' in the List of Endangered and Threatened Wildlife 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							
*	*	*	*	*	*		*
Fly, Hawaiian picture-wing.	*Drosophila aglaia*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila differens*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila hemipeza.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila heteroneura.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila montgomeryi.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila mulli*	U.S.A. (HI)	NA	T	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila musaphilia.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
*	*	*	*	*	*		*
Fly, Hawaiian picture-wing.	*Drosophila obatai*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila ochrobasis.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila substenoptera.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
Fly, Hawaiian picture-wing.	*Drosophila tarphytrichia.*	U.S.A. (HI)	NA	E	756	17.95(h)	NA
*	*	*	*	*	*		*

3. Amend § 17.95(i), by adding critical habitat for ''*Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia*'' in the same alphabetical order in which these species appear in the table in § 17.11(h) under ''INSECTS'' to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects.*

* * * * *

Drosophila aglaia

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below.

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

(i) Dry to mesic, lowland, *Diospyros* sp., ohia and koa forest; and

(ii) The larval host plant *Urera glabra.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** Map 1 (index map of critical habitat units for *Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia*) follows:

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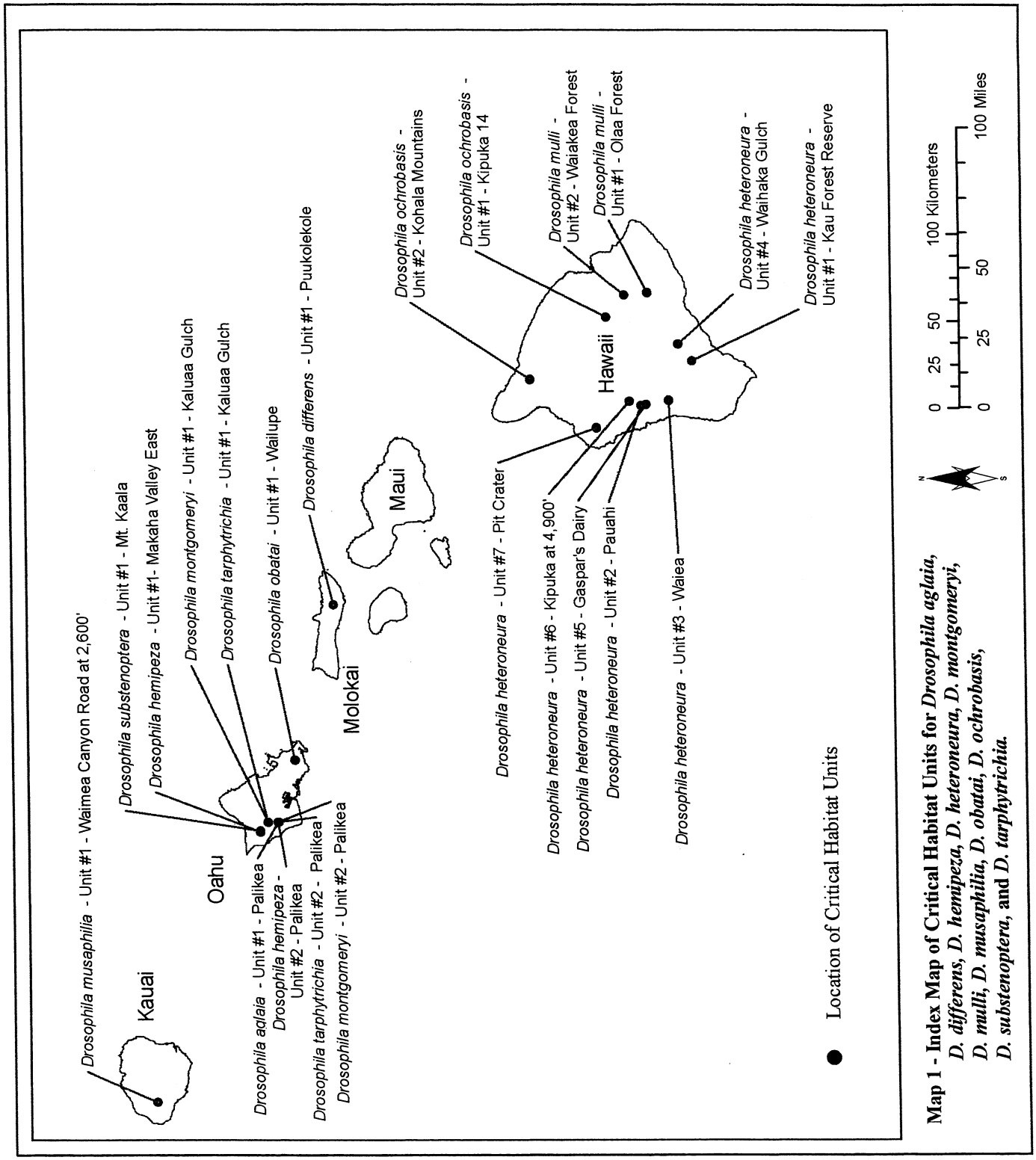
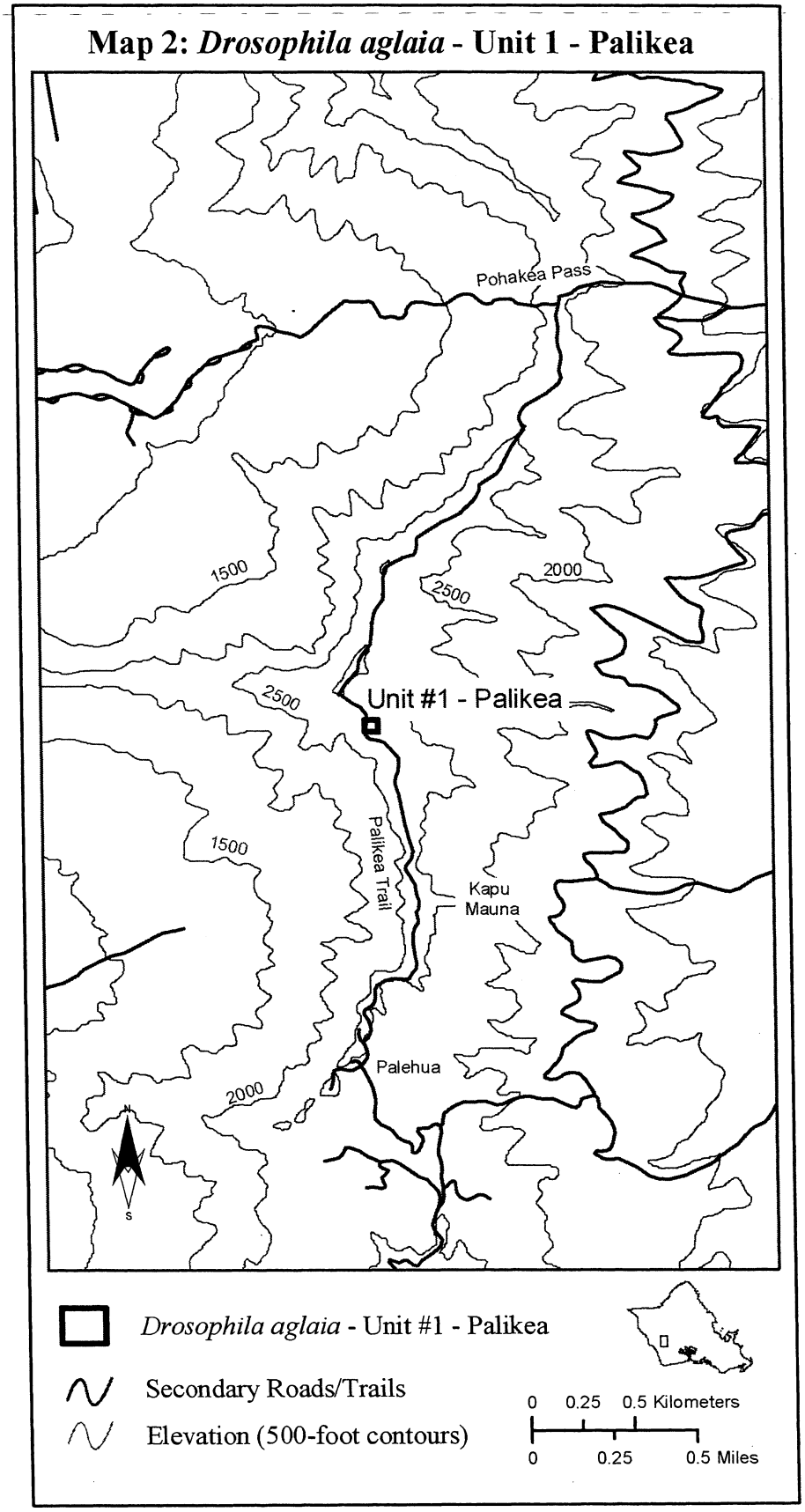


Map 1 - Index Map of Critical Habitat Units for *Drosophila aglaia, D. differens, D. hemipeza, D. heteroneura, D. montgomeryi, D. mulli, D. musaphilia, D. obatai, D. ochrobasis, D. substenoptera,* and *D. tarphytrichia.*

(6) *Drosophila aglaia*—Unit 1—Palikea, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila aglaia*—Unit 1—Palikea: 593273, 2367958; 593273, 2368022; 593337, 2368022; 593337, 2367958.

(ii) **Note:** Map 2 of *Drosophila aglaia*—Unit 1—Palikea follows:


Map 2: *Drosophila aglaia* - Unit 1 - Palikea
Pohakea Pass
1500
2500
2000
2500
Unit #1 - Palikea
1500
Palikea Trail
Kapu Mauna
Palehua
2000
N
S
Drosophila aglaia - Unit #1 - Palikea
Secondary Roads/Trails
Elevation (500-foot contours)
0 0.25 0.5 Kilometers
0 0.25 0.5 Miles

Drosophila differens

(1) Critical habitat is depicted for County of Maui, island of Molokai, Hawaii, on the map below.

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

(i) Wet, montane, ohia forest; and

(ii) The larval host plants *Clermontia arborescens* ssp. *waihiae, C. granidiflora* ssp. *munroi, C. oblongifolia* ssp. *brevipes,* and *C. pallida.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) The critical habitat unit is described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

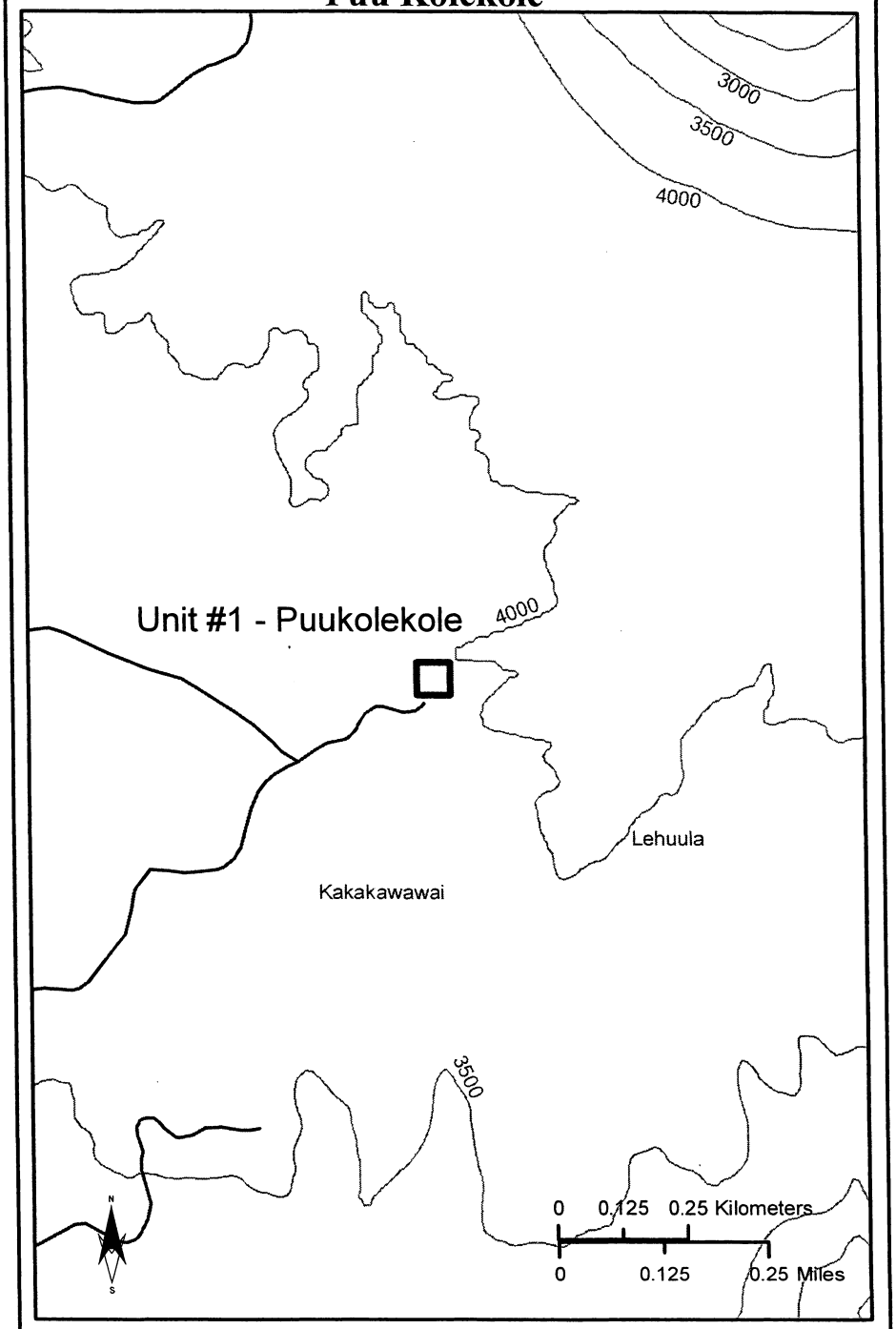
(5) **Note:** For an index map of the critical habitat unit for *Drosophila differens* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila differens*—Unit 1—Puu Kolekole, Maui County, Island of Molokai, Hawaii.

