

critical habitat. We received two comments objecting to the exemption of military lands under section 4(a)(3) of the Act, and one comment requesting that we exclude a portion of one critical habitat unit based on ongoing private conservation activities. All comments that we received were reviewed for substantive issues and new information regarding the proposed critical habitat designation for the 12 Hawaiian picture-wing fly species. All comments that we received have been fully considered in the final rule.

Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we solicited expert opinions from 15 knowledgeable individuals with scientific expertise that included familiarity with the species, the geographic region in which the species occurs, and conservation biology principles. We received responses from four of the peer reviewers, as are discussed below.

Peer Reviewer Comments

(1) *Comment:* Three peer reviewers recommended that the critical habitat designation include additional areas for 7 of the 12 picture-wing fly species (*Drosophila hemipeza*, *D. heteroneura*, *D. montgomeryi*, *D. neoclavisetae*, *D. obatai*, *D. substenoptera*, and *D. tarphyrichia*). The additional areas that they recommended are either within historical habitat, or within potentially suitable habitat that has not been surveyed that is located adjacent to occupied habitat. These peer reviewers stated that the amount of habitat or the number of units we proposed is insufficient to provide for conservation of the species, and that the inclusion of additional lands adjacent to the areas proposed would improve the likelihood of conserving the species. The peer reviewers stated that for some species, the lands adjacent to the proposed units contain habitat that is known or likely to contain relatively intact native forest. Some peer reviewers stated that the designation of additional lands adjacent to the proposed critical habitat units may help preserve the species' historical distribution or facilitate dispersal between localized subpopulations. Some peer reviewers also recommended that we include unsurveyed areas believed to support undocumented populations of picture-wing species, and that we include areas that are likely to support host plant populations.

Our Response: The Act defines critical habitat as:

- The specific areas within the geographical area occupied by the

species at the time it is listed 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; and

- Specific areas outside the geographical area occupied by the species at the time it is listed upon a determination by the Secretary that such areas are essential for the conservation of the species. The Act also states that "Except in those circumstances determined by the Secretary, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species."

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific and commercial data available. Although the peer reviewers recommended areas to add to the critical habitat designation, they did not provide information on habitat suitability or why they believed that the recommended areas contained the physical and biological features essential to the conservation of these species.

The areas recommended by the peer reviewers are either unoccupied or they have not been surveyed. We did not include areas that were not occupied at the time of listing because: (1) It is unclear why the species were extirpated from previously occupied areas; and (2) we could not conclude from the available data whether or not the previously occupied areas currently support, or even could support in the future, the physical and biological features (including their host plants) essential for the conservation of the species. Furthermore, some of the areas recommended for inclusion have never been surveyed for the flies, nor surveyed for the presence of host plants. Therefore based on the available information, we are unable to conclude that these areas were occupied at the time of listing, or that they contain the physical and biological features essential for the conservation of the species.

We used the best available, most recent survey data for adult flies to determine which sites we would identify as occupied and which sites we would identify as unoccupied. The primary dataset we used to document observations of these 12 picture-wing flies spans the years 1965–1999 (K. Kaneshiro, in litt. 2005a, pp. 1–16). We also reviewed a variety of peer-reviewed and other articles for this final rule, which included background information on the biology of each of the 12 species. Additional data were obtained from

personal communications with landowners, scientists, and land managers familiar with particular species and locations. Specific information from all of these sources included estimates of historic and current distribution, abundance, and territory sizes for the 12 species, as well as information on habitat requirements. The physical and biological features essential to the conservation, or primary constituent elements (PCEs), of the 12 picture-wing flies include both the host plants used by the larvae, as well as the native forest components used by foraging adults. We used known adult location data to identify each critical habitat unit, and included the surrounding area encompassing the physical and biological features essential to the conservation of the species. We did not include within this critical habitat designation sites in which a species had been observed according to the most recent survey data but that did not include the PCEs.

Based on the best available information, we believe that our final designation accurately encompasses sufficient areas for the conservation of the 12 Hawaiian picture-wing fly species. Therefore, we have not included the additional areas proposed by the peer reviewers. However, surveying historical habitat sites and adjacent potentially suitable habitat for extant populations of picture-wing flies and host plants will be a high priority during the recovery planning process, and we may consider amending the critical habitat designation at that time if new information indicates that these areas are essential to the recovery of these species.

(2) *Comment:* One peer reviewer commented that the Waiea Tract, which is adjacent to the proposed *Drosophila heteroneura*—Unit 2—Kona Refuge on the Island of Hawaii, contains higher densities of *Clermontia* sp. (the species' primary host plant) than the area that we proposed as critical habitat. The peer reviewer stated that the Waiea Tract should therefore be a high priority for conservation.

Our Response: The peer reviewer did not present scientific data with which we could evaluate whether the Waiea Tract includes areas that contain the physical and biological features essential to the conservation of *D. heteroneura*, or whether the areas currently proposed for designation for this species are inadequate. The Act defines critical habitat in part as areas containing the physical or biological features (PCEs) essential to the conservation of the species. To determine what is essential, we

determine the amount and spatial arrangement of PCEs necessary to recover the species. We believe that the areas designated in this rule will adequately provide for the conservation and recovery of the species; that is, the currently designated areas provide the PCEs in the quantity and configuration sufficient to meet the conservation and recovery needs of the species. Although the Waiea Tract is known to be occupied and contains high densities of *Clermontia* species, we do not believe this additional area is essential to the conservation of *D. heteroneura*. We proposed a total of 4,628 ac (1,855 ha) of critical habitat for *Drosophila heteroneura*, which includes 3,604 ac (1,459 ha) of lands adjacent to the Waiea Tract (*Drosophila heteroneura*—Unit 2—Kona Refuge). Based on the best scientific data available, we believe these areas accurately encompass the areas necessary for the conservation of *D. heteroneura* as required by the Act.

(3) *Comment*: One peer reviewer stated that the absence of nonnative wasps (*Vespula* sp.) within suitable habitat should be included as a primary constituent element for *Drosophila heteroneura*. This peer reviewer stated that based on field surveys, nonnative wasps are capable of entirely excluding *D. heteroneura* from habitat that is otherwise suitable.

Our Response: Primary constituent elements are those physical and biological features that are essential to the conservation of a species and that may require special management considerations or protection (50 CFR 424.12(b)). Predation by nonnative wasps has been identified as a significant threat to the 12 picture-wing fly species, and we intend to pursue recovery actions to minimize the impacts of nonnative wasps in currently occupied habitat and in areas within the flies' historical range. However, we disagree that the absence of predatory wasps should be included as a primary constituent element, since management strategies to address this specific threat remain to be developed.

(4) *Comment*: Two peer reviewers stated that since each of the 12 Hawaiian picture-wing flies feed within decomposing portions of their host plants, critical habitat should encompass all host plant life stages (e.g., from seedlings to senescent individuals), and be large enough to support healthy, reproducing host plant populations. One peer reviewer also recommended that reproducing host plant populations be included as a primary constituent element.

Our Response: Based on the best scientific data available, we believe that

the areas designated as critical habitat in this final rule are large enough to provide for all host plant life stages (see our response to Comment (1), above, for a discussion about the information we used to designate critical habitat for the 12 Hawaiian picture-wing flies). We agree with the peer reviewer that including reproducing host plant populations as an additional primary constituent element for each of the 12 Hawaiian picture-wing fly species would improve precision in identifying the physical and biological features essential to the conservation of a species in the field. Accordingly, we have incorporated this recommendation into this final rule, although the addition of this new primary constituent element did not result in any boundary changes to any of the designated critical habitat units.

(5) *Comment*: One peer reviewer emphasized that additional in-field management activities are necessary on the Island of Oahu to protect *Urera glabra* and *U. kaalae*, which are host plants for *Drosophila aglaia*, *D. hemipeza*, and *D. montgomeryi*.

Our Response: We agree that management of the remaining *Urera* spp. populations on the Island of Oahu is necessary to prevent their continued decline and to support the long-term conservation of *Drosophila aglaia*, *D. hemipeza*, and *D. montgomeryi*. On a broader scale, specific management actions that relate to the conservation of host plants for each of the 12 Hawaiian picture-wing fly species will likely be an important recovery task as recovery plans and other conservation programs are developed. However, identifying specific management is beyond the scope of this final critical habitat designation.

(6) *Comment*: One peer reviewer noted that the proposed rule lacks a formal analysis of how the critical habitat proposed for the 12 picture-wing flies will function under different scenarios of climate change. The reviewer suggested that the designation should take into account the potential for shifting distributions of both the picture-wing flies and their host plants along natural temperature and moisture gradients in response to climate change.

Our Response: Although we agree that the impact of climate change to the distribution of picture-wing flies and their host plant populations is a potential concern, the effects of climate change are difficult to predict at the local or regional level. In addition, future changes in precipitation are uncertain because they depend in part on how El Niño (a disruption of the ocean atmospheric system in the

Tropical Pacific having important global consequences for weather and climate) might change, and reliable projections of changes in El Niño have yet to be made (Hawaii Climate Change Action Plan 1998, pp. 2–10). As such, we do not have sufficient scientific information with which to formally analyze the potential effects of climate change on the Hawaiian picture-wing flies and their habitat at this time. To the extent that climate change leads to a future shift in the location of the PCEs for these species, we would need to address that in future critical habitat revisions.

Federal Agency Comments

(7) *Comment*: The U.S. Navy, on behalf of the National Aeronautics and Space Administration requested that we exclude parts of Kokee Sites B and D that intersect the proposed critical habitat. They characterized the areas as being fenced and developed, stating that these areas would be unlikely to support Hawaiian picture-wing flies. They also advised that they planned to survey for the endangered fly, *Drosophila musaphila*, at the Kokee Sites to determine its presence or absence, and that measures to benefit the fly will be included in the Pacific Missile Range Facility Integrated Natural Resources Management Plan if the fly is discovered.

Our Response: We have attempted to exclude manmade structures using aerial photos and other available imagery. However, we were not always able to successfully exclude these structures from critical habitat maps because the resolution of our imagery does not allow us to locate small structures. Existing manmade features and structures within the boundaries of the areas mapped as critical habitat, such as buildings, roads, existing fences, telecommunications equipment towers and associated structures and equipment, communication facilities and regularly maintained associated rights-of-way, radars, telemetry antennas, paved areas, and other landscaped areas, do not contain one or more of the primary constituent elements described for *D. musaphila*. Accordingly, the text of the rule makes clear that these types of areas are not included in the critical habitat designation, even if they occur within the boundary of the mapped critical habitat unit *Drosophila musaphila*—Unit 1—Kokee.

Comments From the State of Hawaii

Section 4(i) of the Act states, “the Secretary shall submit to the State agency a written justification for his

failure to adopt regulations consistent with the agency's comments or petition." Comments received from the State regarding the proposal to designate critical habitat 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* are addressed below.

(8) *Comment:* The State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) supported the critical habitat designations on private lands, provided the designations have landowner support. The DOFAW commented that it supports the targeted site-specific approach to designate critical habitat within larger areas being managed for watershed and native species protection and restoration of native ecosystems, and agrees with the proposals for the islands of Kauai, Oahu, and Molokai where designations are proposed on DOFAW lands. It requested additional review and coordination on sites proposed on DOFAW forest reserves on the Island of Hawaii that are included in the Tri-Mountain Watershed Partnership and Kohala Mountain Watershed Partnership for possible exclusion based on their protected status and adequacy of their management programs. It also requested that site visits be conducted for all areas proposed as critical habitat to confirm the adequacy of the site, to confirm appropriateness for exclusion, and to locate boundaries. Finally, it suggested that the critical habitat designation process could be improved if done concurrently with recovery planning. In addition, DOFAW stated that critical habitat designations for host plants may be adequate to meet the needs of the picture-wing flies.

Our Response: We appreciate and commend the State's implementation of management plans that benefit the Hawaiian picture-wing flies' critical habitat areas that we are designating in this final rule. The Secretary has discretion to exclude lands that have been proposed under section 4(b)(2) of the Act, upon a determination that the benefits of such exclusion outweigh the benefits of specifying a particular area as part of the critical habitat (unless the failure to designate such an area would result in the extinction of the species). We have fully considered the State's request that we exclude certain parts of its lands from critical habitat designation. However, the units we are designating in this final rule meet the definition of critical habitat, contain the PCEs that are essential to the conservation of these species, and

require special management. In addition, based on our economic analysis and the best available information, we are unaware of any substantive economic or other relevant impacts that would result from such designation on State lands. Accordingly, we have not excluded the State lands from the designation of critical habitat. On May 12, 2008, and September 17, 2008, we met with DOFAW personnel regarding their comments on the proposed critical habitat units on the Island of Hawaii. The State provided us with a copy of the 2008 Waiakea Timber Management Map, which was developed based on their 1997 timber inventory. This map indicated that portions of two units, (*Drosophila mulli*—Unit 3—Waiakea Forest [373 acres/151 ha], and *Drosophila mulli*—Unit 2—Stainback Forest [76 acres/31 ha]), were planted in the 1960s with several timber crop species including *Eucalyptus* sp., *Flindersia brayleyana* (Queensland maple), and *Toona ciliata* (Australia red cedar). The DOFAW staff advised us that *Drosophila mulli*'s host plant (*Pritchardia beccariana*) is scattered within the timber-planted areas and within the above critical habitat units. Although the two critical habitat units encompass areas planted with *Eucalyptus* sp. and other nonnative timber species, they contain the primary constituent elements, are occupied by *D. mulli*, and incorporate the physical and biological features essential to the conservation of this species.