(i) *Drosophila differens*—Unit 1—Puu Kolekole: 718406, 2335494; 718406, 2335558; 718470, 2335558; 718470, 2335494.

(ii) **Note:** Map 1 of *Drosophila differens*—Unit 1—Puu Kolekole follows:

Map 1: *Drosophila differens* - Unit 1
Puu Kolekole



Drosophila differens - Unit #1 - Puukolekole

Secondary Roads/Trails

Elevation (500-foot contours)

Drosophila hemipeza

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below.

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

(i) Dry to mesic, lowland, ohia and koa forest; and

(ii) The larval host plants Cyanea angustifolia, *C. calycina, C. grimesiana* ssp. *grimesiana, C. grimesiana* ssp. *obatae, C. membranacea, C. pinnatifida, C. sessifolia, C. superba* ssp. *superba, Lobelia hypoleuca, L. hiihauensis, L. yuccoides,* and *Urera kaalae.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

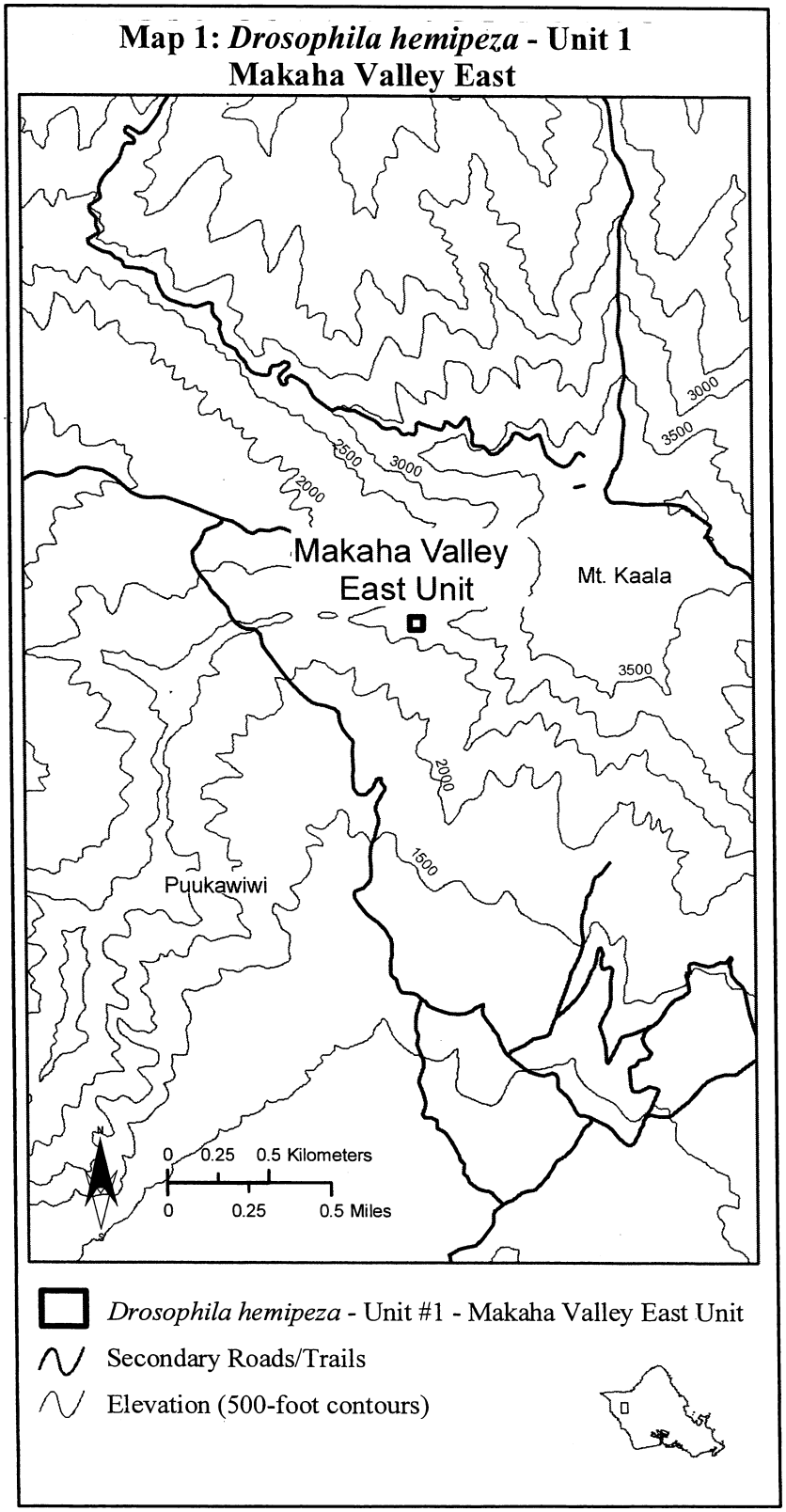
(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of critical habitat units for *Drosophila hemipeza* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila hemipeza*—Unit 1—Makaha Valley East, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila hemipeza*—Unit 1—Makaha Valley East: 587461, 2377992; 587461, 2378055; 587524, 2378055; 587524, 2377992.

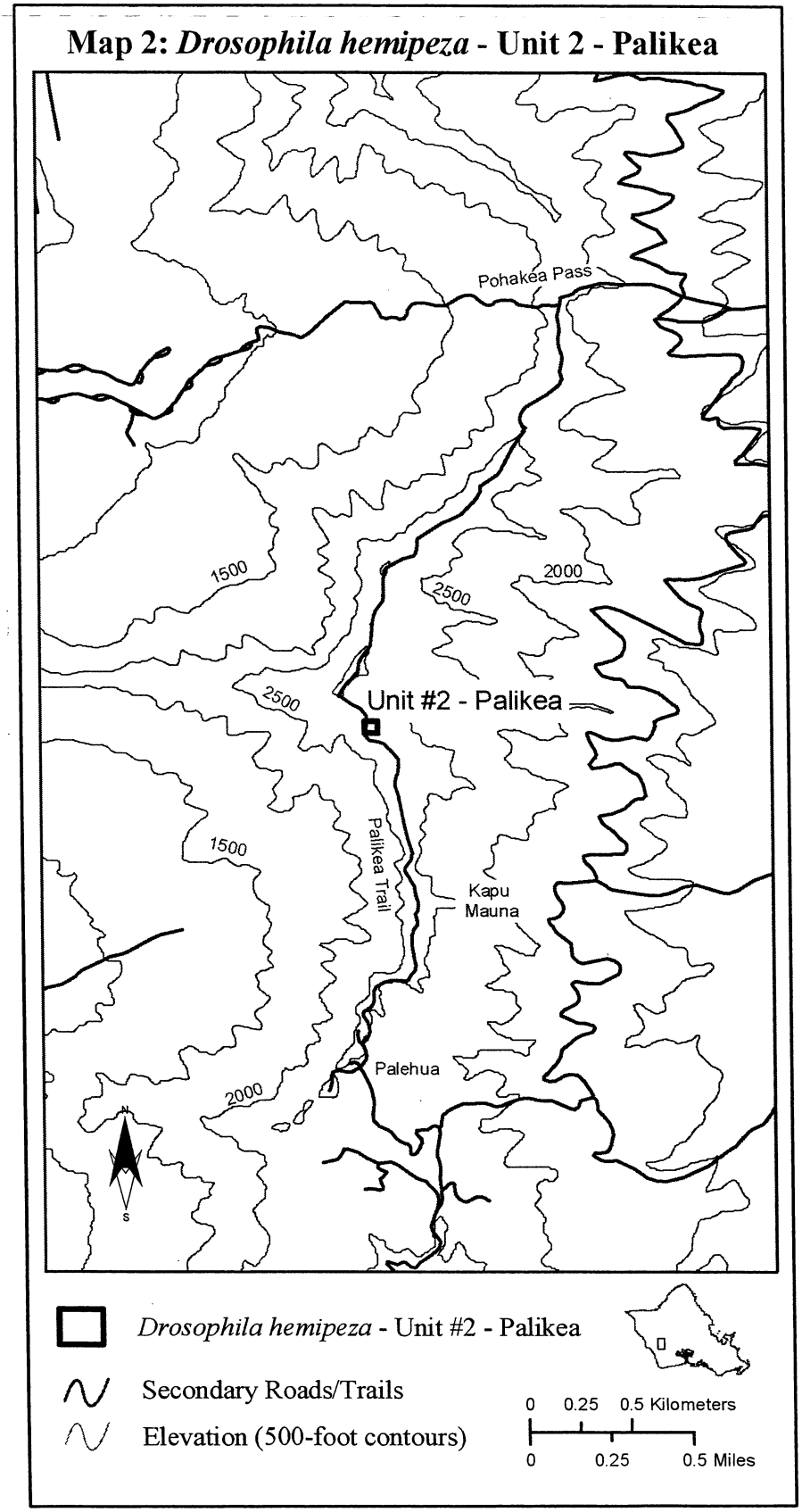
(ii) **Note:** Map 1 of *Drosophila hemipeza*—Unit 1–Makaha Valley East follows:



(7) *Drosophila hemipeza*—Unit 2—Palikea, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila hemipeza*—Unit 2—Palikea: 593273, 2367958; 593273, 2368022; 593337, 2368022; 593337, 2367958.

(ii) **Note:** Map 2 of *Drosophila hemipeza*—Unit 2—Palikea follows:


Map 2: *Drosophila hemipeza* - Unit 2 - Palikea
Pohakea Pass
1500
2500
2000
2500
Unit #2 - Palikea
1500
Palikea Trail
Kapu
Mauna
Palehua
2000
N
S
Drosophila hemipeza - Unit #2 - Palikea
Secondary Roads/Trails
Elevation (500-foot contours)
0 0.25 0.5 Kilometers
0 0.25 0.5 Miles

Drosophila heteroneura

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

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

(i) Mesic to wet, montane, ohia and koa forest; and

(ii) The larval host plants *Cheirodendron trigynum* ssp. *trigynum, C. clermontioides, C. hawaiiensis, C. kohalae, C. lindseyana, C. montis-loa, C. paviflora, C. peleana,* and *C. pyrularia.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

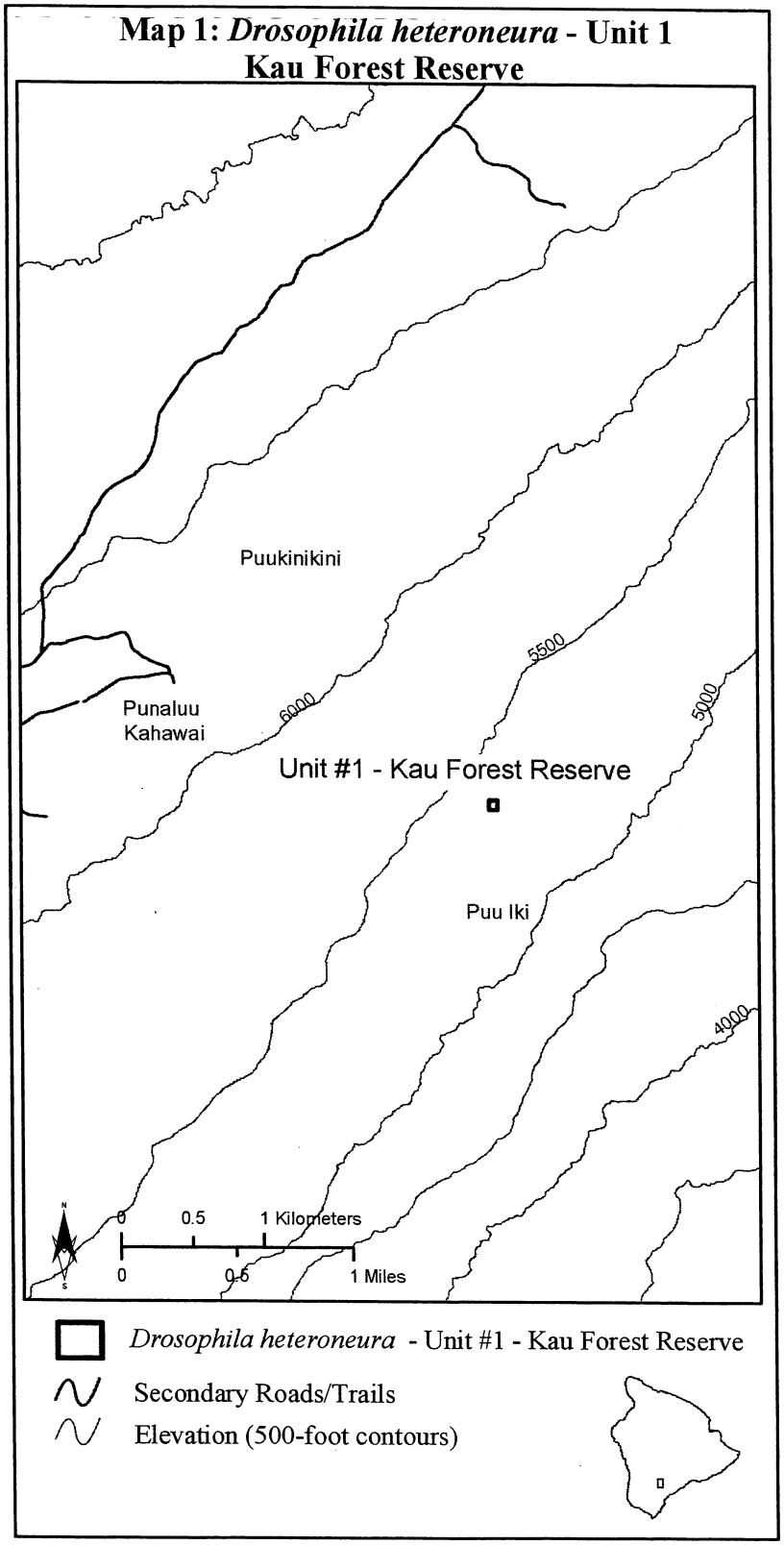
(4) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

(5) *Note*≦ For an index map of critical habitat units for *Drosophila heteroneura* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila heteroneura*—Unit 1—Kau Forest Reserve, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 1—Kau Forest Reserve: 858986, 2130883; 858986, 2130947; 859050, 2130947; 859050, 2130883.

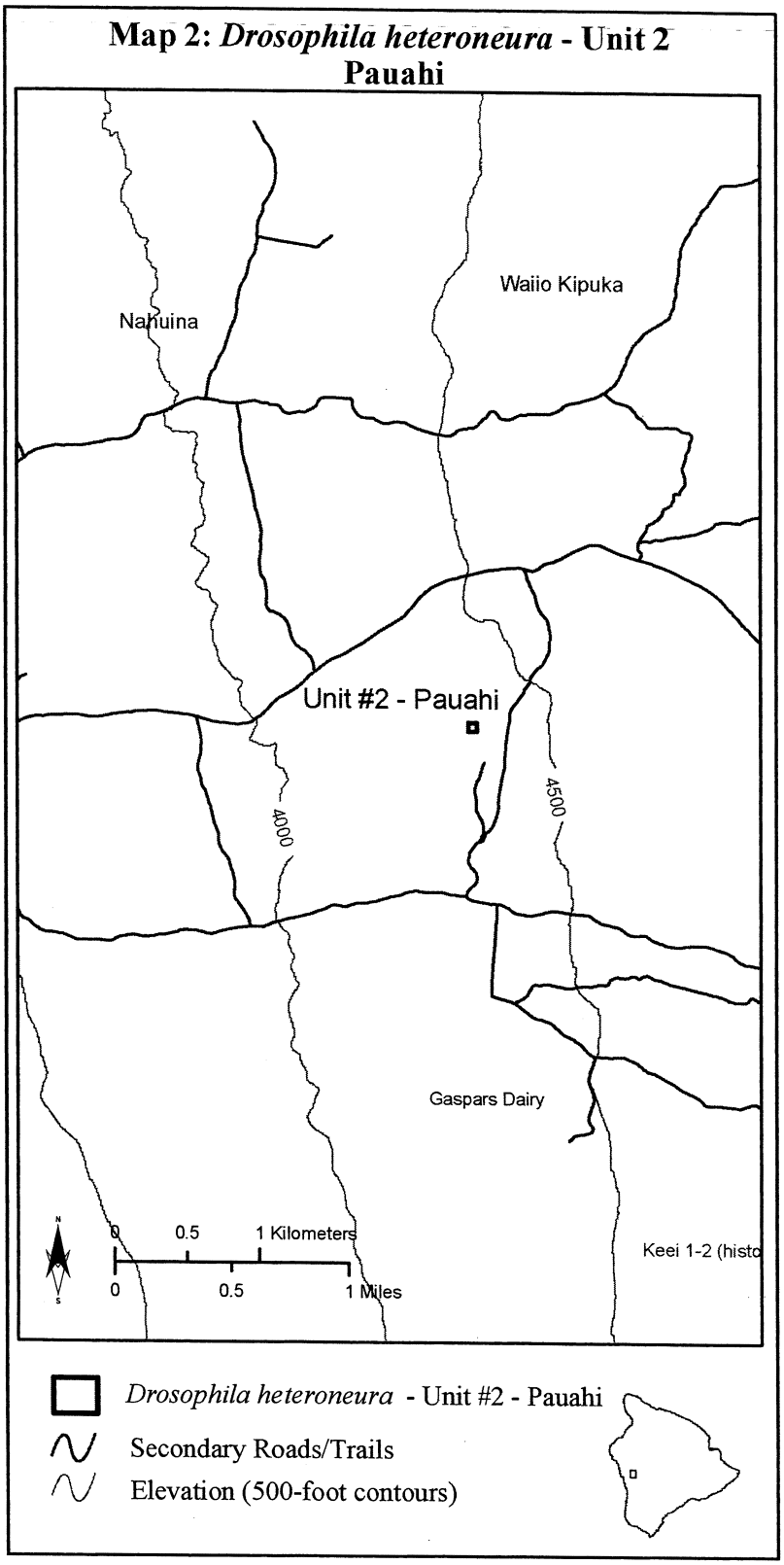
(ii) **Note:** Map 1 of *Drosophila heteroneura*—Unit 1—Kau Forest Reserve follows:



(7) *Drosophila heteroneura*—Unit 2—Pauahi, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 2—Pauahi: 833211, 2159779; 833211, 2159843; 833275, 2159843; 833275, 2159779.

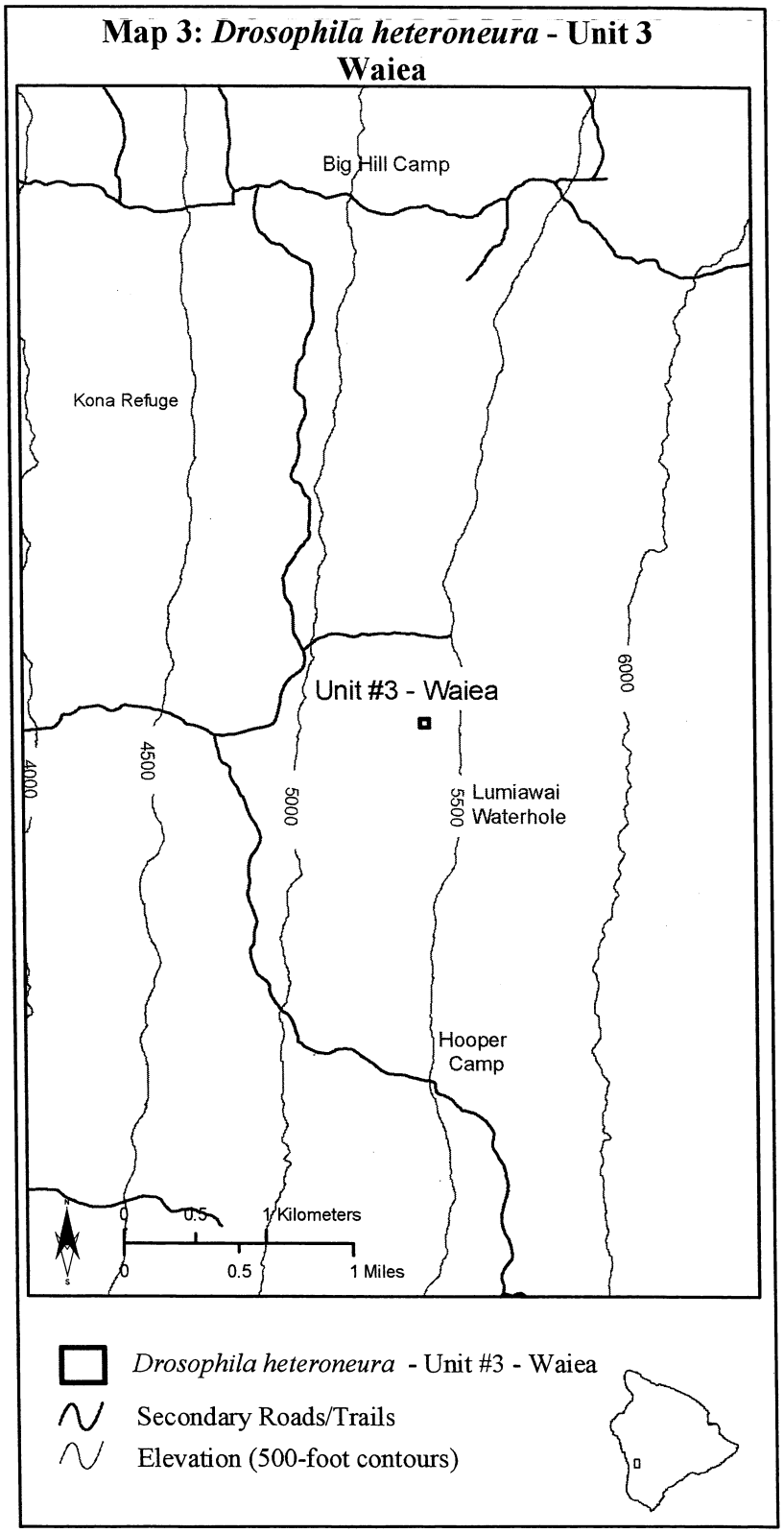
(ii) **Note:** Map 2 of *Drosophila heteroneura*—Unit 2—Pauahi follows:



(8) *Drosophila heteroneura*—Unit 3—Waiea, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 3—Waiea: 836184, 2144180; 836184, 2144244; 836248, 2144244; 836248, 2144180.

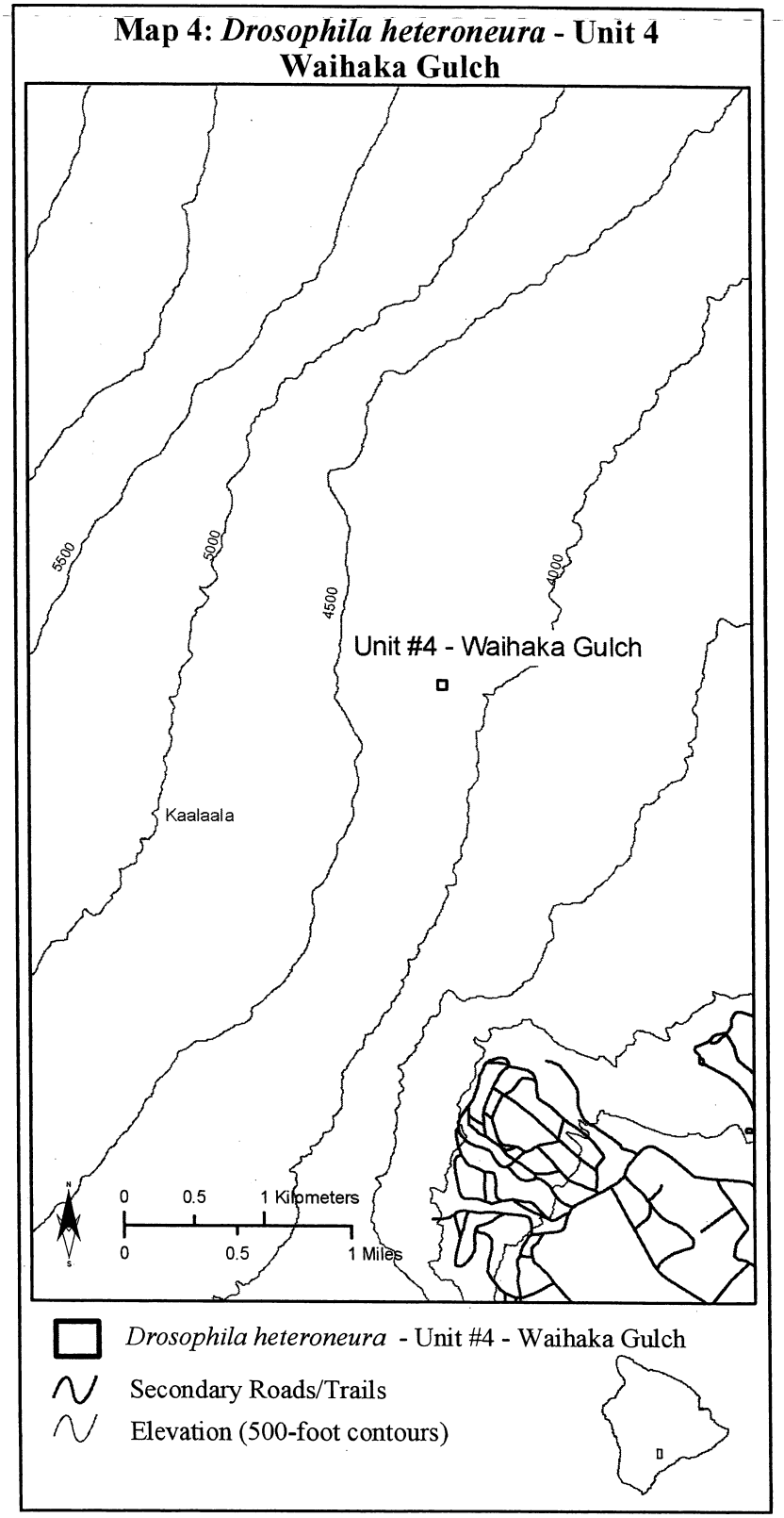
(ii) **Note:** Map 3 of *Drosophila heteroneura*—Unit 3—Waiea follows:



(9) *Drosophila heteroneura*—Unit 4—Waihaka Gulch, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 4—Waihaka Gulch: 868655, 2138565; 868655, 2138629; 868718, 2138629; 868718, 2138565.