We agree that the process of designating critical habitat may be improved if it were completed concurrently with the development of a recovery plan. However, the Act and its implementing regulations require that we specify critical habitat to the maximum extent prudent and determinable at the time a species is proposed for listing (50 CFR 424.12(a)). In the case of the 12 picture-wing flies, we are also under a court-ordered deadline to complete the critical habitat designations by November 15, 2008 (*Center for Biological Diversity v. Allen*, CV-05-274-HA).

During the development of the revised proposed rule, we aligned the proposed critical habitat areas with areas that were already designated as critical habitat for other species to the maximum extent practicable on State and private lands. On the Island of Oahu, critical habitat has only been designated for one plant (*Urera kaalae*), which is a host plant for *Drosophila hemipeza* and *D. montgomeryi*. There is no designated critical habitat for the host plants of *D. heteroneura*, *D. mulli*, and *D. ochrobasis* on the Island of

Hawaii. Therefore, we were not able to align existing host plant critical habitat with proposed critical habitat for the picture-wing flies on the Island of Hawaii. We believe that the lands designated as critical habitat in this final rule accurately represent areas that will provide for the conservation of the 12 picture-wing flies.

(9) *Comment:* The State of Hawaii Department of Land and Natural Resources, Division of State Parks commented that four areas within the proposed unit *Drosophila musaphilia*—Unit 1—Kokee, appeared to include roads, lawns, and buildings, and other structures. The State presented maps depicting the areas in question, and requested that we remove them from the designation if the primary constituent elements were not present.

Our Response: Our analysis of satellite imagery determined that the developed areas in question are not within the *Drosophila musaphilia*—Unit 1—Kokee critical habitat unit. Accordingly, the area in question is not included in the area that we originally proposed and are herein designating as critical habitat.

(10) *Comment:* The State of Hawaii Office of Hawaiian Affairs commented that they support the reconsideration of the Hawaiian picture-wing fly critical habitat, and that the revised designation more accurately reflects the best scientific data available as required by the Act. The State Historic Preservation Office commented that the designation of critical habitat does not affect historic properties.

Our Response: Based on the best scientific data available, we agree that this final rule more accurately reflects the physical and biological requirements of the 12 Hawaiian picture-wing flies. We also agree that the designation of critical habitat does not affect historic properties.

Public Comments Related to the Military and Exemption of Military Lands From the Designation

(11) *Comment:* Four individuals or non-governmental organizations submitted written comments or testimony at the public hearings stating opposition to the exemption of Oahu military lands from the designation. They also requested that we provide information on our finding that the Oahu Integrated Natural Resources Management Plan will protect the two picture-wing fly species involved (*Drosophila substenoptera* and *D. aglaia*), and that we justify the exemption of military lands from the critical habitat designation.

Our Response: The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) states that “The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.” Accordingly, those portions of the Integrated Natural Resources Management Plan (INRMP) applicable to areas we were considering for critical habitat designation for *Drosophila aglaia* and *D. substenoptera* were evaluated according to the requirements of section 4(B)(i) of the Act.

The U.S. Army Oahu INRMP for the West Range of the Schofield Barracks Military Reservation was completed in 2000. This INRMP includes several conservation measures that benefit *Drosophila aglaia* and *D. substenoptera*. The measures include: (1) Outplanting of native plants, which provides for the natural forest conditions necessary for adult fly foraging by both species; (2) feral ungulate control, which prevents both direct loss of the larval stage host plants and adult foraging substrate of both species and prevents habitat alteration by feral ungulates; (3) wildland wildfire control, which prevents both loss and alteration of habitat for *D. aglaia*; and (4) nonnative plant control, which prevents habitat alteration for both species. Accordingly, we determined that the plan provides a benefit to *D. aglaia* and *D. substenoptera*, and we therefore did not designate approximately 78 acres (31 ha) as critical habitat for *D. aglaia* and *D. substenoptera* under section 4(a)(3)(B)(i) of the Act. However, since these areas are important for the recovery of these species, we intend to work closely with the U.S. Army to identify recovery tasks and implement recovery efforts for these two species as recovery plans are developed. The other 10 species of picture-wing flies do not occur on Army land.

(12) *Comment:* One individual provided testimony at a public hearing stating that the military is continually expanding their presence in the Hawaiian Islands at the expense of environmental protection. This commenter cited the recent expansion of training activities by the U.S. Navy

and introduction of the U.S. Army’s Stryker Brigade as examples.

Our Response: The Fish and Wildlife Service is the principal Federal agency responsible for conserving, protecting, and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people. In this regard, it is paramount that we work cooperatively with all partners (including the military) to promote environmental stewardship. Although the U.S. Navy training activities and the presence of the U.S. Army Stryker Brigade are beyond the scope of this final critical habitat designation, we look forward to working with them to improve the status of imperiled species on their lands.

Public Comments Related to the Effects of the Designation on Private Landownership

(13) *Comment:* Two individuals provided written comments stating opposition to the designation because they believe it will negatively impact the rights of private landowners. One commenter did not want tax money to contribute to fruit flies stripping fellow citizens of their property rights.

Our Response: The effect of a critical habitat designation is that activities authorized, funded, or carried out by a Federal agency require consultation with the Service under section 7 of the Act to ensure they are not likely to destroy or adversely modify critical habitat. For example, activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1344 *et seq.*) or a section 10(a)(1)(B) permit from us, or activities on private or State lands funded by a Federal agency, such as the Federal Highway Administration or Federal Emergency Management Agency funding, would be subject to the section 7 consultation process. Activities on State, Tribal, local, or private lands that are not carried out, funded, or authorized by a Federal agency are not subject to any regulatory requirements as a result of critical habitat designation. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area, and the designation of critical habitat does not allow government or public access to private lands. Most activities that require a Federal agency to consult with us generally can proceed without modification.

(14) *Comment:* One land manager expressed opposition to the designation of critical habitat on private lands

within the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui. This commenter questioned whether the current conservation program in place for the Puu Kukui Watershed Preserve by the Maui Land and Pineapple Company might preclude the need for designation in light of the perceived loss of real property rights within the area.

Our Response: We agree with the commenter that developing and maintaining public and private partnerships for species conservation are important. After fully evaluating the Puu Kukui conservation program, we are excluding a portion of the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui from the final designation, since the private landowner is proactively managing the area for the conservation benefit of the *D. neoclavisetae* and numerous other listed species. We believe that there is a higher likelihood that beneficial conservation activities will continue if we do not include this area in this critical habitat designation. We have determined that the benefits of exclusion outweigh the benefits of including this area as critical habitat, as is discussed in detail in the “Exclusions Under Section 4(b)(2) of the Act” section below.

Other Public Comments

(15) *Comment:* One individual expressed opposition to the listing process that determined Federal status for the 12 Hawaiian picture-wing flies, and criticized the fact that comprehensive surveys were not conducted during the listing process.

Our Response: Our November 28, 2007, proposed rule (72 FR 67428) specifically solicited comments on the proposed critical habitat revision. Comments relating to the May 9, 2006, final listing rule (71 FR 26835) are hereby acknowledged, but are beyond the scope of this final critical habitat designation.

Summary of Changes From the Proposed Rule

In preparing the final critical habitat designation for the 12 Hawaiian picture-wing flies, we reviewed and considered comments from the public and peer reviewers on the November 28, 2007, proposed designation of critical habitat (72 FR 67428), the March 6, 2008, document announcing the public hearings and the reopening of the comment period (73 FR 12065), and the August 12, 2008, document announcing the availability of the draft economic analysis and an amended required determinations section of the proposed rule and the reopening of the comment period (73 FR 46860). As a result of

comments received, we made the following changes to our proposed designation:

(1) The final designation includes the following revision of the primary constituent elements used to identify critical habitat for each of the 12 picture-wing fly species: Populations of the larval stage host plant(s) that exhibit one or more life stages (from seedlings to senescent individuals). This change does not affect the boundaries of the proposed designation.

(2) We have excluded 450 ac (182 ha) of lands owned by the Maui Land and Pineapple Company (MLP) that we proposed as critical habitat for *Drosophila neoclavisetae*, within the *Drosophila neoclavisetae*—Unit 1—Puu Kukui, from the final designation (see the “Exclusions under Section 4(b)(2) of the Act” section of this final rule for further details on this exclusion).

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

(a) essential to the conservation of the species and

(b) that may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided under the Act are no longer necessary. 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(a)(2) of the Act requires consultation on Federal actions that may affect critical habitat. The

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

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time of listing must contain the physical and biological features essential to the conservation of the species, and be included only if those features may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found those physical and biological features essential to the conservation of the species). Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed only when we determine that those areas are essential for the conservation of the species. For the 12 Hawaiian picture-wing flies, we have determined that it is not necessary to designate critical habitat in unoccupied areas, as there are adequate occupied areas that contain the physical and biological features essential to the conservation of the species.

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

the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

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

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

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

Primary Constituent Elements (PCEs)

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas occupied by the species at the time of listing to designate as critical habitat, we consider the physical or biological features essential to the conservation of the species that may require special management considerations or protection. We consider the physical and biological features to be the primary

constituent elements laid out in the appropriate quantity and spatial arrangement for the conservation of the species. These include, but are not limited to:

- (1) Space for individual and population growth and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, and rearing (or development) of offspring;
- (5) Habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

We derived the specific primary constituent elements required for the 12 species of picture-wing flies from their biological needs, as described in the revised proposed critical habitat rule published in the **Federal Register** on November 28, 2007 (72 FR 67428), and below.

As required by 50 CFR 424.12(b), we are to list the known PCEs with our description of critical habitat. The PCEs provided by the physical and biological features upon which the designation is based may include, but are not limited to, the following: Roost sites, nesting grounds, spawning sites, feeding sites, seasonal wetland or dryland, water quality or quantity, host species or plant pollinators, geological formations, vegetation types, tides, and specific soil types.

*Primary Constituent Elements (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**

We identified the PCEs for the 12 Hawaiian picture-wing flies based on our knowledge of the life history, biology, and ecology of the species, and the physical and biological features of the habitat necessary to sustain their essential life history functions. To determine what is essential for these species, we determined the amount and spatial arrangement of PCEs necessary to provide for their conservation. Not all areas that contain one or more of the PCEs would necessarily be included in the designation if those PCEs were not in the quantity and configuration requisite to meeting the conservation needs of the species. For example, areas may not be included in the designation if they are in excess of the habitat that has been determined to be sufficient to meet the conservation and recovery

needs of the species. Additional information about how we identified the PCEs can also be found in the revised proposed critical habitat rule published on November 28, 2007 (72 FR 67428). All areas designated as critical habitat for the 12 picture-wing flies are currently occupied, within the species' historical geographic range, contain all relevant PCEs, and support both the larval and adult foraging stages of the 12 Hawaiian picture-wing flies.

Space for Individual and Population Growth and for Normal Behavior

The general life cycle of Hawaiian *Drosophilidae* is typical of that of most flies. After mating, females lay eggs from which larvae (the immature stage) hatch. As larvae grow, they molt (shed their skin) through three successive stages (instars). When they are fully grown, the larvae change into pupae (a transitional form) in which they metamorphose and emerge as adults. Breeding for each of the 12 species of Hawaiian picture-wing flies included in this final rule generally occurs year-round, but egg laying and larval development increase following the rainy season as the availability of decaying matter, upon which the flies feed, increases in response to the heavy rains (K. Kaneshiro, in litt. 2005b, pp. 1–2). In general, *Drosophila* lay between 50 and 200 eggs at a single time. 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 (Science Panel 2005).

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, in litt. 2005b, pp. 1–2). Additionally, adult behavior may be disrupted, and the flies themselves may be susceptible to the hunting activities of nonnative Hymenoptera, including yellow jacket wasps and ants (Kaneshiro and Kaneshiro 1995, pp. 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, p. 5). Lastly, it is well-known that these 12 species and most other picture-wing flies are susceptible to even slight temperature increases, an issue that may be exacerbated by loss of suitable forest cover or the impacts from drought (K. Kaneshiro, in litt. 2005b, pp. 1–2).

Food

Each of the 12 species of Hawaiian picture-wing flies described in this document is found on a single island, and the larvae of each are dependent upon only a single or a few related species of plants. 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, in litt. 2005b, pp. 1–2). Because the larval stage of each of the 12 species feeds only on the decomposing portions of their specific host plants, designated lands must encompass an area sufficient to support healthy, reproducing host plant populations exhibiting one or more life stages (e.g., from seedlings to senescent individuals).

Based on our current knowledge of the life history, biology, and ecology of each species, and the habitat requirements to sustain the essential life history functions of the 12 Hawaiian picture-wing flies, we provide the PCEs for the larval and adult life stages 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* below:

Oahu Species

The PCEs for *Drosophila aglaia* are: (1) Dry to mesic, lowland, ohia, koa, and *Diospyros* sp., forest between the elevations of 1,865–2,985 feet (ft) (568–910 meters (m)); and (2) the larval stage host plant *Urera glabra*, which exhibits one or more life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila hemipeza* are: (1) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–3,005 ft (524–916 m); and (2) the larval stage host plants *Cyanea angustifolia*, *C. calycina*, *C. grimesiana* ssp. *grimesiana* (Endangered (E)), *C. grimesiana* ssp. *obatae* (E), *C. membranacea*, *C. pinnatifida* (E), *C. superba* ssp. *superba* (E), *Lobelia hypoleuca*, *L. niuhauensis* (E), *L. yuccoides*, and *Urera kaalae* (E), which exhibit one or more life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila montgomeryi* are: (1) Mesic, lowland, diverse ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and (2) the larval stage host plant *Urera kaalae* (E), which exhibits one or more life stages

(from seedlings to senescent individuals).

The PCEs for *Drosophila obatai* are: (1) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,475–2,535 ft (450–773 m); and (2) the larval stage host plant *Pleomele forbesii*, which exhibits one or more life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila substenoptera* are: (1) Mesic to wet, lowland to montane, ohia and koa forest between the elevations of 1,920–4,030 ft (585–1,228 m); and (2) the larval stage host plants *Cheirodendron platyphyllum* ssp. *platyphyllum*, *C. trigynum* ssp. *trigynum*, *Tetraplasandra kavaiensis*, and *T. oahuensis*, which exhibit one or more of the life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila tarphytrichia* are: (1) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and (2) the larval stage host plant *Charpentiera obovata*, which exhibits one or more life stages (from seedlings to senescent individuals).

Hawaii (Big Island) Species

The PCEs for *Drosophila heteroneura* are: (1) Mesic to wet, montane, ohia and koa forest between the elevations of 2,980–5,755 ft (908–1,754 m); and (2) the larval stage host plants *Cheirodendron trigynum* ssp. *trigynum*, *Clermontia clermontioides*, *C. clermontioides* ssp. *rockiana*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana* (E), *C. montis-loa*, *C. parviflora*, *C. peleana* (E), *C. pyralaria* (E), and *Delissea parviflora*, which exhibit one or more life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila mulli* are: (1) Wet, montane, ohia forest between the elevations of 1,955–3,585 ft (596–1,093 m); and (2) the larval stage host plant *Pritchardia beccariana*, which exhibits one or more life stages (from seedlings to senescent individuals).

The PCEs for *Drosophila ochrobasis* are: (1) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest between the elevations of 3,850–5,390 ft (1,173–1,643 m); and (2) the larval stage host plants *Clermontia calophylla*, *C. clermontioides*, *C. clermontioides* ssp. *rockiana*, *C. drepanomorpha* (E), *C. hawaiiensis*, *C. kohalae*, *C. lindseyana* (E), *C. montis-loa*, *C. parviflora*, *C. peleana* (E), *C. pyralaria* (E), *C. waimeae*, *Marattia douglasii*, *Myrsine lanaiensis*, *M. lessertiana*, and *M. sandwicensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

Kauai Species

The PCEs for *Drosophila musaphilia* are: (1) Mesic, montane, ohia and koa forest between the elevations of 3,310–3,740 ft (1,009–1,128 m); and (2) the larval stage host plant *Acacia koa*, which exhibits one or more life stages (from seedlings to senescent individuals).

Mauai Species

The PCEs for *Drosophila neoclavisetae* are: (1) Wet, montane, ohia forest between the elevations of 3,405–4,590 ft (1,036–1,399 m), and (2) the larval stage host plants *Cyanea kunthiana* and *C. macrostegia* ssp. *macrostegia*, which exhibit one or more life stages (from seedlings to senescent individuals).

Molokai Species

The PCEs for *Drosophila differens* are: (1) Wet, montane, ohia forest between the elevations of 3,645–4,495 ft (1,111–1,370 m); and (2) the larval stage host plants *Clermontia arborescens* ssp. *waihia*, *C. granidiflora* ssp. *munroi*, *C. kakeana*, *C. oblongifolia* ssp. *brevipes* (E), and *C. pallida*, which exhibit one or more life stages (from seedlings to senescent individuals).

This final critical habitat designation identifies the known physical or biological features in the quantity and spatial arrangement on the landscape essential to support the life history functions of the species. Each of the areas designated in this rule contains the PCEs to provide for one or more of the life history functions 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*.

Special Management Considerations or Protections

When designating critical habitat, we assess whether the areas occupied at the time of listing contain the physical and biological features essential to the conservation of the species, and whether these features may require special management considerations or protections.

Nonnative plants and animals pose the greatest threats to these 12 picture-wing flies. In order to counter 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 12 picture-wing flies (Kaneshiro and Kaneshiro 1995, pp. 37–38). Without active management or control, native habitat containing the

features that are essential for the conservation of the 12 picture-wing flies will continue to be degraded or destroyed. In addition, habitat degradation and destruction as a result of wildfire, competition with nonnative insects, and predation by nonnative insects, such as the western yellow-jacket wasp (*Vespa pensylvanica*), may significantly threaten many of the populations of the 12 picture-wing flies. Active management is necessary to control these threats, as well.

The threats to the physical and biological features in the areas we are designating as critical habitat for the 12 picture-wing flies that may require special management considerations or protection include feral ungulates, rats, invasive nonnative plants, and yellow-jacket wasps. In addition, the units in dry or mesic habitats may also require special management to address wildfire and ants. Each of these threats is summarized below. For a more detailed discussion of each threat refer to the proposed revised critical habitat rule published in the **Federal Register** on November 28, 2007 (72 FR 67434).

Feral Ungulates

Feral ungulates have devastated native vegetation in many areas of the Hawaiian Islands (Cuddihy and Stone 1990, pp. 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, p. 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 12 picture-wing flies), and 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 entire watersheds due to foraging and trampling behaviors (Cuddihy and Stone 1990, pp. 60–64 and 66).

Rats (*Rattus* spp.)

Several species of nonnative rats, including the Polynesian rat (*Rattus exulans*), the roof rat (*Rattus rattus*), and the Norway rat (*Rattus norvegicus*), are present on the Hawaiian Islands and cause considerable environmental degradation (Staples and Cowie 2001). The seeds, bark, and flowers of several of the picture-wing flies' host plants, including *Clermontia* sp., *Pleomele* sp., and *Pritchardia beccariana*, are susceptible to herbivory by all the rat species (Science Panel 2005; K.

Magnacca, in litt. 2005; S. Montgomery, pers. comm. 2005b). The herbivory by rats causes host plant mortality, diminished vigor, and seed predation, resulting in reduced host plant fecundity and viability (Science Panel 2005; K. Magnacca, in litt. 2005; S. Montgomery, pers. comm. 2005b).

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, pp. 38–39; Wagner *et al.* 1999, pp. 52–53 and 971; Science Panel 2005, p. 28), and threatens all populations of the 12 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 forming a dense canopy cover that intercepts sunlight and shades out native plants below. Nonnative grasses readily burn. They often grow at the border of forests, and carry wildfire into areas with woody native plants (Smith 1985, pp. 228–229; Cuddihy and Stone 1990, pp. 88–94). The nonnative grasses are more wildfire-adapted and can spread prolifically after a wildfire, ultimately creating a stand of nonnative grasses where native forest once existed. These nonnative plants cannot be used as host plants by the flies. Some nonnative plant species produce chemicals that inhibit the growth of other plant species (Smith 1985, p. 228; Wagner *et al.* 1999, p. 971).

Wildfire

Wildfire 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. montgomeryi*, *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 wildfire frequency, a condition to which the native flora is not adapted. The invasion of wildfire-adapted alien plants, facilitated by ungulate disturbance, has contributed to wildfire frequency. This change in wildfire regime has reduced the amount of forest cover for native species (Hughes *et al.* 1991, p. 743; Blackmore and Vitousek 2000, p. 625) and resulted in an intensification of fire threat and feral ungulate disturbance in the remaining native forest areas. Habitat damaged or destroyed by wildfire 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, p. 47).

Nonnative Insect Competitors

The Hawaiian Islands now support several established species of nonnative insects which compete with some of the 12 picture-wing flies within their larval stage host plants. The most important group of nonnative insect competitors includes tipulid flies (crane flies, family Tipulidae). The larvae of some species within this group feed within the decomposing bark of some of the host plants utilized by picture-wing flies, including *Charpentiera*, *Cheirodendron*, *Clermontia*, and *Pleomele* spp. (Science Panel 2005, p. 11; K. Magnacca, U.S. Geological Survey, in litt. 2005, p. 1; S. Montgomery, in litt. 2005a, p. 1). Each of the picture-wing flies addressed in this rule, except for *Drosophila mulli*, *D. musaphilia*, and *D. neoclavisetae*, face larval-stage resource competition from nonnative tipulid flies. The Hawaiian Islands also support several species of nonnative beetles (family Scolytidae, genus *Coccotrypes*), a few of which bore into and feed on the nuts produced by certain native plant species including *Pritchardia beccariana*, the host plant of *Drosophila mulli*. Affected *Pritchardia* spp., including *P. beccariana*, drop their fruit before the nuts reach maturity due to the boring action of the scolytid beetles. Little natural regeneration of this host plant species has been observed in the wild since the arrival of this scolytid beetle (K. Magnacca, in litt. 2005, p. 1; Science Panel 2005, p. 11). Compared to the host plants of the other picture-wing flies, *P. beccariana* is long lived (up to 100 years), but over time scolytid beetles may have a significant impact on the availability of habitat for *D. mulli*.

Nonnative Insect Predators

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, pp. 82–83; Howarth and Ramsay 1991, pp. 80–83; Kaneshiro and Kaneshiro 1995, pp. 40–45 and 47; Staples and Cowie 2001, pp. 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 predation threat to the Hawaiian picture-wing flies (Carson 1982, p. 1, 1986, p. 7; Gambino *et al.* 1987, pp. 169–170; Kaneshiro and Kaneshiro 1995, pp. 40–45 and 47).

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we used the best scientific and commercial information available in determining the specific areas within the geographical occupied by each of the picture-wing flies, *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* at the time of listing that (1) contain PCEs in the quantity and spatial arrangement to support life history functions essential for the conservation of each of these species; and (2) may require special management considerations or protection. We relied on information in our prior rulemaking and new information gained through the peer review and public comment process. Each area that we are designating as critical habitat is occupied, contains the PCEs, and supports both the larval and adult foraging stages of the 12 Hawaiian picture-wing fly species. The discussion below summarizes the criteria used to identify critical habitat. For additional information, refer to the proposed critical habitat rule that was published in the **Federal Register** on November 28, 2007 (72 FR 67435).

The following geospatial, tabular data sets were used in preparing this final critical habitat designation: (1) Occurrence data for all 12 species (K. Kaneshiro, in litt. 2005a, pp. 1–16); (2) vegetation mapping data for the Hawaiian Islands (Gap Analysis Program (GAP) Data—Hawaiian Islands 2005); (3) color mosaic 1:19,000 scale digital aerial photographs for the Hawaiian Islands dated April to May 2005; and (4) 1:24,000 scale digital raster graphics of U.S. Geological Survey (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 also reviewed a variety of peer-reviewed and other articles in preparing this final rule, including: (1) Background information on the biology of each of the 12 species (e.g., Montgomery 1975, pp. 83, 94, 96–98, and 100; Foote and Carson 1995, pp. 1–4; Kaneshiro and Kaneshiro 1995, pp. 1–47); (2) plant ecology and biology (Wagner *et al.* 1999, pp. 45, 52–53, 971, 1,314–1,315, and 1,351–1,352); and (3) the ecology of the Hawaiian Islands and the areas we are designating in this final rule (e.g., Smith 1985, pp. 227–233;

Stone 1985, pp. 251–253, 256, and 260–263; Cuddihy and Stone 1990, pp. 59–66, 73–76, and 88–94). Additional information reviewed included: (1) The October 29, 1991, final rule listing the plant species *Urera kaalae* (a host plant for two of the fly species) as endangered (56 FR 55770); (2) the June 17, 2003, final critical habitat designation for *U. kaalae* (68 FR 35950); (3) the May 9, 2006, final listing rule for the 12 species of picture-wing flies (71 FR 26835); (4) the August 15, 2006, proposed critical habitat designation for 11 species of picture-wing flies (71 FR 46994); (5) unpublished reports by The Nature Conservancy of Hawaii (TNCH); and (6) aerial photographs and satellite imagery of the Hawaiian Islands.

We obtained additional information through personal communications with landowners, scientists, and land managers familiar with the 12 species and their habitats, including individuals affiliated with the University of Hawaii, University of California at Berkeley, the U.S. Geological Survey, the Bishop Museum, Hawaii State Department of Land and Natural Resources, TNCH, and the 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.

The primary constituent elements of this final critical habitat designation include both the host plants used by the larvae, as well as the native forest

components used by foraging adults. We used known adult location data to identify each critical habitat unit, and included the surrounding area encompassing the physical and biological features essential to the conservation of the species. While there has been considerable survey work conducted for Hawaiian picture-wing flies in an overall sense, some areas where these 12 species are found have not been surveyed in many years. We used the best available, most recent survey data for adult flies to determine which sites we would identify as occupied and which sites we would identify as unoccupied. We did not designate critical habitat in areas where a species had been observed, but where the areas had either become degraded (e.g., due to loss or degradation of native vegetation, increase in nonnative vegetation, or documented presence of yellow-jacket wasps) and lacked PCEs, or if multiple surveys over the course of several years failed to detect the species. The final critical habitat unit boundaries included in this rule reflect the results of this analysis, after taking into account the presence of known developed areas, as described below.

When determining critical habitat boundaries, we made every effort to avoid including developed areas such as buildings, paved areas, and other structures that lack PCEs within the 32 critical habitat units designated by this final rule 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*. However, because of the scale of the maps, the maps may not reflect the exclusion of such developed areas. Accordingly, any developed areas that fall within the critical habitat boundaries reflected on the maps in this final rule have been excluded by text in this rule, and are not included within the critical habitat designation. 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.

Critical Habitat Designation

We are designating 32 units as critical habitat 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*.