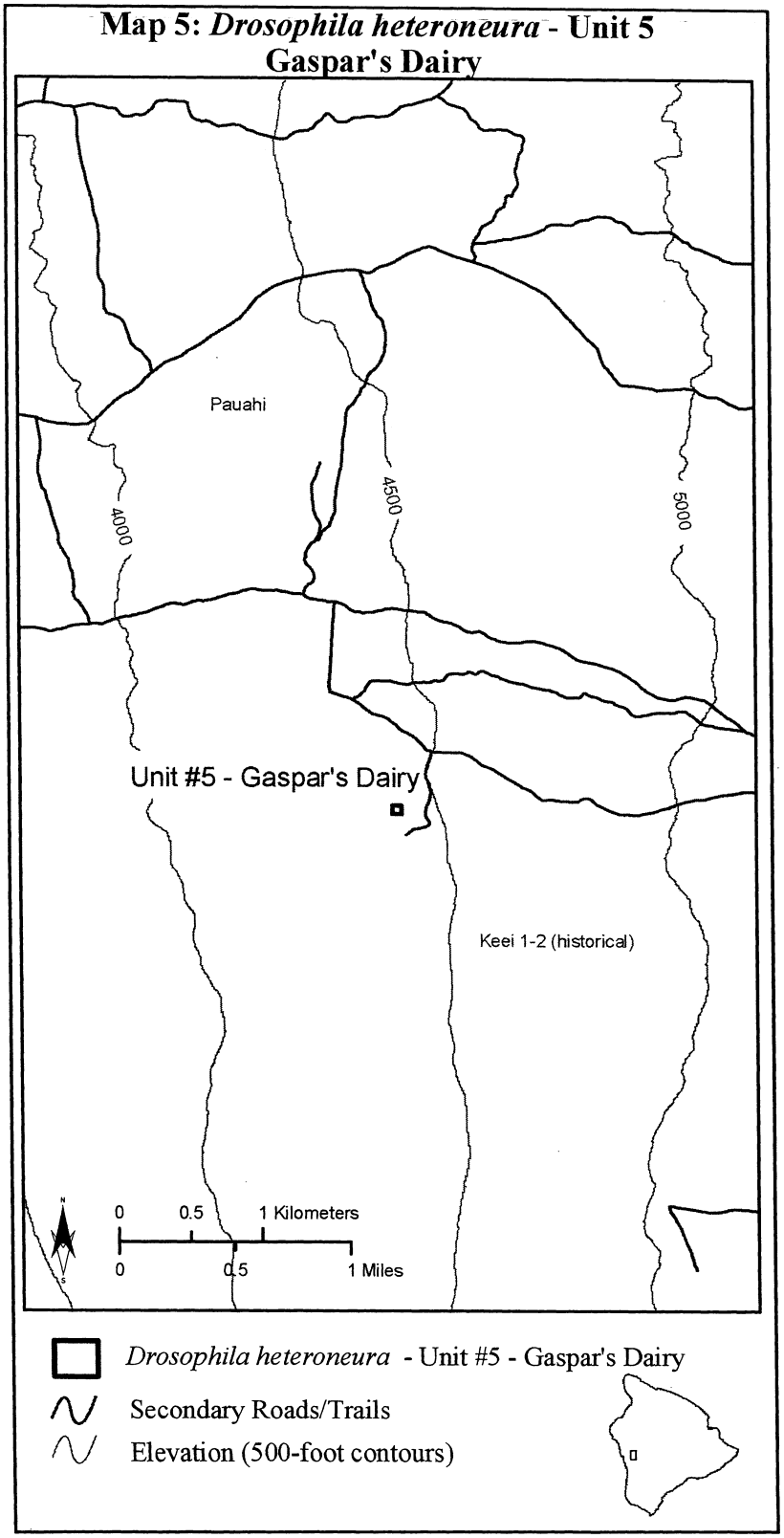
(ii) **Note:** Map 4 of *Drosophila heteroneura*—Unit 4—Waihaka Gulch follows:



(10) *Drosophila heteroneura*—Unit 5—Gaspar's Dairy, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 5—Gaspar's Dairy: 833811, 2157064; 833811, 2157128; 833875, 2157128; 833875, 2157064.

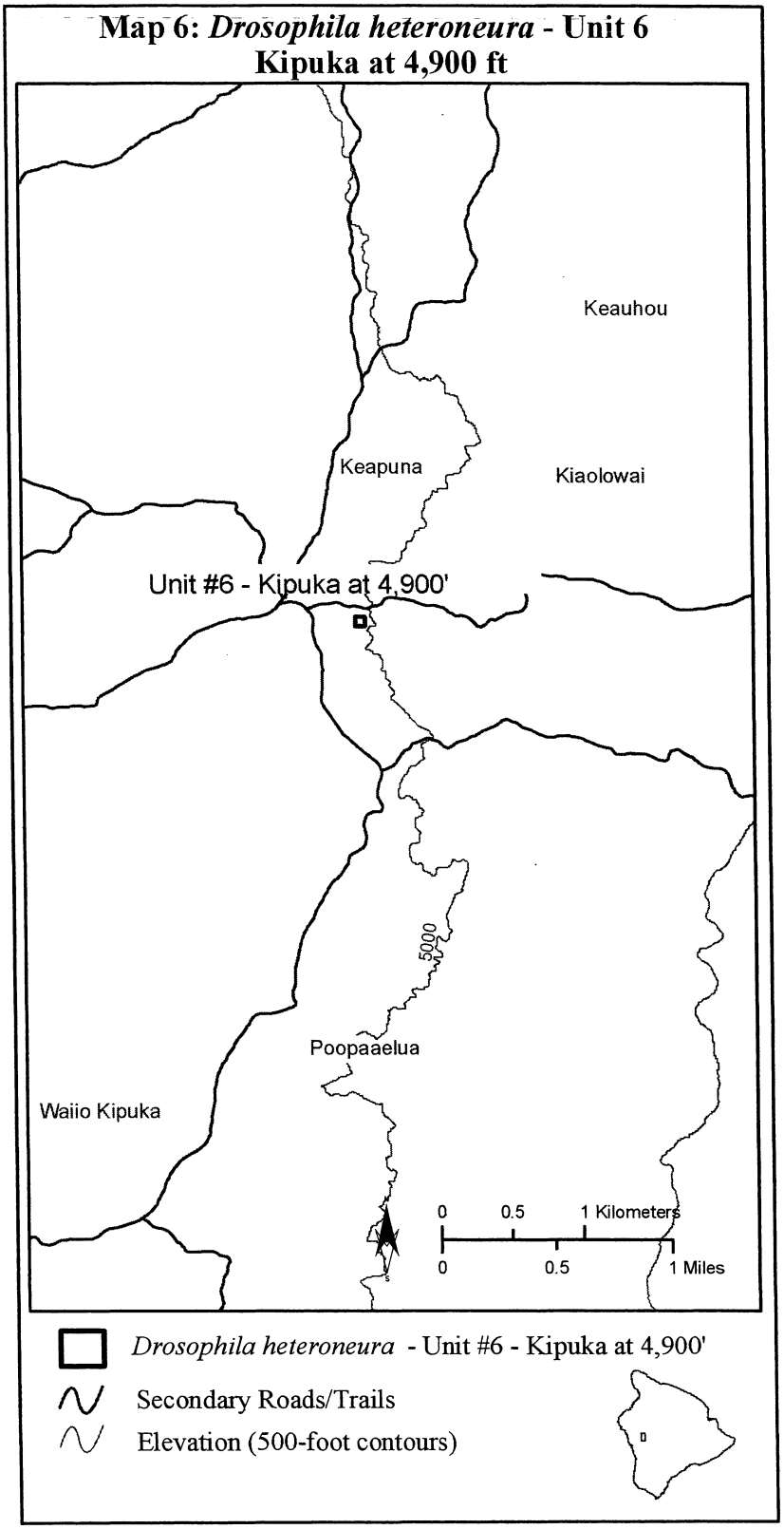
(ii) **Note:** Map 5 of *Drosophila heteroneura*—Unit 5—Gaspar's Dairy follows:



(11) *Drosophila heteroneura*—Unit 6—Kipuka at 4,900 ft, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila heteroneura*—Unit 6—Kipuka at 4,900 ft: 835692, 2166366; 835692, 2166430; 835756, 2166430; 835756, 2166366.

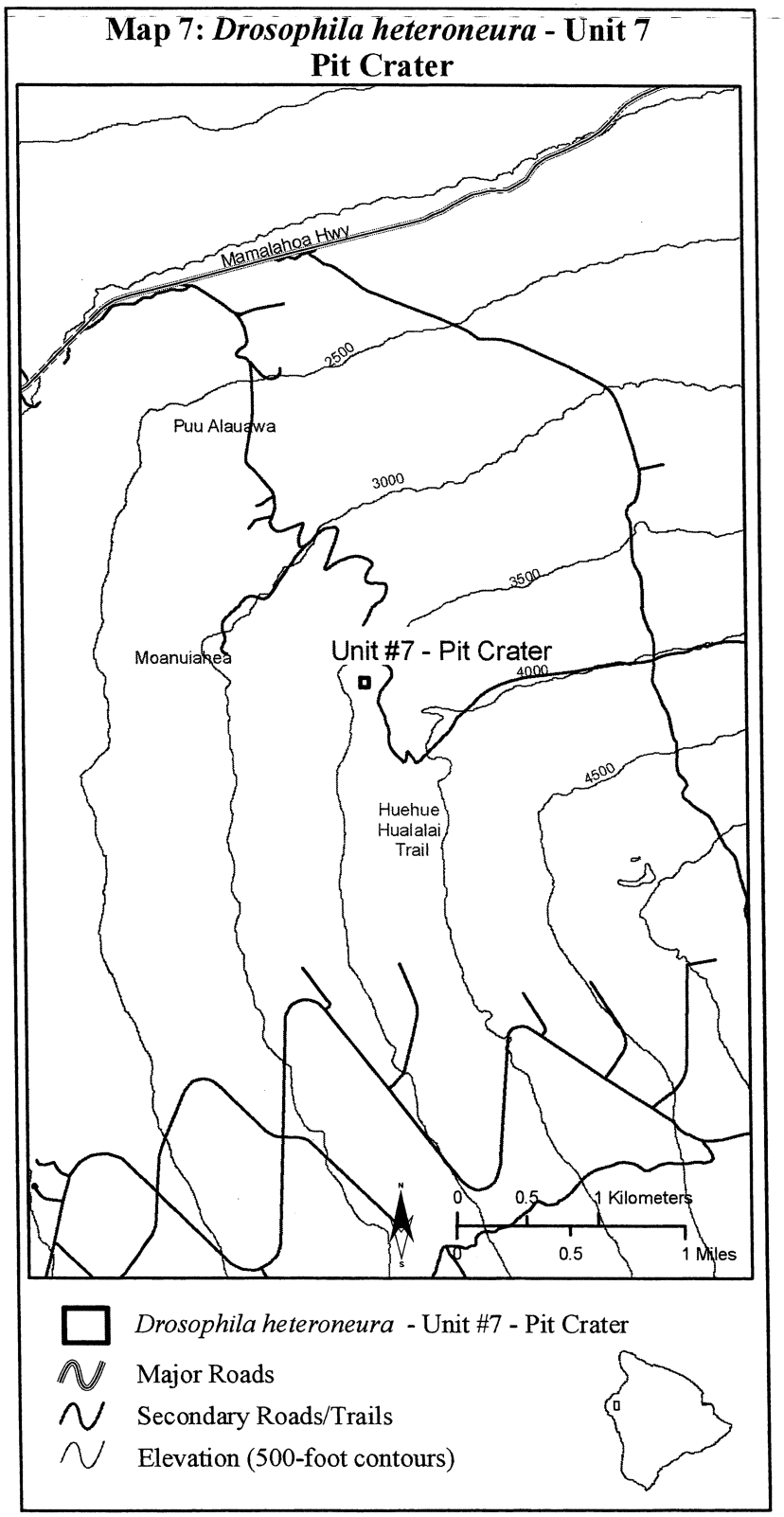
(ii) **Note:** Map 6 of *Drosophila heteroneura*—Unit 6—Kipuka at 4,900 ft follows:



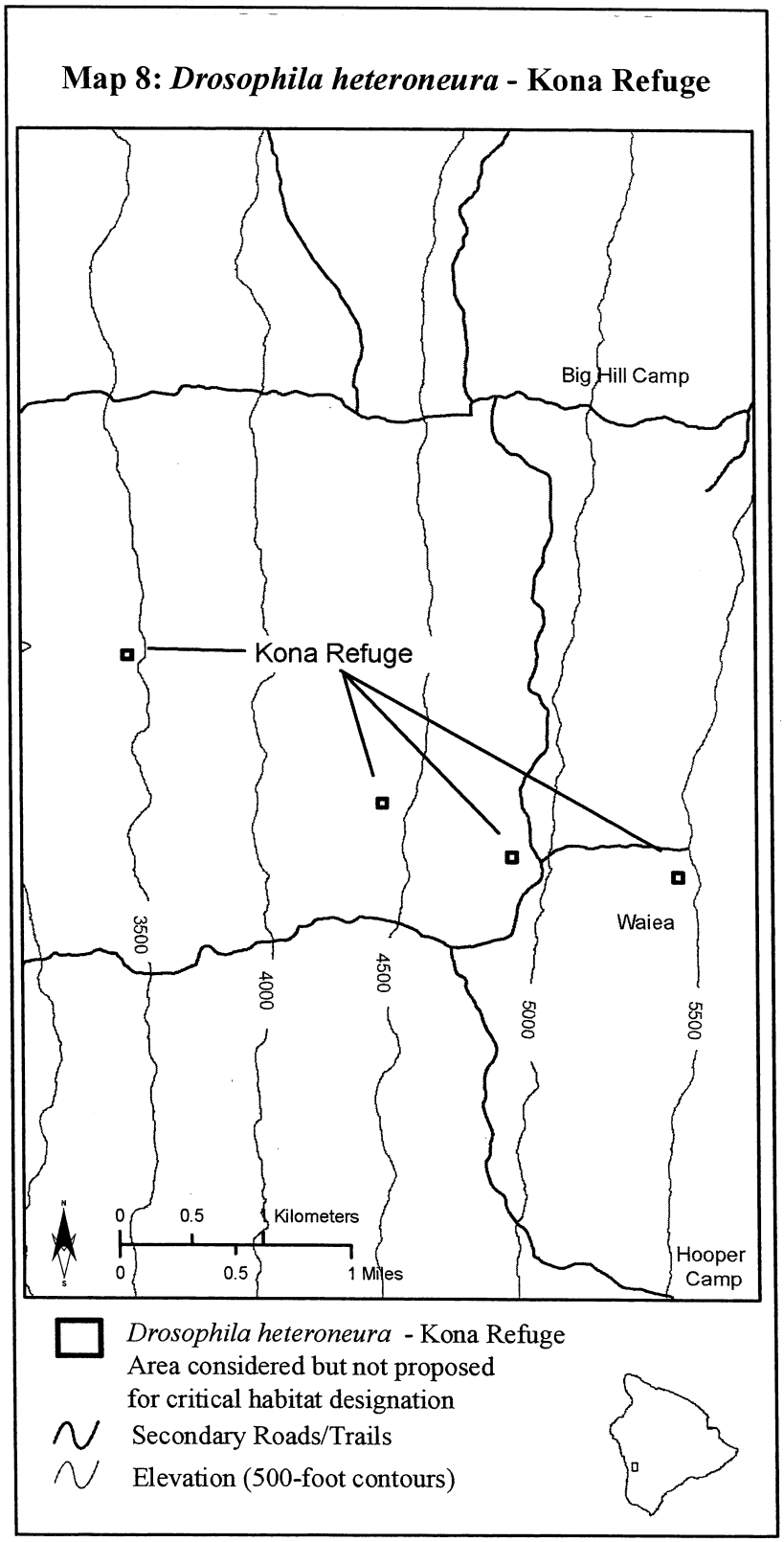
(12) *Drosophila heteroneura*—Unit 7—Pit Crater, Hawaii County, Island of Hawaii, Hawaii.