In total, approximately 8,788 ac (3,556 ha) occur within the boundaries of this critical habitat designation. The critical habitat areas described below constitute our current best assessment of areas determined to be occupied at the time of listing, contain the primary constituent elements essential for the conservation of the 12 Hawaiian picture-wing flies, and may require special management. The 32 areas designated as critical habitat are:

TABLE 1—CRITICAL HABITAT UNITS AND ISLAND

Island	Unit name
Oahu	<i>Drosophila aglaia</i> —Unit 1—Palikea.
Oahu	<i>Drosophila aglaia</i> —Unit 2—Puu Kaua.
Oahu	<i>Drosophila hemipeza</i> —Unit 1—Kaluaa Gulch.
Oahu	<i>Drosophila hemipeza</i> —Unit 2—Makaha Valley.
Oahu	<i>Drosophila hemipeza</i> —Unit 3—Palikea.
Oahu	<i>Drosophila hemipeza</i> —Unit 4—Puu Kaua.
Oahu	<i>Drosophila montgomeryi</i> —Unit 1—Kaluaa Gulch.
Oahu	<i>Drosophila montgomeryi</i> —Unit 2—Palikea.
Oahu	<i>Drosophila montgomeryi</i> —Unit 3—Puu Kaua.
Oahu	<i>Drosophila obatai</i> —Unit 1—Puu Pane.
Oahu	<i>Drosophila obatai</i> —Unit 2—Wailupe.
Oahu	<i>Drosophila substenoptera</i> —Unit 1—Mt. Kaala.
Oahu	<i>Drosophila substenoptera</i> —Unit 2—Palikea.
Oahu	<i>Drosophila tarphytrichia</i> —Unit 1—Kaluaa Gulch.
Oahu	<i>Drosophila tarphytrichia</i> —Unit 2—Palikea.
Oahu	<i>Drosophila tarphytrichia</i> —Unit 3—Puu Kaua.
Hawaii (Big Island)	<i>Drosophila heteroneura</i> —Unit 1—Kau Forest.
Hawaii (Big Island)	<i>Drosophila heteroneura</i> —Unit 2—Kona Refuge.
Hawaii (Big Island)	<i>Drosophila heteroneura</i> —Unit 3—Lower Kahuku.
Hawaii (Big Island)	<i>Drosophila heteroneura</i> —Unit 4—Pit Crater.
Hawaii (Big Island)	<i>Drosophila heteroneura</i> —Unit 5—Waihaka Gulch.
Hawaii (Big Island)	<i>Drosophila mulli</i> —Unit 1—Olaa Forest.
Hawaii (Big Island)	<i>Drosophila mulli</i> —Unit 2—Stainback Forest.
Hawaii (Big Island)	<i>Drosophila mulli</i> —Unit 3—Waiakea Forest.
Hawaii (Big Island)	<i>Drosophila ochrobasis</i> —Unit 1—Kipuka 9.
Hawaii (Big Island)	<i>Drosophila ochrobasis</i> —Unit 2—Kipuka 14.
Hawaii (Big Island)	<i>Drosophila ochrobasis</i> —Unit 3—Kohala Mountains East.
Hawaii (Big Island)	<i>Drosophila ochrobasis</i> —Unit 4—Kohala Mountains West.

TABLE 1—CRITICAL HABITAT UNITS AND ISLAND—Continued

Island	Unit name
Hawaii (Big Island)	Drosophila ochrobasis—Unit 5—Upper Kahuku.
Kauai	Drosophila musaphilia—Unit 1—Kokee.
Maui	Drosophila neoclavisetae—Unit 1—Puu Kukui.
Molakai	Drosophila differens—Unit 1—Puu Kolekole.

The areas identified as containing the features essential to the conservation of each of the 12 Hawaiian picture-wing flies for which we are designating critical habitat include a variety of undeveloped, forested areas that are used for larval stage development and adult fly stage foraging. Designated critical habitat includes land under Federal, State, City and County, and private ownership. The approximate area, land ownership, and area excluded from each designated critical habitat unit are shown in Table 2.

TABLE 2—DESIGNATED CRITICAL HABITAT UNITS FOR DROSOPHILA AGLAIA, D. DIFFERENS, D. HEMIZEPA, D. HETERONEURA, D. MONTGOMERYI, D. MULLI, D. MUSAPHILIA, D. NEOCLAVISETAE, D. OBATAI, D. OCHROBISIS, D. SUBSTENOPTERA, AND D. TAPHYTRICHIA.

[Area estimates reflect all land within critical habitat unit boundaries and are given in acres (ac) (hectares (ha)). Areas in parentheses overlap with other units; therefore, the total area designated as critical habitat for each species will not equal the total area designated for the 12 species combined]

Species—unit	Land ownership [ac/ha]				Lands meeting the definition of critical habitat [ac/ha]	Lands excluded [ac/ha]	Critical habitat [ac/ha]
	Federal	State	City and Co. of Honolulu	Private			
Oahu Units							
Drosophila aglaia—Unit 1—Palikea	0	4 2	0	204 83	208 84	0	208 84
Drosophila aglaia—Unit 2—Puu Kaua	0	0	0	87 35	87 35	0	87 35
Drosophila hemizepa—Unit 1—Kaluaa Gulch	0	0	0	527 213	527 213	0	527 213
Drosophila hemizepa—Unit 2—Makaha Valley	0	40 16	71 29	0	111 45	0	111 45
Drosophila hemizepa—Unit 3—Palikea	0	(4) (2)	0	(204) (83)	(208) (84)	0	(208) (84)
Drosophila hemizepa—Unit 4—Puu Kaua	0	0	0	(87) (35)	(87) (35)	0	(87) (35)
Drosophila montgomeryi—Unit 1—Kaluaa Gulch	0	0	0	(527) (213)	(527) (213)	0	(527) (213)
Drosophila montgomeryi—Unit 2—Palikea	0	(4) (2)	0	(204) (84)	(208) (84)	0	(208) (84)
Drosophila montgomeryi—Unit 3—Puu Kaua	0	0	0	(87) (35)	(87) (35)	0	(87) (35)
Drosophila obatai—Unit 1—Puu Pane	0	33 13	0	0	33 13	0	33 13
Drosophila obatai—Unit 2—Wailupe	0	45 18	0	32 13	77 31	0	77 31
Drosophila substenoptera—Unit 1—Mt. Kaala	0	59 24	57 23	0	116 47	0	116 47
Drosophila substenoptera—Unit 2—Palikea	0	(4) (2)	0	(204) (83)	(208) (84)	0	(208) (84)
Drosophila tarphytrichia—Unit 1—Kaluaa Gulch	0	0	0	(527) (213)	(527) (213)	0	(527) (213)
Drosophila tarphytrichia—Unit 2—Palikea	0	(4) (2)	0	(204) (83)	(208) (84)	0	(208) (84)
Drosophila tarphytrichia—Unit 3—Puu Kaua	0	0	0	(87) (35)	(87) (35)	0	(87) (35)
Big Island Units							
Drosophila heteroneura—Unit 1—Kau Forest	0	125 51	0	0	125 51	0	125 51
Drosophila heteroneura—Unit 2 Kona Refuge	3,604 1,459	0	0	0	3,604 1,459	0	3,604 1,459
Drosophila heteroneura—Unit 3—Lower Kahuku	687 278	0	0	0	687 278	0	687 278

TABLE 2—DESIGNATED CRITICAL HABITAT UNITS FOR DROSOPHILA AGLAIA, D. DIFFERENS, D. HEMIZEPA, D. HETERONEURA, D. MONTGOMERYI, D. MULLI, D. MUSAPHILIA, D. NEOCLAVISETAE, D. OBATAI, D. OCHROBASILIS, D. SUBSTENOPTERA, AND D. TARPHYTRICHIA.—Continued

[Area estimates reflect all land within critical habitat unit boundaries and are given in acres (ac) (hectares (ha)). Areas in parentheses overlap with other units; therefore, the total area designated as critical habitat for each species will not equal the total area designated for the 12 species combined]

Species—unit	Land ownership [ac/ha]				Lands meeting the definition of critical habitat [ac/ha]	Lands excluded [ac/ha]	Critical habitat [ac/ha]
	Federal	State	City and Co. of Honolulu	Private			
Drosophila heteroneura—Unit 4—Pit Crater	0	0	0	46	46	0	46
				18	18	0	18
Drosophila heteroneura—Unit 5—Waihaka Gulch	0	120	0	0	120	0	120
		49			49	0	49
Drosophila mulli—Unit 1—Olaa Forest	0	244	0	0	244	0	244
		99			99	0	99
Drosophila mulli—Unit 2—Stainback Forest	0	76	0	0	76	0	76
		31			31	0	31
Drosophila mulli—Unit 3—Waiakea Forest	0	373	0	0	373	0	373
		151			151	0	151
Drosophila ochrobasis—Unit 1—Kipuka 9	0	9	0	0	9	0	9
		4			4	0	4
Drosophila ochrobasis—Unit 2—Kipuka 14	0	15	0	0	15	0	15
		6			6	0	6
Drosophila ochrobasis—Unit 3—Kohala Mountains East ...	0	193	0	0	193	0	193
		78			78	0	78
Drosophila ochrobasis—Unit 4—Kohala Mountains West ..	0	41	0	91	132	0	132
		17			54	0	54
Drosophila ochrobasis—Unit 5—Upper Kahuku	64	24	0	0	88	0	88
	26	10			36	0	36
Kauai Unit							
Drosophila musaphilia—Unit 1—Kokee	0	794	0	0	794	0	794
		321			321	0	321
Maui Unit							
Drosophila neoclavisetae—Unit 1—Puu Kukui	0	134	0	450	584	450	134
		54		182	237	182	54
Molokai Unit							
Drosophila differens—Unit 1—Puu Kolekole	0	0	0	988	988	0	988
				400	400	0	400
Total (32 units)	4,356	2,331	128	2,424	9,238	450	8,788
	1,763	943	52	981	3,738	182	3,556

The critical habitat areas described below constitute our best assessment of the physical and biological features essential for the recovery and conservation of the 12 Hawaiian picture-wing flies. Brief descriptions of all units and the rationale for why each

unit meets the definition of critical habitat for the 12 picture-wing flies are presented below. Each of the designated critical habitat units for the 12 Hawaiian picture-wing flies was occupied by the species at the time of listing, contains PCEs that provide for both the larval

and adult life stage of one or more of the 12 species of picture-wing flies, and may require special management considerations or protection (see Table 3).

TABLE 3—THREATS AND OCCUPANCY IN AREAS CONTAINING PHYSICAL AND BIOLOGICAL FEATURES 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. TAPHYTRICHIA

Species—unit	Threats requiring special management or protections	Occupied at the time of listing	Currently occupied
Oahu Units			
Drosophila aglaia—Unit 1—Palikea ...	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila aglaia—Unit 2—Puu Kaua	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila hemipeza—Unit 1—Kaluaa Gulch.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila hemipeza—Unit 2—Makaha Valley.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila hemipeza—Unit 3—Palikea	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila hemipeza—Unit 4—Puu Kaua.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila montgomeryi—Unit 1—Kaluaa Gulch.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila montgomeryi—Unit 2—Palikea.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila montgomeryi—Unit 3—Puu Kaua.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila obatai—Unit 1—Puu Pane	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila obatai—Unit 2—Wailupe ...	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila substenoptera—Unit 1—Mt. Kaala.	Feral ungulates, nonnative plants, and nonnative competitors	Yes	Yes.
Drosophila substenoptera—Unit 2—Palikea.	Feral ungulates, nonnative plants, and nonnative competitors	Yes	Yes.
Drosophila tarphytrichia—Unit 1—Kaluaa Gulch.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila tarphytrichia—Unit 2—Palikea.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila tarphytrichia—Unit 3—Puu Kaua.	Feral ungulates, rats, nonnative plants, ants, nonnative competitors, and wildfire.	Yes	Yes.
Big Island Units			
Drosophila heteroneura—Unit 1—Kau Forest.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, ants, and nonnative competitors.	Yes	Yes.
Drosophila heteroneura—Unit 2—Kona Refuge.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, ants, and nonnative competitors.	Yes	Yes.
Drosophila heteroneura—Unit 3—Lower Kahuku.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, ants, and nonnative competitors.	Yes	Yes.
Drosophila heteroneura—Unit 4—Pit Crater.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, ants, nonnative competitors, and wildfire.	Yes	Yes.
Drosophila heteroneura—Unit 5—Waihaka Gulch.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, ants, and nonnative competitors.	Yes	Yes.
Drosophila mulli—Unit 1—Olaa Forest	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila mulli—Unit 2—Stainback Forest.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila mulli—Unit 3—Waiakea Forest.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila ochrobasis—Unit 1—Kipuka 9.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila ochrobasis—Unit 2—Kipuka 14.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila ochrobasis—Unit 3—Kohala Mountains East.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila ochrobasis—Unit 4—Kohala Mountains West.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.
Drosophila ochrobasis—Unit 5—Upper Kahuku.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.

TABLE 3—THREATS AND OCCUPANCY IN AREAS CONTAINING PHYSICAL AND BIOLOGICAL FEATURES 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*—Continued

Species—unit	Threats requiring special management or protections	Occupied at the time of listing	Currently occupied
Kauai Unit			
<i>Drosophila musaphilia</i> —Unit 1—Kokee	Feral ungulates, nonnative plants, yellow-jacket wasps, ants, and wildfire	Yes	Yes.
Maui Unit			
<i>Drosophila neoclavisetae</i> —Unit 1—Puu Kukui.	Feral ungulates, nonnative plants, and yellow-jacket wasps	Yes	Yes.
Molokai Unit			
<i>Drosophila differens</i> —Unit 1—Puu Kolekole.	Feral ungulates, rats, nonnative plants, yellow-jacket wasps, and nonnative competitors.	Yes	Yes.

Oahu Units

Drosophila aglaia—Unit 1—Palikea consists of 208 ac (84 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,920–2,985 ft (585–910 m), this unit is privately and State-owned, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. aglaia* at the time of listing. This unit includes the known elevation range, moisture regime, and the native forest components used by foraging adults and identified as the PCEs for this species. This unit also includes populations of *Urera glabra*, the larval stage host plant associated with this species.

Drosophila aglaia—Unit 2—Puu Kaua consists of 87 ac (35 ha) of lowland, diverse mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,865–2,855 ft (570–870 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, which is administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. aglaia* at the time of listing. It includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera glabra*, the larval stage host plant associated with this species.

Drosophila hemipeza—Unit 1—Kaluaa Gulch consists of 527 ac (213 ha) of diverse, mesic forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,720–

2,785 ft (525–850 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. hemipeza* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, *Cyanea* sp., and *Lobelia* sp., the larval stage host plants associated with this species.

Drosophila hemipeza—Unit 2—Makaha Valley consists of 111 ac (45 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,995–3,005 ft (610–915 m), this unit is owned by the City and County of Honolulu and the State of Hawaii, and is largely managed as a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 4–5), this unit was occupied by *D. hemipeza* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, *Cyanea* sp., and *Lobelia* sp., the larval stage host plants associated with this species.

Drosophila hemipeza—Unit 3—Palikea consists of 208 ac (84 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,920–2,985 ft (585–910 m), this unit is privately and State-owned, and is part

of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. hemipeza* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, *Cyanea* sp., and *Lobelia* sp., the larval stage host plants associated with this species.

Drosophila hemipeza—Unit 4—Puu Kaua consists of 87 ac (35 ha) of lowland, diverse, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,865–2,855 ft (570–870 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. hemipeza* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, *Cyanea* sp., and *Lobelia* sp., the larval stage host plants associated with this species.

Drosophila montgomeryi—Unit 1—Kaluaa Gulch consists of 527 ac (213 ha) of diverse, mesic forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,720–2,785 ft (525–850 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH.

According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. montgomeryi* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, the larval stage host plant associated with this species.

Drosophila montgomeryi—Unit 2—Palikea consists of 208 ac (84 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,920–2,985 ft (585–910 m), this unit is both privately and State-owned, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. montgomeryi* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, the larval stage host plant associated with this species.

Drosophila montgomeryi—Unit 3—Puu Kaua consists of 87 ac (35 ha) of lowland, diverse, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,865–2,855 ft (570–870 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. montgomeryi* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Urera kaalae*, the larval stage host plant associated with this species.

Drosophila obatai—Unit 1—Puu Pane consists of 33 ac (13 ha) of lowland, mesic, koa and ohia forest within the northeastern Waianae Mountains of Oahu. Ranging in elevation between 1,760–2,535 ft (535–770 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 6), this unit was occupied by *D. obatai* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that

have been identified as the PCEs for this species. This unit also includes populations of *Pleomele forbesii*, the larval stage host plant associated with this species.

Drosophila obatai—Unit 2—Wailupe consists of 77 ac (31 ha) of lowland, mesic, koa and ohia forest within the southeastern Koolau Mountains of Oahu. Ranging in elevation between 1,475–2,155 ft (445–655 m), this unit is privately and State-owned, and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 6), this unit was occupied by *D. obatai* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Pleomele forbesii*, the larval stage host plant associated with this species.

Drosophila substenoptera—Unit 1—Mt. Kaala consists of 116 ac (47 ha) of montane, wet, ohia forest within the northern Waianae Mountains of Oahu. Ranging in elevation between 2,750–4,030 ft (840–1,230 m), this unit is owned by the City and County of Honolulu and the State of Hawaii, and is largely managed as part of a State forest reserve and natural area reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 7), this unit was occupied by *D. substenoptera* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron* sp. and *Tetraplasandra* sp., the larval stage host plants associated with this species.

Drosophila substenoptera—Unit 2—Palikea consists of 208 ac (84 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,920–2,985 ft (585–910 m), this unit is privately and State-owned, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. substenoptera* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron* sp. and *Tetraplasandra* sp., the larval

stage host plants associated with this species.

Drosophila tarphytrichia—Unit 1—Kaluaa Gulch consists of 527 ac (213 ha) of diverse, mesic forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,720–2,785 ft (525–850 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. tarphytrichia* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Charpenteira obovata*, the larval stage host plant associated with this species.

Drosophila tarphytrichia—Unit 2—Palikea consists of 208 ac (84 ha) of lowland, mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,920–2,985 ft (585–910 m), this unit is privately and State-owned, and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. tarphytrichia* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Charpenteira obovata*, the larval stage host plant associated with this species.

Drosophila tarphytrichia—Unit 3—Puu Kaua consists of 87 ac (35 ha) of lowland, diverse mesic, koa and ohia forest within the southern Waianae Mountains of Oahu. Ranging in elevation between 1,865–2,855 ft (570–870 m), this unit is privately owned and is part of a larger area called the Honouliuli Preserve, administered and managed by TNCH. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 1–10), this unit was occupied by *D. tarphytrichia* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Charpenteira obovata*, the larval stage host plant associated with this species.

Hawaii (Big Island) Units

Drosophila heteroneura—Unit 1—Kau Forest consists of 125 ac (51 ha) of

montane, wet, ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 5,215–5,510 ft (1,590–1,680 m), this unit is owned by the State of Hawaii, and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 8), this unit was occupied by *D. heteroneura* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron trigynum*, *Clermontia* sp., and *Delissea parviflora*, the larval stage host plants associated with this species.

Drosophila heteroneura—Unit 2—Kona Refuge consists of 3,604 ac (1,459 ha) of montane, mesic, closed koa and ohia forest, and is located on the western flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 2,980–5,755 (910–1,755 m), this unit is owned by the Service, and is managed as part of the Kona Unit of the Hakalau Forest National Wildlife Refuge. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 8), this unit was occupied by *D. heteroneura* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron trigynum*, *Clermontia* sp., and *Delissea parviflora*, the larval stage host plants associated with this species.

Drosophila heteroneura—Unit 3—Lower Kahuku consists of 687 ac (278 ha) of montane, mesic to wet, ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 3,705–4,685 ft (1,130–1,430 m), this unit is owned and managed by the National Park Service (NPS), Hawaii Volcanoes National Park. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 8), this unit was occupied by *D. heteroneura* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron trigynum*, *Clermontia* sp., and *Delissea parviflora*, the larval stage host plants associated with this species.

Drosophila heteroneura—Unit 4—Pit Crater consists of 46 ac (18 ha) 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. Ranging in elevation between 3,835–4,525 ft (1,170–1,380 m), this unit is privately owned and managed. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 8), this unit was occupied by *D. heteroneura* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron trigynum*, *Clermontia* sp., and *Delissea parviflora*, the larval stage host plants associated with this species.

Drosophila heteroneura—Unit 5—Waihaka Gulch consists of 120 ac (49 ha) of montane, wet, koa and ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 4,065–4,390 ft (1,240–1,340 m), this unit is owned by the State of Hawaii, and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 8), this unit was occupied by *D. heteroneura* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Cheirodendron trigynum*, *Clermontia* sp., and *Delissea parviflora*, the larval stage host plants associated with this species.

Drosophila mulli—Unit 1—Olau Forest consists of 244 ac (99 ha) of montane, wet, ohia forest and is located to the northeast of Kilauea Caldera on the southeastern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 3,120–3,300 ft (950–1,005 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 10), this unit was occupied by *D. mulli* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Pritchardia beccariana*, the larval stage host plant associated with this species.

Drosophila mulli—Unit 2—Stainback Forest consists of 76 ac (31 ha) of montane, wet, ohia forest, and is located to the northeast of Kilauea Caldera on the southeastern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 1,955–2,165 ft (595–660 m), this unit is owned by the State

of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 10), this unit was occupied by *D. mulli* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Pritchardia beccariana*, the larval stage host plant associated with this species.

Drosophila mulli—Unit 3—Waiakea Forest consists of 373 ac (151 ha) of montane, wet, ohia forest, and is located to the northeast of Kilauea Caldera on the southeastern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 3,130–3,585 ft (955–1,095 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 10), this unit was occupied by *D. mulli* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Pritchardia beccariana*, the larval stage host plant associated with this species.

Drosophila ochrobasis—Unit 1—Kipuka 9 consists of 9 ac (4 ha) of montane, wet, ohia forest with native shrubs, and is located within the Saddle Road area on the northeastern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 5,075–5,125 ft (1,545–1,560 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 10), this unit was occupied by *D. ochrobasis* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., *Marattia douglasii*, and *Myrsine* sp., the larval stage host plants associated with this species.

Drosophila ochrobasis—Unit 2—Kipuka 14 consists of 15 ac (6 ha) of montane, wet, ohia forest with native shrubs, and is located within the Saddle Road area on the northeastern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 5,105–5,145 ft (1,555–1,570 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a,

pp. 12–13), this unit was occupied by *D. ochrobasis* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., *Marattia douglasii*, and *Myrsine* sp., the larval stage host plants associated with this species.

Drosophila ochrobasis—Unit 3—Kohala Mountains East consists of 193 ac (78 ha) of montane, wet, 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. Ranging in elevation between 3,850–4,140 ft (1,175–1,260 m), this unit is owned by the State of Hawaii and is largely managed as part of a State forest reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 12–13), this unit was occupied by *D. ochrobasis* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., *Marattia douglasii*, and *Myrsine* sp., the larval stage host plants associated with this species.

Drosophila ochrobasis—Unit 4—Kohala Mountains West consists of 132 ac (54 ha) of montane, wet, ohia forest with native shrubs and mixed grass species, and is located on the southwestern flank of the Kohala Mountains on the island of Hawaii. Ranging in elevation between 4,945–5,325 ft (1,510–1,625 m), this unit is privately and State-owned, and is largely managed as part of a State forest reserve. *Drosophila ochrobasis* was not historically known from this area, but was first observed here during field surveys conducted in October of 2006 (K. Magnacca, in litt. 2006, p. 1), only four months from the date of listing of the species (June 2006). Given the fact that this area was surveyed so soon after the listing of the species, and contains relatively intact, closed-canopy, native forest, including the fly's host plant species, we have determined that it was occupied by *D. ochrobasis* at the time of the listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., *Marattia douglasii*, and *Myrsine* sp., the larval stage host plants associated with this species.

Drosophila ochrobasis—Unit 5—Upper Kahuku consists of 88 ac (36 ha) of montane, wet, ohia forest, and is located on the southern flank of Mauna Loa on the island of Hawaii. Ranging in elevation between 5,235–5,390 ft (1,595–1,645 m), this unit is owned by the State of Hawaii and the NPS Hawaii Volcanoes National Park. The area within this unit is largely managed as part of a State forest reserve and as a national park. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, pp. 12–13), this unit was occupied by *D. ochrobasis* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., *Marattia douglasii*, and *Myrsine* sp., the larval stage host plants associated with this species.

Kauai Unit

Drosophila musaphilia—Unit 1—Kokee consists of 794 ac (321 ha) of montane, mesic, koa and ohia forest, and is located in the Kokee region of northwestern Kauai. Ranging in elevation between 3,310–3,740 ft (1,010–1,140 m), this unit is owned by the State of Hawaii and occurs on lands managed as part of a State park, forest reserve, and natural area reserve. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 11), this unit was occupied by *D. musaphilia* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Acacia koa*, the larval stage host plant associated with this species.

Maui Unit

Drosophila neoclavisetae—Unit 1—Puu Kukui consists of 584 ac (237 ha) of montane, wet, ohia forest within the west Maui mountains on the island of Maui. Ranging in elevation between 3,405–4,590 ft (1,040–1,400 m), this unit is both privately and State-owned. All of the area within this unit occurs within the boundary of the Puu Kukui Watershed Preserve, lands jointly managed by TNCH, the State of Hawaii, and the MLP Company. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 11), this unit was occupied by *D. neoclavisetae* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species.

This unit also includes populations of *Cyanea kunthiana* and *C. macrostegia* ssp. *macrostegia*, the larval stage host plant associated with this species. As described below, we are excluding 450 ac (182 ha) of this unit from the critical habitat designation for *D. neoclavisetae* (see “Exclusions Under Section 4(b)(2) of the Act” section).

Molokai Unit

Drosophila differens—Unit 1—Puu Kolekole consists of 988 ac (400 ha) of montane, wet, ohia forest within the eastern Molokai mountains on the island of Molokai. Ranging in elevation between 3,645–4,495 ft (1,110–1,370 m), this unit is privately owned and is managed by TNCH as part of the Kamakou and Pelekunu preserves. According to the most recent survey data (K. Kaneshiro, in litt. 2005a, p. 11), this unit was occupied by *D. differens* at the time of listing. This unit includes the known elevation range, moisture regime, and native forest components used by foraging adults that have been identified as the PCEs for this species. This unit also includes populations of *Clermontia* sp., the larval stage host plant associated with this species.

Effects of Critical Habitat Designation

Section 7 Consultation

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

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry

out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. As a result of this consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

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

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

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

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

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

Regulations at 50 CFR 402.16 require Federal agencies to reinstate 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 need to request reinstatement of consultation with us on actions for which consultation has been completed, if those actions may affect subsequently listed species or designated critical habitat in a manner not previously analyzed.

Federal activities that may affect *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* or their designated critical habitat will require consultation under section 7(a)(2) of the Act. Activities on State, local, or private lands requiring a Federal permit, such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10(a)(1)(B) of the Act, or involving some other Federal action such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency are examples of agency actions that may be subject to the section 7 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(a)(2) consultations.

Application of the Adverse Modification Standard

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would remain functional to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features to an extent that appreciably reduces the conservation value of critical habitat for the 12 picture-wing flies.

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, when carried out, funded, or authorized by a Federal agency, may affect critical habitat and, therefore, should result in consultation for the 12 picture-wing flies include, but are not limited to:

(1) Actions that may degrade or remove host plant habitat or result in the loss and degradation of the 12 picture-wing flies' habitat. For example, this could occur through activities such as controlled burns, clearing or cutting of native live trees and shrubs, introducing or encouraging the spread of nonnative plants, recreational use, or the use of off-road vehicles in a manner that degrades native vegetation.