(i) — *heteroneura*—Unit 7—Pit Crater: 820293, 2185168; 820293, 2185232; 820357, 2185232; 820357, 2185168.

(ii) **Note:** Map 7 of *Drosophila heteroneura*—Unit 7—Pit Crater follows:

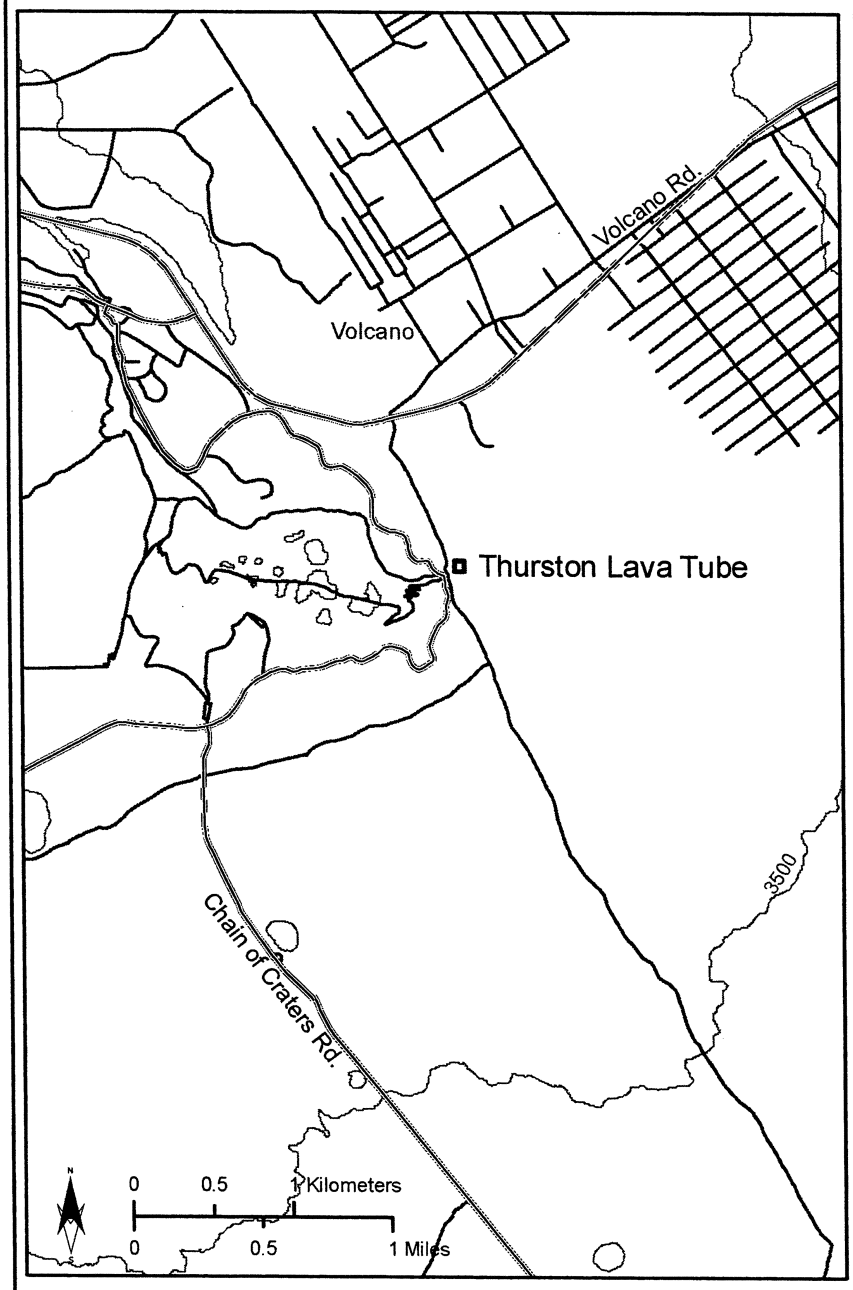


(13) *Drosophila heteroneura*—Kona Refuge, Hawaii County, Island of Hawaii, Hawaii, was considered but not proposed for critical habitat. Note: Map 8 of *Drosophila heteroneura*—Kona Refuge follows:



(14) *Drosophila heteroneura*—Thurston Lava Tube, Hawaii County, Island of Hawaii, Hawaii, was considered but not proposed for critical habitat. Note: Map 9 of *Drosophila heteroneura*—Thurston Lava Tube follows:

Map 9: *Drosophila heteroneura*
Thurston Lava Tube



Drosophila heteroneura - Thurston Lava Tube
Area considered but not proposed
for critical habitat designation
Major Roads
Secondary Roads/Trails
Elevation (500-foot contours)

Drosophila montgomeryi

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below.

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

(i) Dry to mesic, lowland, diverse ohia and koa forest; and

(ii) The larval host plant *Urera kaalae.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

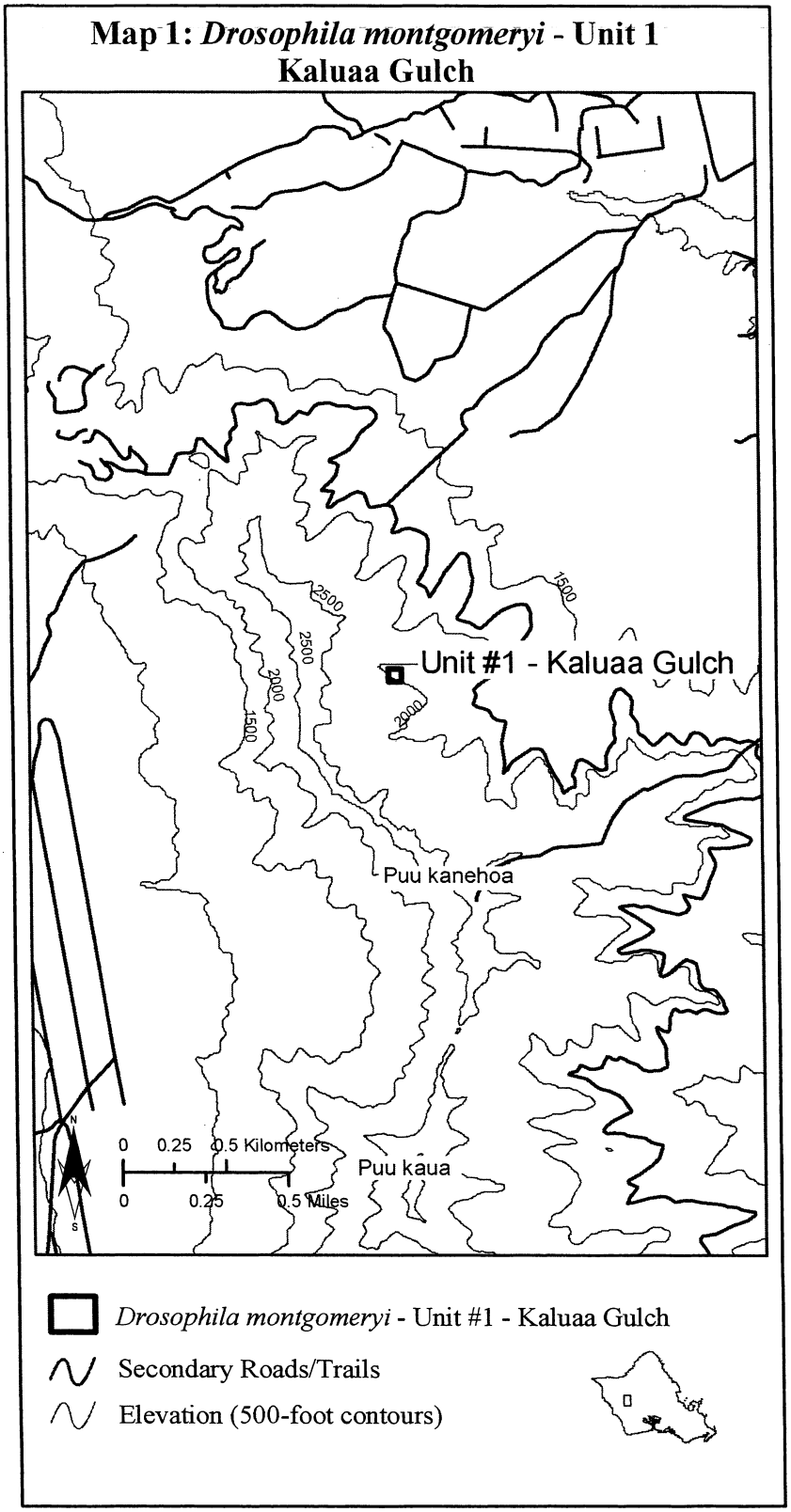
(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of critical habitat units for *Drosophila montgomeryi* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch: 593285, 2373778; 593285, 2373842; 593348, 2373842; 593348, 2373778.

(ii) **Note:** Map 1 of *Drosophila montgomeryi*—Unit 1—Kaluaa Gulch follows:

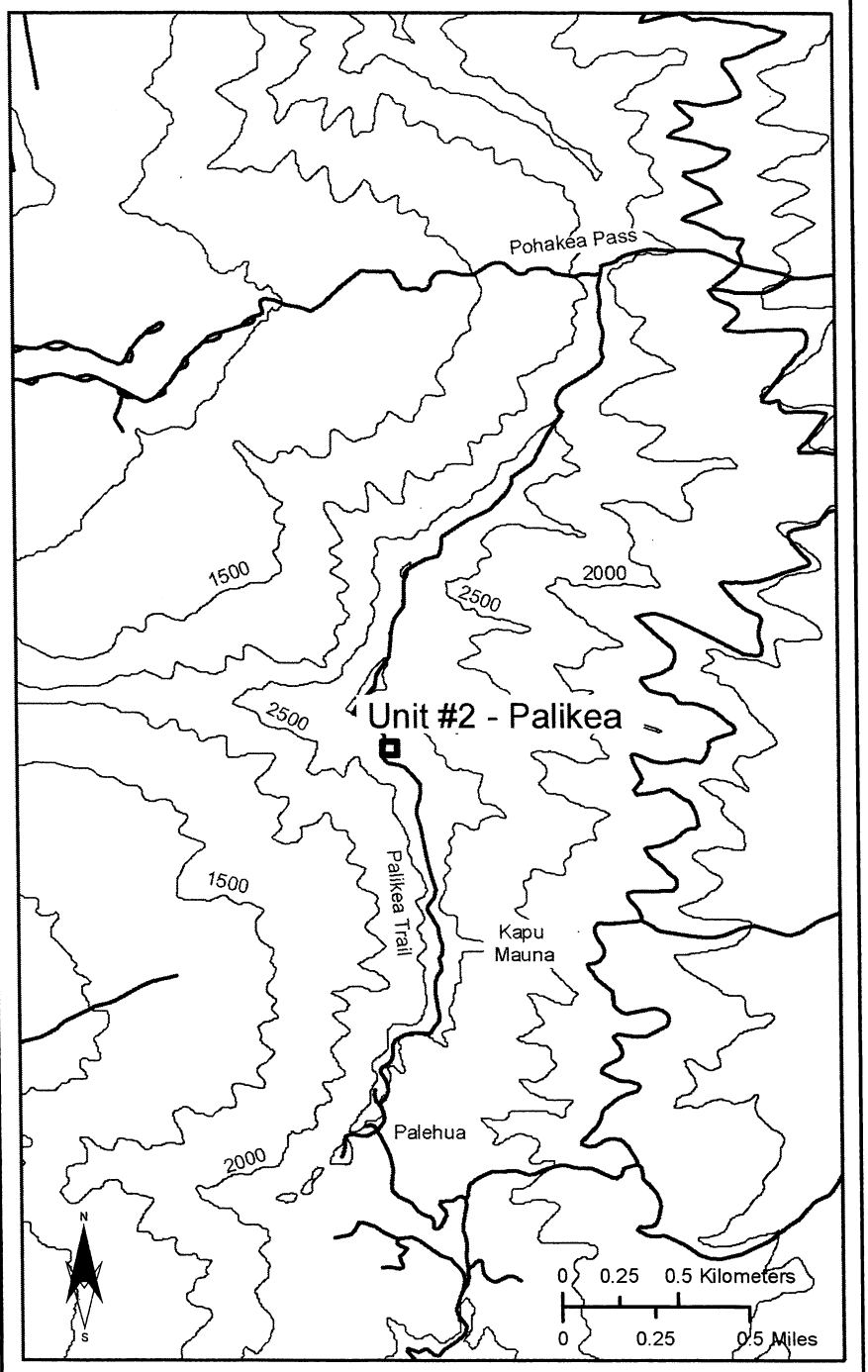


(7) *Drosophila montgomeryi*—Unit 2—Palikea, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila montgomeryi*—Unit 2—Palikea: 593273, 2367958; 593273, 2368022; 593337, 2368022; 593337, 2367958.