(2) Actions that may result in the removal, thinning, or other modification

of the 12 picture-wing flies' host plants. For example, this may occur through plowing, grading, development, road or fence building, burning or taking other actions that pose a risk of fire, mechanical weed control, herbicide application, recreational use, and activities associated with wildfire fighting (e.g., staging areas, surface disturbance).

(3) Actions that may affect habitat value or quality through indirect effects (e.g., outplanting efforts that enable the spread of nonnative species or fragmentation).

All of the units designated as critical habitat, including the Maui Land and Pineapple Co. portion of the *Drosophila neoclavisetae*—Unit 1—Puu Kukui, which was excluded under section 4(b)(2) of the Act, contain the physical and biological features essential to the conservation of the 12 picture-wing flies. Each of the 32 units that have been designated as critical habitat are within the geographic ranges of these species, were known to be occupied by the species at the time of listing, and are currently occupied. Federal agencies already consult with us on activities in areas that are currently occupied by these species in cases where they may be affected, to ensure that their actions do not jeopardize the continued existence of the 12 picture-wing flies.

Exclusions

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

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now states that: "The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation."

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resources management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources

found on the base. Each INRMP includes:

- An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;
- A statement of goals and priorities;
- A detailed description of management actions to be implemented to provide for these ecological needs; and
- A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

We coordinate with the military on the development and implementation of INRMPs for installations with listed species. INRMPs developed by military installations located within the range of the critical habitat designation for *Drosophila aglaia* and *D. substenoptera* were analyzed for purposes of section 4(a)(3) of the Act.

Approved INRMPs

West Range of Schofield Barracks Military Reservation

The U.S. Army completed its Oahu INRMP in 2000. Conservation measures included in the INRMP that benefit *Drosophila aglaia* and *D. substenoptera* include (1) Outplanting of native plants, which provides for the natural forest conditions necessary for adult fly foraging by both species; (2) feral ungulate control, which prevents both direct loss of the larval stage host plants and adult foraging substrate of both species and prevents habitat alteration by feral ungulates; (3) wildland wildfire control, which prevents both loss and alteration of habitat for *D. aglaia*; and (4) nonnative plant control, which prevents habitat alteration for both species.

Based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that conservation efforts identified in the U.S. Army Garrison Hawaii Oahu Training Areas Natural Resource Management Final Report (U.S. Army, 2000(b)) and the 2002–2006 Oahu Integrated Natural Resources Management Plan (U.S. Army, 2000(a)) provide benefits to *Drosophila aglaia* and *D. substenoptera* where they occur within or adjacent to the West Range of Schofield Barracks Military Reservation. Therefore, this installation is exempt from critical habitat designation under

section 4(a)(3) of the Act. We are not including approximately 78 ac (31 ha) of habitat on Oahu in this final critical habitat designation because of this exemption. The other 10 species of picture-wing flies do not occur on U.S. Army land, and are not subject to consideration under section 4(a)(3)(B)(i) of the Act.

Recently, the Army informed us that they are updating their 2000 INRMP and incorporating the conservation measures found in the 2002–2006 Oahu Integrated Natural Resources Management Plan. Revisions to the INRMP are expected to be completed in 2009 (M. Mansker, in litt. 2008).

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

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

Under section 4(b)(2) of the Act, in considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If based on this analysis we make this determination, then we can exclude the area only if such exclusion would not result in the extinction of the species.

In the following sections, we address a number of general issues that are relevant to the exclusion considered in this final critical habitat rule.

Benefits of Designating Critical Habitat

The process of designating critical habitat as described in the Act requires that the Service identify those lands on which are found the physical or biological features essential to the conservation of the species that may require special management considerations or protection, and those areas outside the geographical area

occupied by the species at the time of listing that are essential to the conservation of the species. In identifying those lands, the Service must consider the recovery needs of the species, such that, on the basis of the best scientific and commercial data available at the time of designation, the habitat that is identified, if managed, could provide for the survival and recovery of the species.

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

For 30 years prior to the Ninth Circuit's decision in *Gifford Pinchot*, consistent with the 1986 regulations, we essentially combined the jeopardy standard with the standard for destruction or adverse modification of critical habitat when evaluating Federal actions that affected currently occupied critical habitat. However, the court of appeals ruled that the two standards are distinct and that adverse modification evaluations require consideration of impacts on species recovery. Thus, a critical habitat designation may provide greater regulatory benefits to the recovery of a species than would listing alone.

There are two limitations to the regulatory effect of critical habitat. First, a section 7(a)(2) consultation is required only where there is a Federal nexus (an action authorized, funded, or carried out by any Federal agency)—if there is no Federal nexus, the critical habitat designation of private lands itself does not restrict any actions that destroy or

adversely modify critical habitat. Second, the designation only limits destruction or adverse modification. By its nature, the prohibition on adverse modification is designed to ensure that the conservation role and function of those areas that contain the physical and biological features essential to the conservation of the species or of unoccupied areas that are essential to the conservation of the species is not appreciably reduced as a result of a Federal action. Critical habitat designation alone, however, does not require property owners to undertake specific steps toward recovery of the species.

Once an agency determines that consultation under section 7(a)(2) of the Act is necessary, the process may conclude informally when we concur in writing that the proposed Federal action is not likely to adversely affect critical habitat. However, if we determine through informal consultation that adverse impacts are likely to occur, then we would initiate formal consultation, which would conclude when we issue a biological opinion on whether the proposed Federal action is likely to result in destruction or adverse modification of critical habitat.

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

As stated above, the designation of critical habitat does not require that any management or recovery actions take place on the lands included in the designation. Even in cases where consultation has been initiated under section 7(a)(2) of the Act, the end result of consultation is to avoid jeopardy to the species or adverse modification of its critical habitat or both, but not specifically to manage remaining lands or institute recovery actions on remaining lands. Conversely, voluntary conservation efforts implemented through management plans institute proactive actions over the lands they encompass and are put in place to remove or reduce known threats to a species or its habitat. We believe that in many instances the benefit to a species or its habitat or both realized through the designation of critical habitat is low when compared to the conservation

benefit that can be achieved through voluntary conservation efforts or management plans. The conservation achieved through implementing HCPs or other habitat management plans can be greater than what we achieve through multiple site-by-site, project-by-project, section 7(a)(2) consultations involving consideration of critical habitat. Management plans may commit resources to implement long-term management and protection to particular habitat for at least one and possibly additional listed or sensitive species. Section 7(a)(2) consultations commit Federal agencies to preventing adverse modification of critical habitat caused by the particular project only, and not to providing conservation or long-term benefits to areas not affected by the proposed project. Thus, implementation of any HCP or management plan that considers enhancement or recovery as the management standard may often provide as much or more benefit than a consultation for critical habitat designation.

Another benefit of including lands in critical habitat is that designation of critical habitat serves to educate landowners, State and local governments, and the public regarding the potential conservation value of an area. This helps focus and promote conservation efforts by other parties by clearly delineating areas of high conservation value for the 12 picture-wing flies. In general, critical habitat designation always has educational benefits, and may inform State agencies and local governments about areas that could be conserved under State laws or local ordinances.

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 (US Department of Agriculture 2002), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002, p. 720). Eighty-eight percent of the State of Hawaii is made up of non-Federal lands. Stein *et al.* (1995, p. 400) found that only about 12 percent of listed species in the United States were found almost exclusively on Federal lands (90–100 percent of their known occurrences restricted to Federal lands) and that 50 percent of listed species are not known to occur on Federal lands at all.

Given the distribution of listed species with respect to land ownership,

conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-Federal landowners (Wilcove and Chen 1998, p. 1407; Crouse *et al.* 2002, p. 720; James 2002, p. 271). Building partnerships and promoting voluntary cooperation of landowners 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, and the Service promotes these private-sector efforts. Conservation agreements with non-Federal landowners (*e.g.*, Habitat Conservation Plans, Safe Harbor Agreements, State and local regulations, and other conservation agreements or easements) enhance species conservation by extending species protections beyond those available through section 7 consultations. We encourage 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 regulatory methods (61 FR 63854; December 2, 1996).

Many private landowners, however, are wary of the possible consequences of promoting endangered species conservation on 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, pp. 5–6; Bean 2002, pp. 2–3; Conner and Mathews 2002, pp. 1–2; James 2002, pp. 270–271; Koch 2002, pp. 2–3; Brook *et al.* 2003, pp. 1639–1643). Many landowners fear a decline in the value of their property, based on real or perceived restrictions on land-use options where threatened or endangered species occur. Consequently, harboring endangered species is viewed by many landowners as a liability, resulting in anti-conservation incentives because of a perceived risk to future economic opportunities (Main *et al.* 1999, pp. 1264–1265; Brook *et al.* 2003, pp. 1644–1648).

Some researchers believe that the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999, p. 1263; Bean 2002,

p. 2; Brook *et al.* 2003, pp. 1644–1648). The magnitude of this negative outcome is amplified in situations where active species conservation management measures (*e.g.*, reintroduction, wildfire management, control of invasive species) are necessary (Bean 2002, pp. 3–4). We believe that, in some instances, the judicious exclusion of specific areas of non-federally owned lands from critical habitat designations can contribute to species recovery and provide a greater level of species conservation than critical habitat designation alone.

The purpose of designating critical habitat is to contribute to the conservation of threatened and endangered species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded, authorized, or carried out by Federal agencies under section 7(a)(2) of the Act, can sometimes be counterproductive to its intended purpose on non-Federal lands. Thus the benefits of excluding areas that are covered by effective partnerships or other conservation commitments can often be high.

Benefits of Excluding Lands With Approved Management Plans

The benefits of excluding lands within approved long-term management plans from critical habitat designation include relieving landowners, communities, and counties of any additional regulatory burden that might be imposed by critical habitat. Many conservation plans provide conservation benefits to unlisted sensitive species. Imposing an additional regulatory review as a result of the designation of critical habitat may undermine conservation efforts and partnerships in many areas. Designation of critical habitat within the boundaries of management plans that provide conservation measures for a species could be viewed as a disincentive to entities currently developing these plans or contemplating them in the future, because one of the incentives for undertaking conservation is greater ease of permitting where listed species will be affected. Addition of a new regulatory requirement would remove a significant incentive for undertaking the time and expense of management planning.

A related benefit of excluding lands within management plans from critical habitat designation is the unhindered, continued ability it gives us to seek new partnerships with future plan participants, including States, counties, local jurisdictions, conservation

organizations, and private landowners, which together can implement conservation actions that we would be unable to accomplish otherwise. Designating lands within approved management plan areas as critical habitat would likely have a negative effect on our ability to establish new partnerships to develop these plans, particularly plans that address landscape-level conservation of species and habitats. By preemptively excluding these lands, we preserve our current partnerships and encourage additional conservation actions in the future.

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

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

Areas Considered for Exclusion Under Section 4(b)(2) of the Act

Under section 4(b)(2) of the Act, we evaluate the effectiveness of management plans that address the enhancement or recovery of listed species when we weigh and balance the benefits of inclusion or exclusion of a particular area from critical habitat designation. We consider the following guidelines in evaluating the management and protection provided by such plans:

(1) The plan is complete and provides for the conservation and protection of the physical and biological features essential to the conservation of the species;

(2) There is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and

(3) The plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

Maui Land and Pineapple (MLP) Company's Puu Kukui Watershed Preserve, Located in the West Maui Mountains

Significant progress has been made in habitat restoration on MLP lands within the Puu Kukui Watershed Preserve (PKWP), located in the West Maui Mountains. We proposed to designate approximately 450 ac (182 ha) within MLP's PKWP as critical habitat on Maui for *Drosophila neoclavisetae* within *Drosophila neoclavisetae*—Unit 1—Puu Kukui (72 FR 67428). Since 1988, MLP has proactively managed their 450 ac (182 ha) within the PKWP and is currently in its 15th year of contract with the State of Hawaii's Natural Area Partnership (NAP) Program to preserve the native biodiversity of the company's conservation lands. At slightly over 8,600 ac (3,483 ha), the PKWP is the largest privately owned preserve in the State.

In 1993, MLP became the first private landowner participant in the NAP program. They are pursuing four management programs stipulated in their PKWP Management Plan (2005) that emphasize reducing nonnative species that immediately threaten the management area (MLP 1999). The primary management goals within PKWP 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. Specific management actions that address feral ungulates include the construction of fences surrounding 10 management units and removal of ungulates within the PKWP.

The nonnative plant control program within PKWP focuses on weeds that modify habitat, prioritizing weeds 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 controlling weeds through manual or mechanical means. Monitoring and research activities conducted under the plan track biological and physical resources, and detect and evaluate changes to these resources to guide management programs. Vegetation is monitored using permanent photographic points. Nonnative species,

as well as rare, endemic, and indigenous species, are monitored along permanent transects. MLP also provides logistical and other support for approved research projects, interagency cooperative agreements, and remote survey trips within the watershed.

Benefits of Inclusion

The benefits of including lands in critical habitat can be regulatory or educational, which can aid in promoting the recovery of species. The principal regulatory benefit of designating critical habitat in this area would be that Federal actions affecting *D. neoclavisetae* would require consultation under section 7 of the Act. Consultation would ensure that a proposed action does not result in the destruction or adverse modification of critical habitat. The most likely Federal nexus would be associated with Service funding for management activities that target invasive species removal, and a potential outcome of a section 7 consultation would be conservation recommendations to avoid stands of *Cyanea kunthiana* and *Cyanea macrostegia* ssp. *macrostegia* when, for example, constructing a new fence or applying herbicides. However, these conservation recommendations would still be included within the PKWP invasive species control program even in the absence of critical habitat designation. Accordingly, we believe that few additional regulatory benefits would be derived from including the MLP lands within the area designated as critical habitat for *Drosophila neoclavisetae* beyond those conservation benefits already being achieved through the implementation of the PKWP Management Plan (2005).