(ii) **Note:** Map 2 of *Drosophila montgomeryi*—Unit 2—Palikea follows:

Map 2: *Drosophila montgomeryi* - Unit 2 - Palikea



Drosophila montgomeryi - Unit #2 - Palikea

Secondary Roads/Trails

Elevation (500-foot contours)

Drosophila mulli

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

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

(i) Wet, montane, ohia forest; and

(ii) The larval host plant *Pritchardia beccariana.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

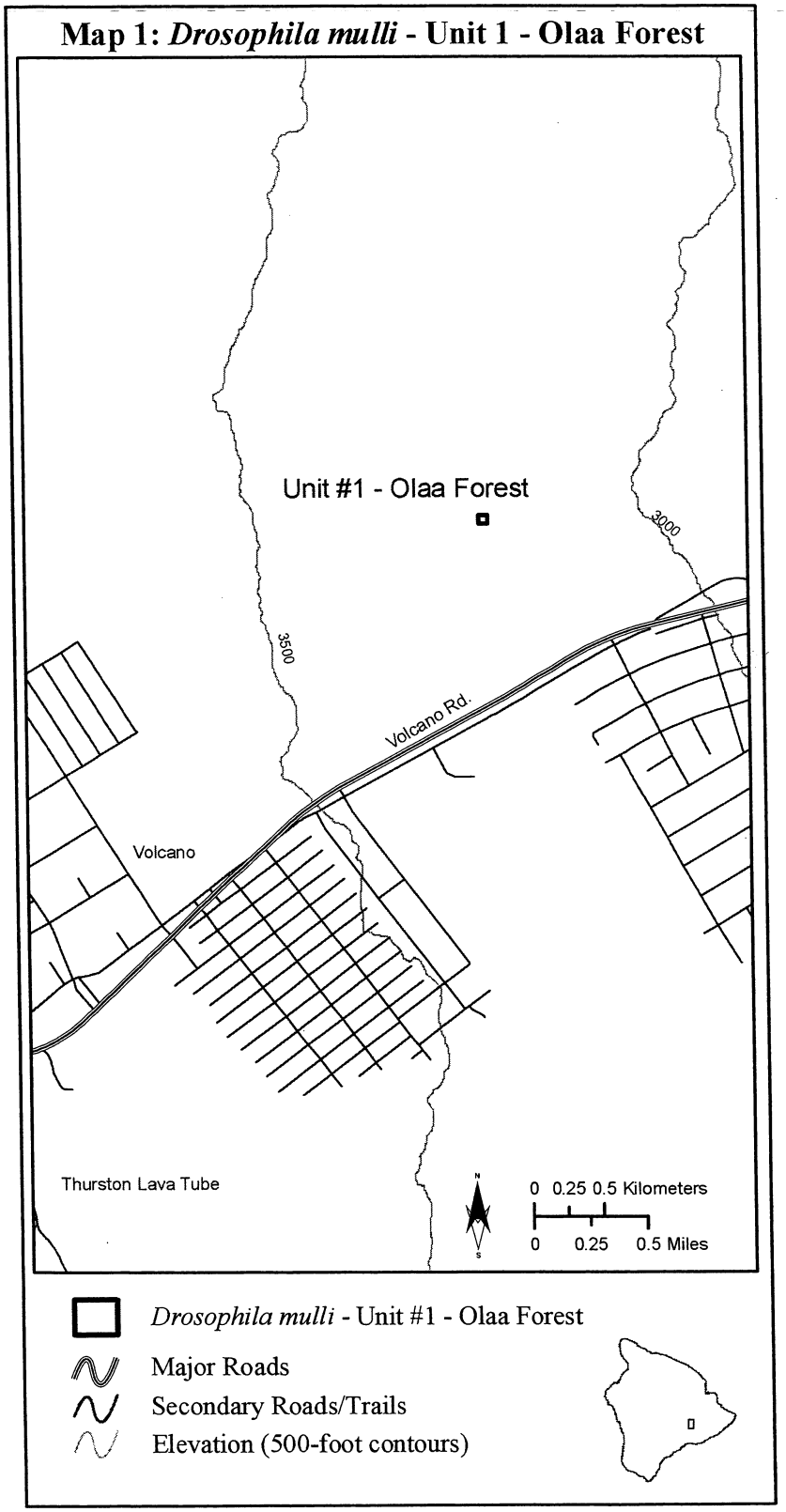
(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of critical habitat units for *Drosophila mulli* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila mulli*—Unit 1—Olaa Forest, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila mulli*—Unit 1—Olaa Forest: 898368, 2155813; 898368, 2155877; 898432, 2155877; 898432, 2155813.

(ii) **Note:** Map 1 of *Drosophila mulli*—Unit 1—Olaa Forest follows:

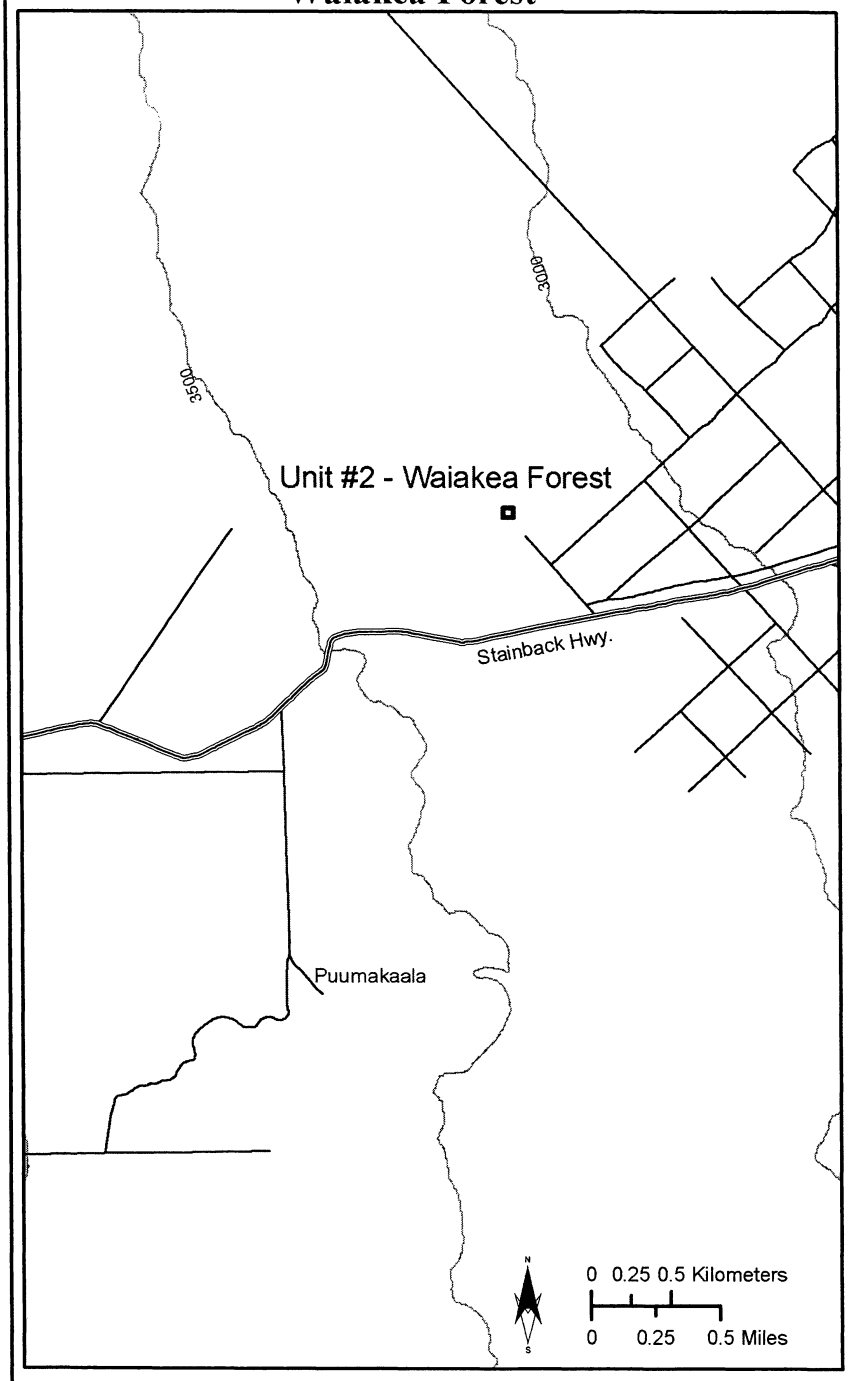


(7) *Drosophila mulli*—Unit 2—Waiakea Forest, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila mulli*—Unit 2—Waiakea Forest: 896950, 218903; 896950, 2168967; 897014, 2168967; 897014, 2168903.

(ii) **Note:** Map 2 of *Drosophila mulli*—Unit 2—Waiakea Forest follows:

Map 2: *Drosophila mulli* - Unit 2
Waiakea Forest



Drosophila mulli - Unit #2 - Waiakea Forest
Major Roads
Secondary Roads/Trails
Elevation (500-foot contours)

Drosophila Musaphilia

(1) Critical habitat is depicted for County of Kauai, Kauai, Hawaii, on the map below.

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

(i) Mesic, montane, ohia and koa forest; and

(ii) The larval host plant *Acacia koa.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

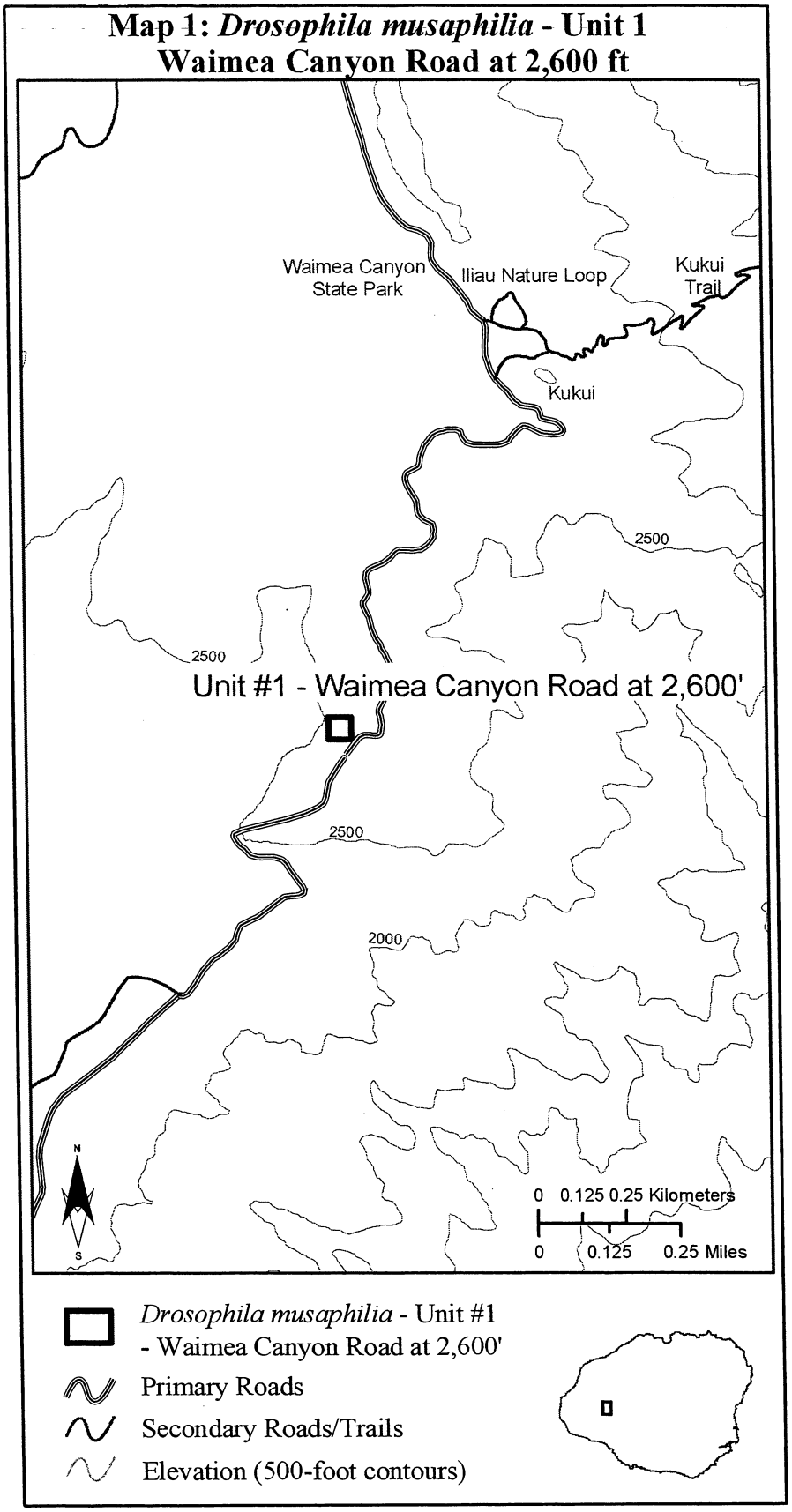
(4) The critical habitat unit is described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of the critical habitat units for *Drosophila musaphilia* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila musaphilia*—Unit 1—Waimea Canyon Road at 2600 ft, Kauai County, Island of Kauai, Hawaii.

(i) *Drosophila musaphilia*—Unit 1—Waimea Canyon Road at 2600 ft: 431443, 2437498; 431443, 2437561; 431506, 2437561; 431506, 2437498.

(ii) **Note:** Map 1 of *Drosophila musaphilia*—Unit 1—Waimea Canyon Road at 2,600 ft follows:


Map 1: *Drosophila musaphilia* - Unit 1
Waimea Canyon Road at 2,600 ft
Waimea Canyon State Park
Iliau Nature Loop
Kukui Trail
Kukui
2500
2500
Unit #1 - Waimea Canyon Road at 2,600'
2500
2000
N
S
0 0.125 0.25 Kilometers
0 0.125 0.25 Miles
Drosophila musaphilia - Unit #1 - Waimea Canyon Road at 2,600'
Primary Roads
Secondary Roads/Trails
Elevation (500-foot contours)

Drosophila obatai

(1) Critical habitat is depicted for County of Honolulu, Oahu, Hawaii, on the map below.

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

(i) Dry to mesic, lowland, ohia and koa forest; and

(ii) The larval host plant *Pleomele forbesii.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) The critical habitat unit is described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

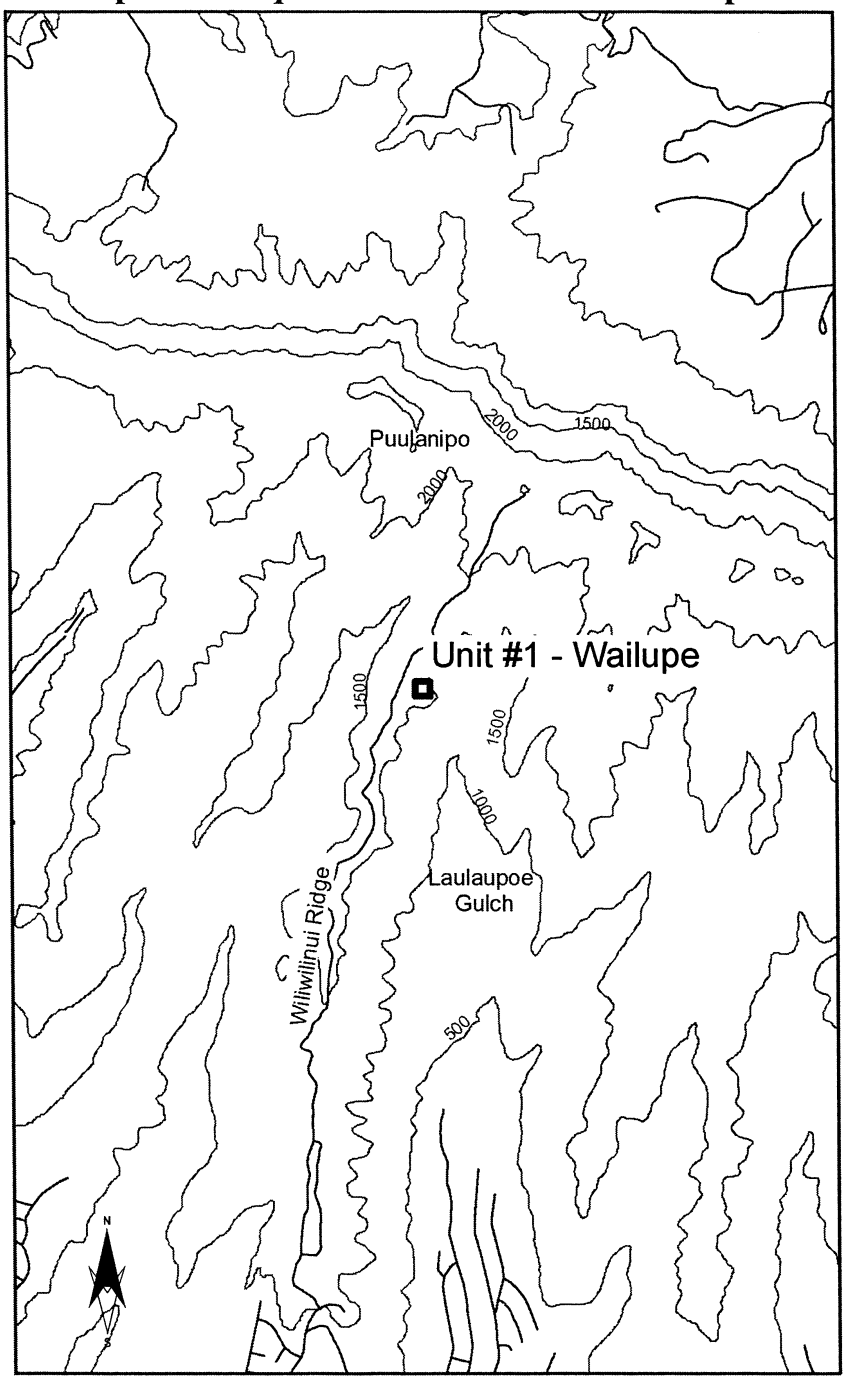
(5) **Note:** For an index map of critical habitat units for *Drosophila obatai* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila obatai*—Unit 1—Wailupe, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila obatai*—Unit 1—Wailupe: 628839, 2358049; 628839, 2358112; 628903, 2358112; 628903, 2358049.

(ii) **Note:** Map 1 of *Drosophila obatai*—Unit 1—Wailupe follows:

Map 1: *Drosophila obatai* - Unit 1 - Wailupe



Drosophila obatai - Unit #1 - Wailupe

Secondary Roads/Trails

Elevation (500-foot contours)

0 0.25 0.5 Kilometers

0 0.25 0.5 Miles

Drosophila ochrobasis

(1) Critical habitat units are depicted for County of Hawaii, island of Hawaii, Hawaii, on the maps below.

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

(i) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest; and

(ii) The larval host plants *Clermontia calophylla*, *C. clermontioides*, *C. drepanomorpha*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, *C. waimeae*, *Myrsine lessertiana*, and *M. sandwicensis.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

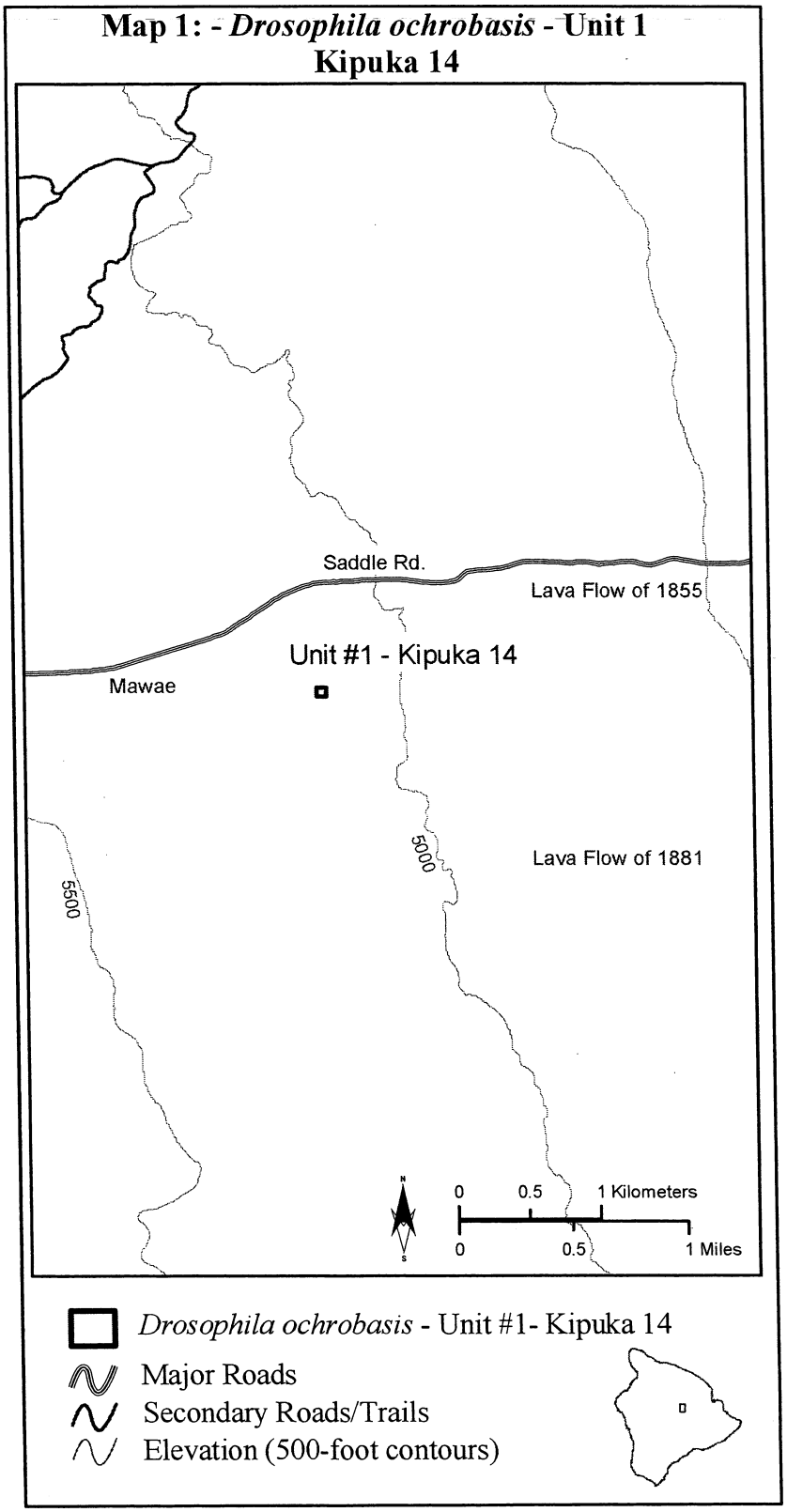
(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of critical habitat units for *Drosophila ochrobasis* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila ochrobasis*—Unit 1—Kipuka 14, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila ochrobasis*—Unit 1—Kipuka 14: 884116, 2178983; 884116, 2179047; 884180, 2179047; 884180, 2178983.

(ii) **Note:** Map 1 of *Drosophila ochrobasis*—Unit 1—Kipuka 14 follows:

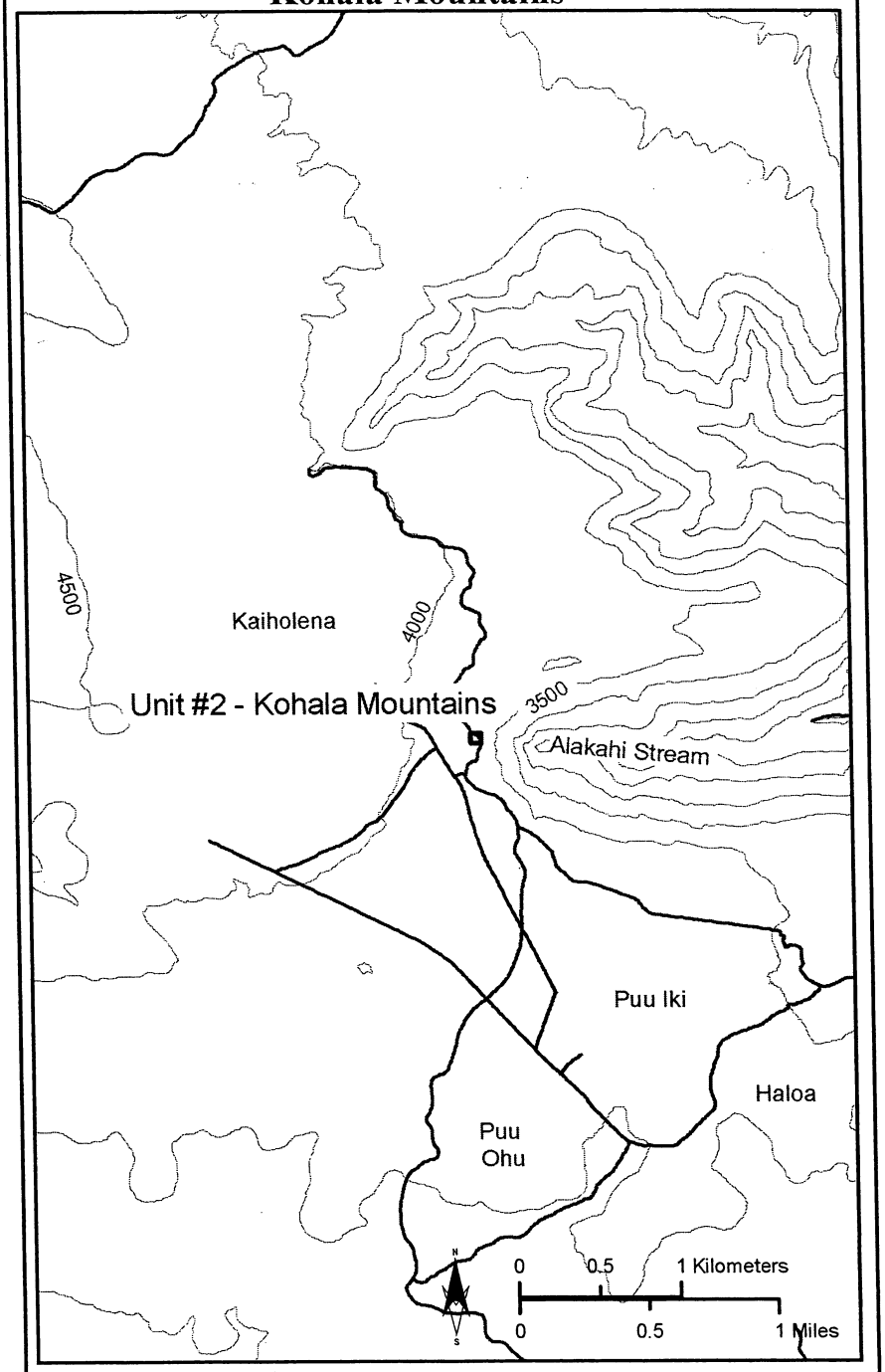


(7) *Drosophila ochrobasis*—Unit 2—Kohala Mountains, Hawaii County, Island of Hawaii, Hawaii.

(i) *Drosophila ochrobasis*—Unit 2—Kohala Mountains: 848294, 2222646; 848294, 2222710; 848358, 2222710; 848358, 2222646.