In addition, we conclude that few regulatory benefits would be gained from a designation of critical habitat on these lands because the consultations conducted under both the jeopardy and adverse modification standards for this species would not be likely to result in materially different outcomes. The area is occupied by the species, and the most likely Federal nexus would be management activities funded in part through the Service's Partners for Fish and Wildlife and Private Stewardship Grants programs. These programs have historically contributed funds toward the construction of fences to exclude feral ungulates from the Preserve. Service funds may also be provided for new surveys of invasive, nonnative weeds within the Puu Kukui Watershed Preserve. While we acknowledge that the legal standards for jeopardy and adverse modification differ, with the latter focused on effects to recovery, in

view of the nature of the actions likely to be consulted on—programs to enhance species habitat—the outcome of consultation is likely to be the same.

There have been no section 7 consultations involving *Drosophila neoclavisetae* or its host plants with the PKWP to date. The economic analysis anticipates that there will be two informal consultations associated with projects in the PKWP to remove nonnative species over the next 13 years, although no formal consultations would be likely to occur over the 20-year timeframe of the analysis. The two informal section 7 consultations anticipated by the economic analysis would occur based on the species' presence in the area even if critical habitat is not designated. We do not foresee any additional consultations beyond those anticipated by the economic analysis, and predict that the section 7 consultation process for critical habitat would be unlikely to result in any additional protections for the species for the reasons discussed above. Consequently, there is little regulatory benefit of designating critical habitat on the MLP lands within *Drosophila neoclavisetae*—Unit 1—Puu Kukui.

The final listing rule for the 12 picture-wing flies (71 FR 26835) acknowledged the importance of this area to the overall conservation of *Drosophila neoclavisetae* (Service 2006). Maui Land and Pineapple Co. is aware of the areas where *D. neoclavisetae* occurs on their property, and is implementing conservation actions to benefit the species (MLP 2008, p. 2). Because of this proactive approach, we believe that any additional educational benefits resulting from the designation of critical habitat on these lands would be minimal. Although the designation of critical habitat may provide benefits to the recovery of a species, in this case the MLP is already committed to implementing conservation actions on their lands under the existing PKWP Management Plan (2005). Accordingly, any additional benefits to the recovery of this species beyond those already being accrued would be limited.

Benefits of Exclusion

The continued implementation of the PKWP Management Plan will provide conservation benefits to *Drosophila neoclavisetae*. Maui Land and Pineapple Co. is currently managing *D. neoclavisetae* habitat through the control of invasive species and the implementation of native species restoration activities. Implementation of the PKWP Management Plan also provides a significant conservation

benefit to *D. neoclavisetae*'s host plant populations in the area.

Existing MLP conservation agreements with Federal and State agencies and other private organizations advance their mission of practicing prudent stewardship of their land and water resources to ensure the protection of rare and endangered plant and animal species, and water resources that are crucial to the community. Their continued implementation of the PKWP Management Plan will specifically benefit *Drosophila neoclavisetae* through actions that manage invasive species and restore native species habitat. The PKWP Management Plan provides a significant conservation benefit to *D. neoclavisetae*'s host plant populations in the area, and we have a reasonable expectation that the strategies and measures will be effective. We have been informed by MLP that the area proposed for designation of critical habitat is already being preserved in perpetuity for the conservation and protection of native habitat for picture-wing flies and other native Hawaiian biota, and they believe that the designation of critical habitat is unnecessary (MLP 2008, p. 2). In addition, during an April 21, 2008, meeting between MLP and Service staff, MLP stated their objection to the designation of critical habitat on their lands (Scott McCarthy, Service, in litt. 2008).

Drosophila neoclavisetae is benefiting substantially from MLP's voluntary management actions, which include reducing ungulate browsing and habitat conversion, reducing competition with nonnative weeds, and reducing the risk of wildfire. MLP's management actions also include the reintroduction of currently extirpated native species into restored habitats.

We believe that exclusion of approximately 450 ac (182 ha) within MLP's portion of the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui will acknowledge this conservation commitment and facilitate their continued cooperation and partnership with the Service. Since this area has been actively managed as a preserve since 1988, we have a reasonable expectation that the conservation management strategies and actions will continue to be implemented for the benefit of *D. neoclavisetae* and its habitat in the future. There is a risk that designating critical habitat on these MLP lands could undermine our existing conservation partnership, remove MLP's incentive to accept the additional time and expense of management planning, strain the positive working relationship we share,

and hinder future cooperative conservation projects with MLP and other potential partners.

The economic analysis also identifies some incremental economic impacts of designating critical habitat in the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui. These costs are attributed to habitat preservation and watershed management activities. The expected post-designation incremental cost of watershed management activities is \$18,150 using a 3 percent discount rate and \$14,430 using a 7 percent discount rate. According to the economic analysis, these costs would be borne mostly by the MLP. While these amounts are small, excluding critical habitat from the MLP lands would remove these costs, and thus is a benefit of exclusion.

We believe that excluding this area from critical habitat will help maintain and improve our partnership relationship with this landowner by acknowledging their positive contribution to conservation on Maui. This recognition may provide other landowners with a positive incentive to undertake voluntary conservation activities on their lands, particularly where there is no regulatory requirement to implement such actions. We also note a small economic benefit to excluding this area from critical habitat.

Benefits of Exclusion Outweigh the Benefits of Inclusion

We believe the proactive management of *Drosophila neoclavisetae* habitat provided under MLP's PKWP Management Plan (2005) provides significant benefits to this species. Also, excluding this area from critical habitat will help maintain and improve our partnership relationship with this landowner. Furthermore, excluding this area from critical habitat will have a small economic benefit. In contrast, the benefits of including MLP's land as critical habitat would likely be minor. This determination is based on the fact that: (1) There have been no section 7 consultations in the area since *D. neoclavisetae* was listed in 2006; (2) we anticipate few future consultations in the PKWP management area; (3) any future Federal actions would be subject to section 7 consultation since the area is occupied; and (4) future Federal actions in this area are expected to be beneficial to the species.

In conclusion, although there may be some limited regulatory, educational, or recovery benefits that would arise from the inclusion of the MLP lands as critical habitat, they are outweighed by the benefits of excluding these lands

from the critical habitat designation. The continued implementation of MLP's ongoing management programs will provide comparable or greater net conservation benefits than those that would result from critical habitat designation. The significant conservation benefits that would result from the exclusion of these lands relate to MLP's ongoing and continued actions to control invasive species, protect and restore host plant habitat, and monitor native species. We, therefore, are excluding 450 ac (182 ha) of Maui Land and Pineapple Co.'s lands within the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui from the critical habitat designation under section 4(b)(2) of the Act.

Exclusion Will Not Result in Extinction of the Species

We have determined that the exclusion of MLP's portion of the proposed *Drosophila neoclavisetae*—Unit 1—Puu Kukui from the final designation of critical habitat will not result in the extinction of *D. neoclavisetae*. Maui Land and Pineapple Co.'s management programs provide tangible conservation benefits that reduce the likelihood of extinction for *D. neoclavisetae* and increase the species' recovery potential. Further, we are unaware of any threats in the PKWP associated with Federal actions that would require section 7 consultation. As such, extinction of the species as a consequence of not designating critical habitat is unlikely. In addition, since this area is occupied by *D. neoclavisetae*, consultations under section 7 of the Act would be required, and any Federal actions that may affect the species would be evaluated under the jeopardy standard of section 7 of the Act. This evaluation provides assurances that the species would not become extinct as a result of those actions.

With regard to other protections, section 195D-4 of Hawaii Revised Statutes (endangered species and threatened species) stipulates that species determined to be endangered or threatened under the Federal Act shall be deemed endangered or threatened under the State law. It is unlawful under the State law, with some exceptions, to "take" such species, or to possess, sell, carry or transport them. The statutory protections for this species under State law provide additional assurances that exclusion of this area from critical habitat will not result in extinction of *Drosophila neoclavisetae*.

Economic Analysis

Section 4(b)(2) of the Act requires us to designate critical habitat on the basis of the best scientific information available and to consider the economic and other relevant impacts of designating a particular area as critical habitat. Section 4(b)(2) of the Act allows the Secretary to exclude areas from critical habitat for economic reasons if the Secretary determines that the benefits of such exclusions exceed the benefits of designating the area as critical habitat. However, this exclusion cannot occur if it will result in the extinction of the species concerned.

Following the publication of the proposed critical habitat designation, we conducted an economic analysis to estimate the potential economic effects of the designation. The draft analysis addressed the economic impacts of designating critical habitat for the 12 Hawaiian picture-wing flies, and was made available for public review on August 12, 2008 (73 FR 46860). We accepted comments on the draft analysis until September 11, 2008. Following the close of the comment period, a final analysis of the potential economic effects of the designation was developed taking into consideration the public comments and any new information.

The primary purpose of the economic analysis is to estimate the potential economic impacts associated with the designation of critical habitat for the 12 species of Hawaiian picture-wing flies (*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*). This information is intended to assist the Secretary in making decisions about whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. This economic analysis addressed the distribution of any potential impacts of the designation, including an assessment of the potential effects on small entities. This information can be used by the Secretary to assess whether the effects of the designation might unduly burden a particular group or economic sector.

This analysis focused on the direct and indirect costs of the rule. However, economic impacts to land use activities can exist in the absence of critical habitat. These impacts may result from, for example, local zoning laws, State and natural resource laws, and enforceable management plans or best management practices applied by State and other Federal agencies. Economic

impacts that result from these types of protections are considered to be part of the regulatory and policy baseline. The economic impacts that were evaluated were divided into two periods: (1) Pre-designation, covering the time period from the date the picture-wing flies were listed (May 9, 2006; 71 FR 26835) to the date the final critical habitat designation was expected to occur (about year-end 2008), and (2) post-designation, covering the 20-year period following the designation (from about 2009 through 2028).

The economic analysis considers the potential economic effects of all actions relating to the conservation of the 12 picture-wing flies, including costs associated with sections 4, 7, and 10 of the Act, as well as those attributable to designating critical habitat. It further considers the economic effects of protective measures taken as a result of other Federal, State, and local laws that assist in habitat conservation for the 12 picture-wing flies in those areas that contain the physical and biological features essential to their conservation. In the case of habitat conservation, economic effects generally reflect costs associated with committing resources to comply with habitat protection measures (such as lost economic opportunities associated with restrictions on land use).

The analysis quantifies the economic impacts of picture-wing fly critical habitat designation associated primarily with the following activities: (1) Preservation and watershed management in all but the Pit Crater unit on the Big Island; (2) game management and public recreational hunting in most of the units where land is owned by the State; (3) potential future development of approximately 3 acres (1.2 hectares) within the Pit Crater unit on the Big Island; (4) harvesting of commercial timber from portions of the Stainback Forest and Waiakea Forest units; and (5) section 7 consultation administrative costs.

The total pre-designation baseline costs during the period from 2006 to 2008 in the area proposed for critical habitat designation are estimated to range from \$750,130 using a 3 percent discount rate to \$808,100 using a 7 percent discount rate. Because these costs are projected to occur whether critical habitat is designated or not, they are not considered in the Service's determination of whether the benefits of including an area as critical habitat outweigh the benefits of excluding the area. These costs are related to preservation and watershed management activities, and all or nearly all of the pre-designation baseline costs

have been or will be borne by Federal and State agencies. A portion of the preservation and watershed management costs has been borne by a few private landowners.

The annualized post-designation baseline costs during the period 2009 to 2028 for preservation and water management activities are estimated to range from \$348,845 using a 3 percent discount rate to \$379,753 using a 7 percent discount rate. Because these costs are projected to occur whether critical habitat is designated or not, they are not considered in the Service's determination of whether the benefits of including an area as critical habitat outweigh the benefits of excluding the area. All or nearly all of the post-designation baseline costs would be borne by Federal and State agencies, although a portion of the preservation and watershed management costs would be borne by a few private landowners. The combined post-designation baseline cost for these conservation activities is estimated by the final economic analysis (FEA) to be \$5,345,730 at a 3 percent discount rate, and \$4,305,470 at a 7 percent discount rate.

The economic analysis estimates that the annualized post-designation incremental costs for the activities described below during the period 2009 to 2028 may range from \$44,733 using a 3 percent discount rate to \$46,916 using a 7 percent discount rate. The activity having the highest incremental cost ranking is preservation and watershed management, with an annualized value of approximately \$23,969 using a 3 percent discount rate to \$25,568 using a 7 percent discount rate. The second highest cost reflects a possible opportunity loss of harvesting trees in *Drosophila mulli*—Unit 2—Stainback Forest and *Drosophila mulli*—Unit 3—Waiakea Forest, resulting in an annualized value of approximately \$12,693 using a 3 percent discount rate to \$12,176 using a 7 percent discount rate.

There may also be post-designation incremental costs of \$68,590 using a 3 percent discount rate to \$56,000 using a 7 percent discount rate from 2009–2028, related to future section 7 consultations for preservation and watershed management activities. All or nearly all of the post-designation incremental costs would be borne by Federal and State agencies, although a portion of the preservation and watershed management costs would be borne by a few private landowners. The combined total present values of estimated post-designation incremental impacts from 2009 through 2028 for all activities considered in the analysis are about

\$682,000 and \$529,000, respectively, for the 3 and 7 percent discount rates based on the FEA (USFWS 2008, ES–4).

Only the incremental costs of designating critical habitat, over and above the costs associated with species protection under the Act more generally, are considered in determining whether areas should be excluded under section 4(b)(2). Therefore, the methodology for distinguishing these two categories of costs is important. This is particularly true in the current case, because approximately 90 percent of the total costs of species conservation over the next 20 years are projected to be baseline costs, and 10 percent are projected to be incremental costs attributable to critical habitat designation.