(ii) **Note:** Map 2 of *Drosophila ochrobasis*—Unit 2—Kohala Mountains follows:

Map 2: *Drosophila ochrobasis* - Unit 2
Kohala Mountains



Drosophila ochrobasis - Unit #2 - Kohala Mountains

Secondary Roads/Trails

Elevation (500-foot contours)

Drosophila substenoptera

(1) Critical habitat is depicted for County of Honolulu, Oahu, Hawaii, on the map below.

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

(i) Mesic to wet, lowland to montane, ohia and koa forest; and

(ii) The larval host plants *Cheirodendron platyphyllum* ssp. platyphyllum, *C. trigynum* ssp. trigynum, *Tetraplasandra kavaiensis*, and *T. oahuensis.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

(4) Critical habitat is described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

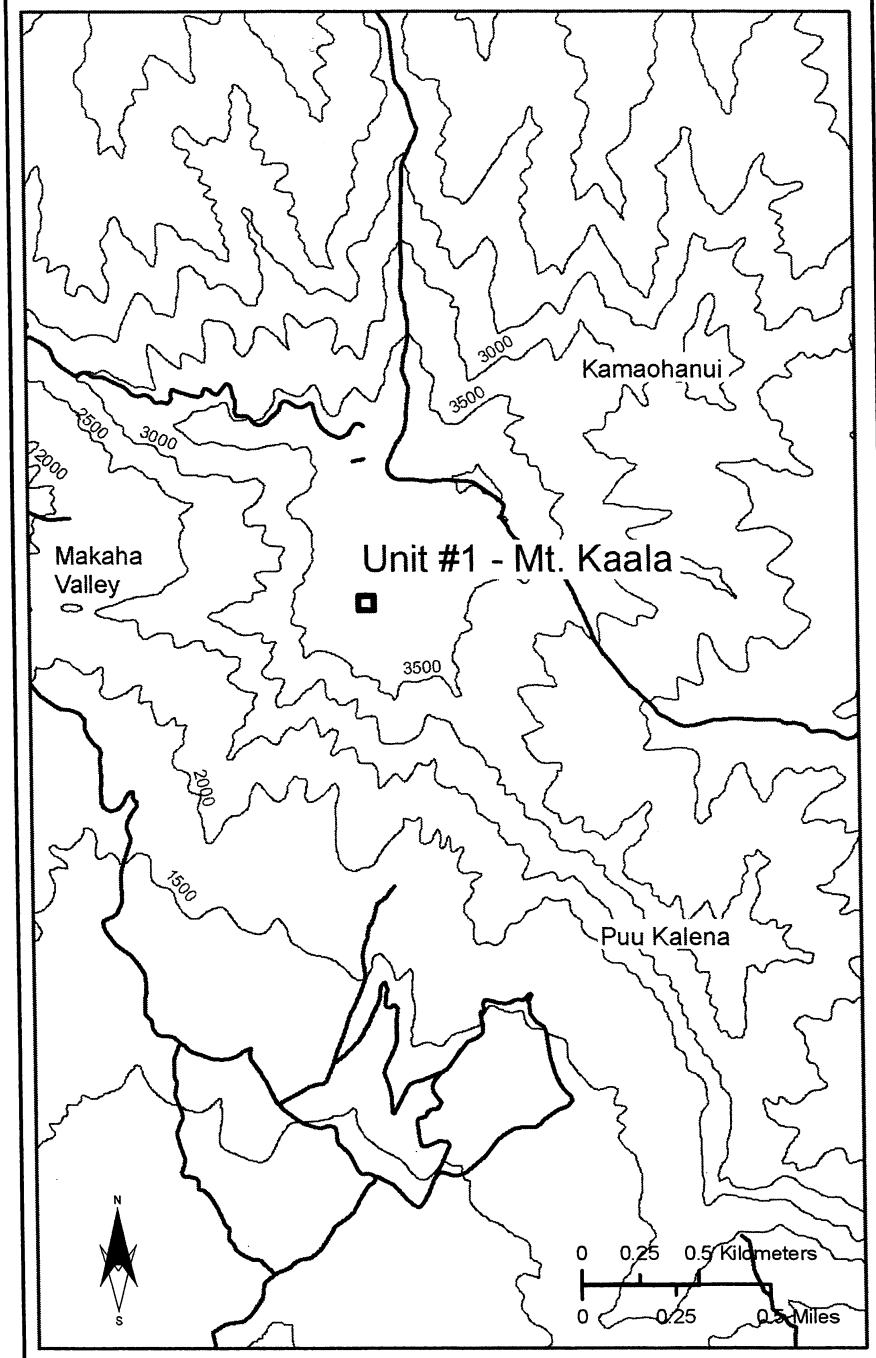
(5) **Note:** For an index map of critical habitat units for *Drosophila substenoptera* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila substenoptera*—Unit 1—Mt. Kaala, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila substenoptera*—Unit 1—Mt. Kaala: 588297, 2378026; 588297, 2378090; 588361, 2378090; 588361, 2378026.

(ii) **Note:** Map 1 of *Drosophila substenoptera*—Unit 1—Mt. Kaala follows:

Map 1: *Drosophila substenoptera* - Unit 1
Mt. Kaala



Drosophila substenoptera - Unit #1 - Mt. Kaala

Secondary Roads/Trails

Elevation (500-foot contours)

Drosophila tarphytrichia

(1) Critical habitat units are depicted for County of Honolulu, Oahu, Hawaii, on the maps below.

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

(i) Dry to mesic, lowland, ohia and koa forest; and

(ii) The larval host plant *Charpentiera obovata.*

(3) Critical habitat does not include man-made structures, such as buildings, aqueducts, airports, and roads, and the land on which such structures are located, existing on the effective date of this rule and not containing one or more of the primary constituent elements.

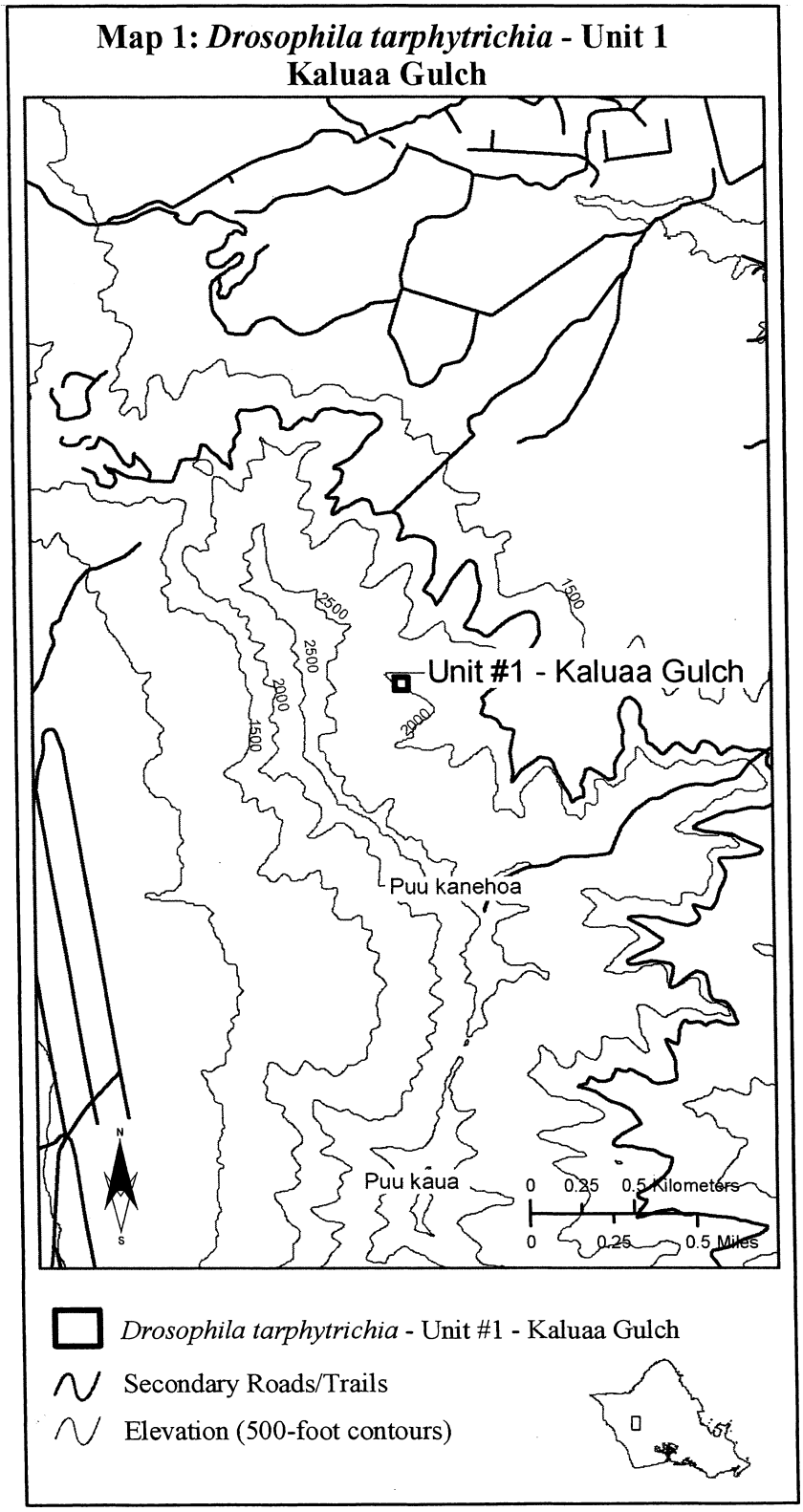
(4) Critical habitat units are described below. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).

(5) **Note:** For an index map of critical habitat units for *Drosophila tarphytrichia* and 10 other Hawaiian picture-wing fly species, see paragraph (5) of the critical habitat entry for *D. aglaia.*

(6) *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch: 593285, 2373778; 593285, 2373842; 593348, 2373842; 593348, 2373778.

(ii) **Note:** Map 1 of *Drosophila tarphytrichia*—Unit 1—Kaluaa Gulch follows:

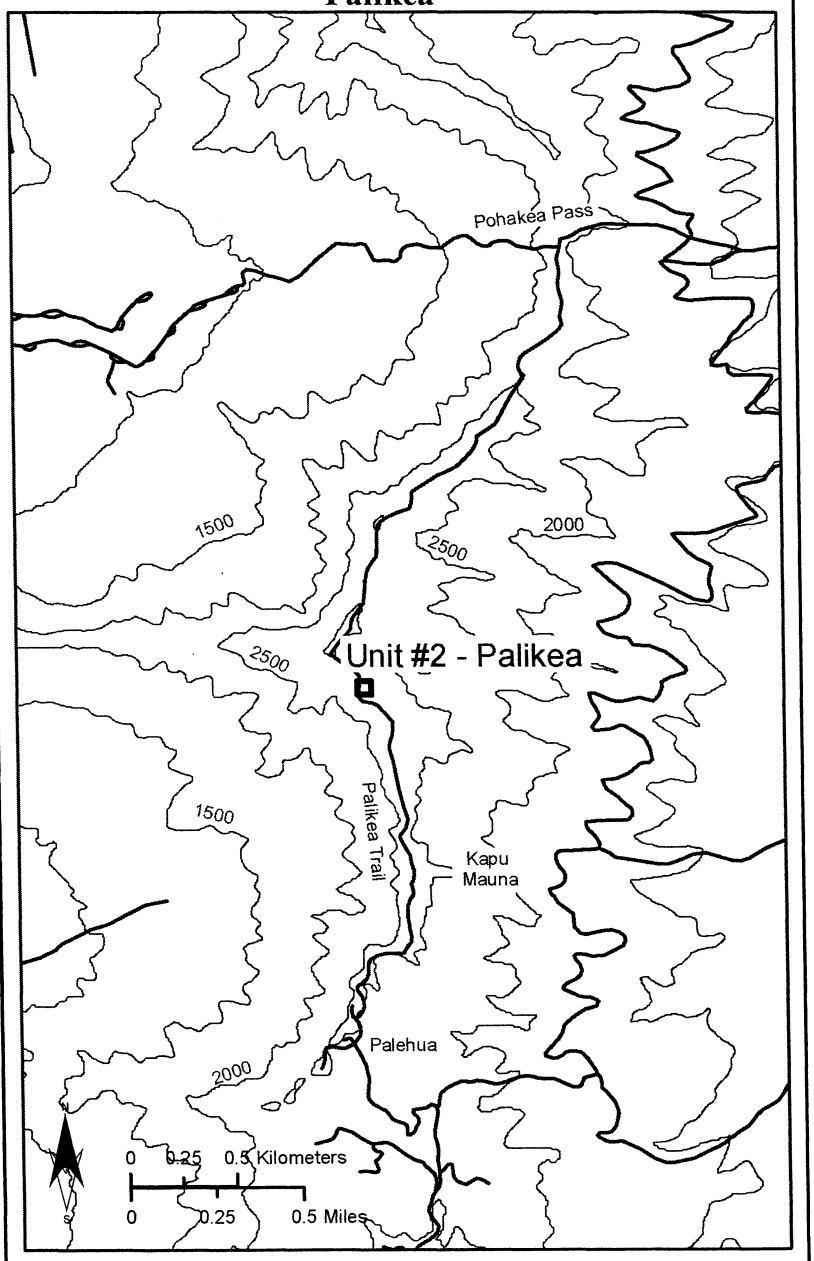


(7) *Drosophila tarphytrichia*—Unit 2—Palikea, City and County of Honolulu, Island of Oahu, Hawaii.

(i) *Drosophila tarphytrichia*—Unit 2—Palikea: 593273, 2367958; 593273, 2368022; 593337, 2368022; 593337, 2367958.

(ii) **Note:** Map 2 of *Drosophila tarphytrichia*—Unit 2—Palikea follows:

Map 2: *Drosophila tarphytrichia* - Unit 2 Palikea



Drosophila tarphytrichia - Unit #2 - Palikea

Secondary Roads/Trails

Elevation (500-foot contours)

* * * * *

Dated: July 24, 2006.

Matt Hogan,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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