In the absence of critical habitat, Federal agencies must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any endangered species or threatened species. Costs associated with such actions are considered baseline costs. Once an area is designated as critical habitat, proposed actions that have a Federal nexus also require consultation and potential revision to ensure that the action does not result in the destruction or adverse modification of designated critical habitat. Costs associated with these actions are considered incremental costs. The economic analysis explains that incremental section 7 consultation that takes place as a result of critical habitat designation may fall into one of three categories: (1) Additional effort to address adverse modification in a consultation that also involves jeopardy; (2) re-initiation of a previously concluded consultation to address adverse modification; and (3) new consultation resulting entirely from critical habitat designation (i.e., where a proposed action may affect unoccupied critical habitat). The economic analysis estimates that there would be three project-level informal consultations related to Federal grants that would need to be reinitiated in 2009 to address picture-wing fly critical habitat. There would also be one programmatic consultation that would need to be reinitiated in 2009 related to the Hawai'i Volcano National Park management plan, and subsequent programmatic consultations every 5 years. The economic analysis indicates that since these consultations would be for preservation and watershed management activities, no or only minimal project modifications would be anticipated.

The final economic analysis is available on the Internet at <http://>

www.regulations.gov and <http://www.fws.gov> or upon request from the Pacific Islands Fish and Wildlife Office (see ADDRESSES).

Required Determinations

In our November 28, 2007, proposed rule (72 FR 67428), we indicated that we would defer our determination of compliance with several statutes and Executive Orders until the information concerning potential economic impacts of the designation and potential effects on landowners and stakeholders was available in the draft economic analysis. In this final rule, we affirm the information contained in the proposed rule concerning Executive Order (E.O.) 13132, E.O. 12988, the Paperwork Reduction Act, and the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951).

Regulatory Planning and Review

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

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

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

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

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

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

Under the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) 5 U.S.C. 802(2)), whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect 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 an agency certifies the rule will not have a significant economic impact on a substantial number of small entities.

The SBREFA amended RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA also amended the RFA to require a certification statement.

Small entities include small organizations, such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this designation, as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

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

Designation of critical habitat affects only activities conducted, funded, or permitted by Federal agencies. Some

kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. In areas where the species is present, Federal agencies already are required to consult with us under section 7 of the Act on activities they fund, permit, or implement that may affect the 12 picture-wing flies. Federal agencies also must consult with us if their activities may affect critical habitat. Designation of critical habitat, therefore, could result in an additional economic impact on small entities due to the requirement to reinstate consultation for ongoing Federal activities.

In the final economic analysis of the proposed critical habitat designation, we evaluated the potential economic effects on small business entities resulting from conservation actions related to the listing of the 12 picture-wing flies and proposed designation of their critical habitat. This analysis estimated prospective economic impacts due to the implementation of the 12 picture-wing flies' conservation efforts for the following activities: (a) Preservation and watershed management in all but the Pit Crater unit on the Big Island; (b) game management and public recreational hunting in most of the units where land is owned by the State; (c) potential for future development on about 3 acres (1.2 hectares) of the Pit Crater unit on the Big Island; (d) harvesting of commercial timber from portions of Drosophila mulli—Unit 2—Stainback Forest and Drosophila mulli—Unit 3—Waiakea Forest; and (e) section 7 consultation administrative costs.

Our economic analysis indicates that all or nearly all of the post-designation incremental costs would be borne by Federal and State agencies, which are not small entities. In addition, according to our economic analysis, the following agencies, organizations, and private companies that may be impacted by the designation of critical habitat are not considered to be small entities: City and County of Honolulu, Kamehameha Schools, The Nature Conservancy, Queen Emma Foundation, James Campbell Co. LLC, MLP, and Molokai Ranch. Accordingly, we are certifying that this final designation of critical habitat for the 12 Hawaiian picture-wing fly species will not have a significant economic impact on a substantial number of small entities. A regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use

On May 18, 2001, the President issued E.O. 13211 on regulations that significantly affect energy supply,

distribution, or use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this E.O. that outlines nine outcomes that may constitute “a significant adverse effect” when compared without the regulatory action under consideration. The economic analysis finds that none of these criteria are relevant to this analysis. Thus, based on information in the economic analysis, energy-related impacts associated with the 12 picture-wing flies’ conservation activities within critical habitat are not expected. As such, the designation of critical habitat 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 *et seq.*), we make 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; Aid to Families with Dependent Children 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, permits, or otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat. However, 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 onto State governments.

(b) We do not believe that this rule will significantly or uniquely affect small governments because it will not produce a Federal mandate of \$100 million or greater in any year; that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments. As such, a Small Government Agency Plan is not required. Based on the consultation history and the economic analysis on this critical habitat designation, we do not foresee any significant impact to small governments.

Executive Order 12630—Takings

In accordance with E.O. 12630 (“Government Actions and Interference with Constitutionally Protected Private Property Rights”), we have analyzed the potential takings implications of critical habitat for the 12 picture-wing flies. The takings implications assessment concludes that this designation of critical habitat for the 12 picture-wing flies does not pose significant takings implications for lands within or affected by the designation.

Federalism

In accordance with E.O. 13132 (Federalism), this final rule does not have significant Federalism effects. A Federalism assessment is not required.

In keeping with Department of Interior and Department of Commerce policy, we requested information from, and coordinated development of, this final critical habitat designation with appropriate State resource agencies in Hawaii. The designation of critical habitat in areas currently occupied by the 12 picture-wing flies is not likely to impose any additional restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments because the areas that contain the physical and biological features essential to the conservation of the species are more clearly defined, and the PCEs of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Civil Justice Reform

In accordance with E.O. 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the ESA. This final rule uses standard property descriptions and identifies the physical and biological features essential to the conservation of the species within the designated areas to assist the public in understanding the habitat needs of the 12 picture-wing flies.

Paperwork Reduction Act of 1995

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

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

It is our position that, outside the Jurisdiction of the Tenth Federal Circuit, we do not need to prepare environmental analyses as defined by

NEPA in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This assertion was upheld by the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. Ore. 1995), cert. denied 516 U.S.1042 (1996)).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and the Department of Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act," we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes.

We have determined that there are no tribal lands occupied at the time of listing containing the features essential for the conservation and no tribal lands that are unoccupied areas that are essential for the conservation of the 12 picture-wing flies. Therefore, designation of critical habitat for the 12 picture-wing flies has not been designated on Tribal lands.

References Cited

A complete list of all references cited in this rulemaking is available upon request from the Field Supervisor, Pacific Islands Fish and Wildlife Office (see **ADDRESSES**), or on the Internet at <http://www.regulations.gov> and at <http://www.fws.gov/pacificislands>.

Author(s)

The primary authors of this notice are staff members of the Pacific Islands Fish and Wildlife Office (see **ADDRESSES**).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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

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

■ 2. In § 17.11(h), revise the entries for "Fly, Hawaiian picture-wing" (*Drosophila aglaia*), "Fly, Hawaiian picture-wing" (*Drosophila differens*), "Fly, Hawaiian picture-wing" (*Drosophila hemipeza*), "Fly, Hawaiian picture-wing" (*Drosophila heteroneura*), "Fly, Hawaiian picture-wing" (*Drosophila montgomeryi*), "Fly, Hawaiian picture-wing" (*Drosophila mulli*), "Fly, Hawaiian picture-wing" (*Drosophila musaphilia*), "Fly, Hawaiian picture-wing" (*Drosophila neoclavisetae*), "Fly, Hawaiian picture-wing" (*Drosophila obatai*), "Fly, Hawaiian picture-wing" (*Drosophila ochrobasis*), "Fly, Hawaiian picture-wing" (*Drosophila substenoptera*), and "Fly, Hawaiian picture-wing" (*Drosophila 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.	<i>Drosophila aglaia</i>	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila differens</i> ..	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila hemipeza</i>	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila heteroneura</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila montgomeryi</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila milli</i>	U.S.A. (HI)	NA	T	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila musaphilia</i>	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila neoclavisetae</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila obatai</i>	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila ochrobasis</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila substenoptera</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
Fly, Hawaiian picture-wing.	<i>Drosophila tarphytrichia</i> .	U.S.A. (HI)	NA	E	756	17.95(i)	NA
* * * * *							

■ 3. In § 17.95, amend paragraph (i) by adding entries for “Hawaiian picture-wing fly (*Drosophila aglaia*),” “Hawaiian picture-wing fly (*Drosophila differens*),” “Hawaiian picture-wing fly (*Drosophila hemipeza*),” “Hawaiian picture-wing fly (*Drosophila heteroneura*),” “Hawaiian picture-wing fly (*Drosophila montgomeryi*),” “Hawaiian picture-wing fly (*Drosophila mulli*),” “Hawaiian picture-wing fly (*Drosophila musaphilia*),” “Hawaiian picture-wing fly (*Drosophila neoclavisetae*),” “Hawaiian picture-wing fly (*Drosophila obatai*),” “Hawaiian picture-wing fly (*Drosophila ochrobasis*),” “Hawaiian picture-wing fly (*Drosophila substenoptera*),” and “Hawaiian picture-wing fly (*Drosophila tarphytrichia*),” in the same alphabetical

order in which these species appear in that table at § 17.11(h), to read as follows:

§ 17.95 Critical habitat—fish and wildlife.

* * * * *

(i) *Insects.*

* * * * *

Hawaiian picture-wing fly (*Drosophila aglaia*)

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

(2) The primary constituent elements of critical habitat for *Drosophila aglaia* are:

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

elevations of 1,865–2,985 ft (568–910 m); and

(ii) The larval host plant *Urera glabra*, which exhibits one or more life stages (from seedlings to senescent individuals).

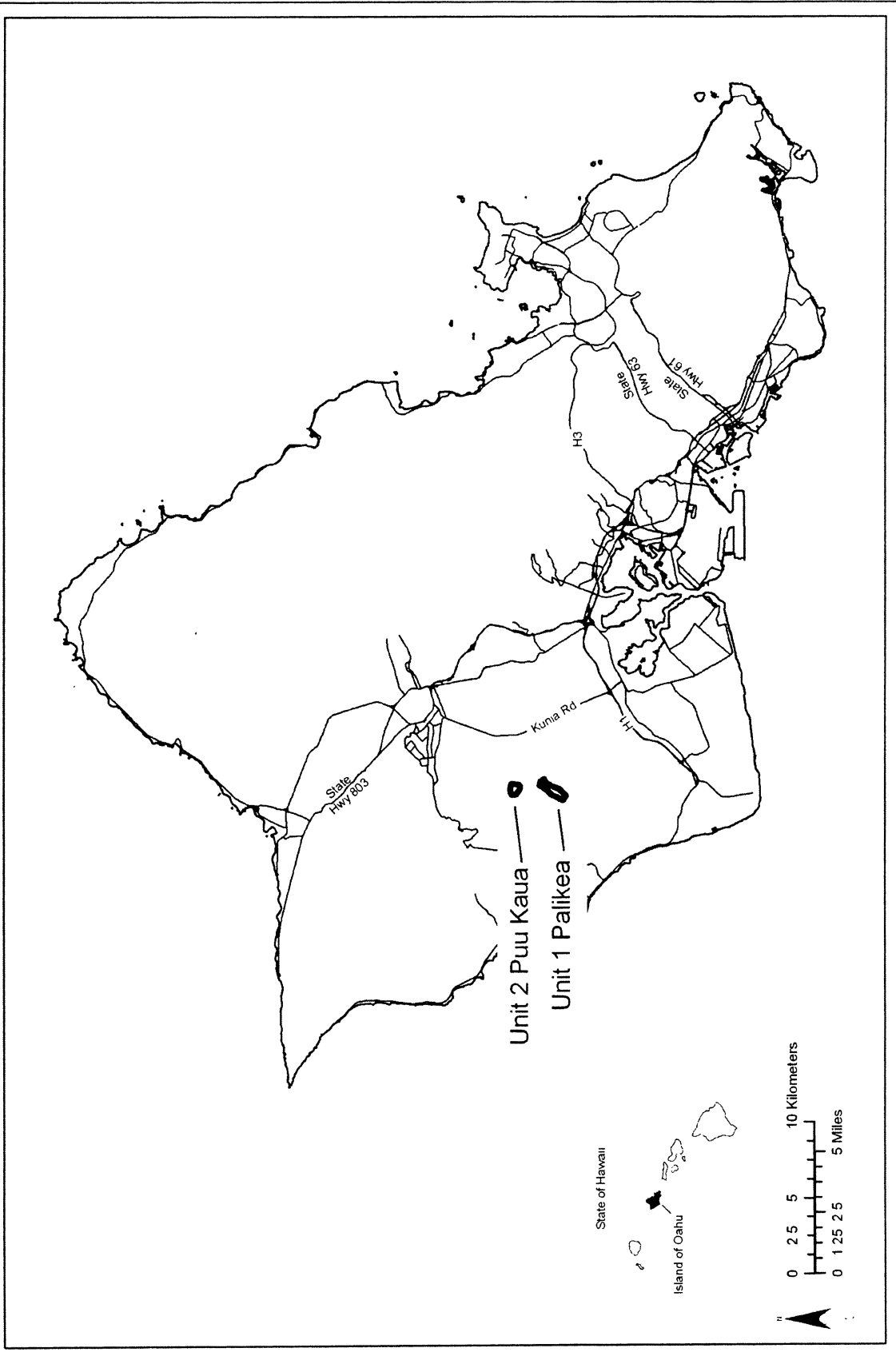
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila aglaia* follows:

BILLING CODE 4310–55–P

Index Map of Critical Habitat Units for *Drosophila aglaia*



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

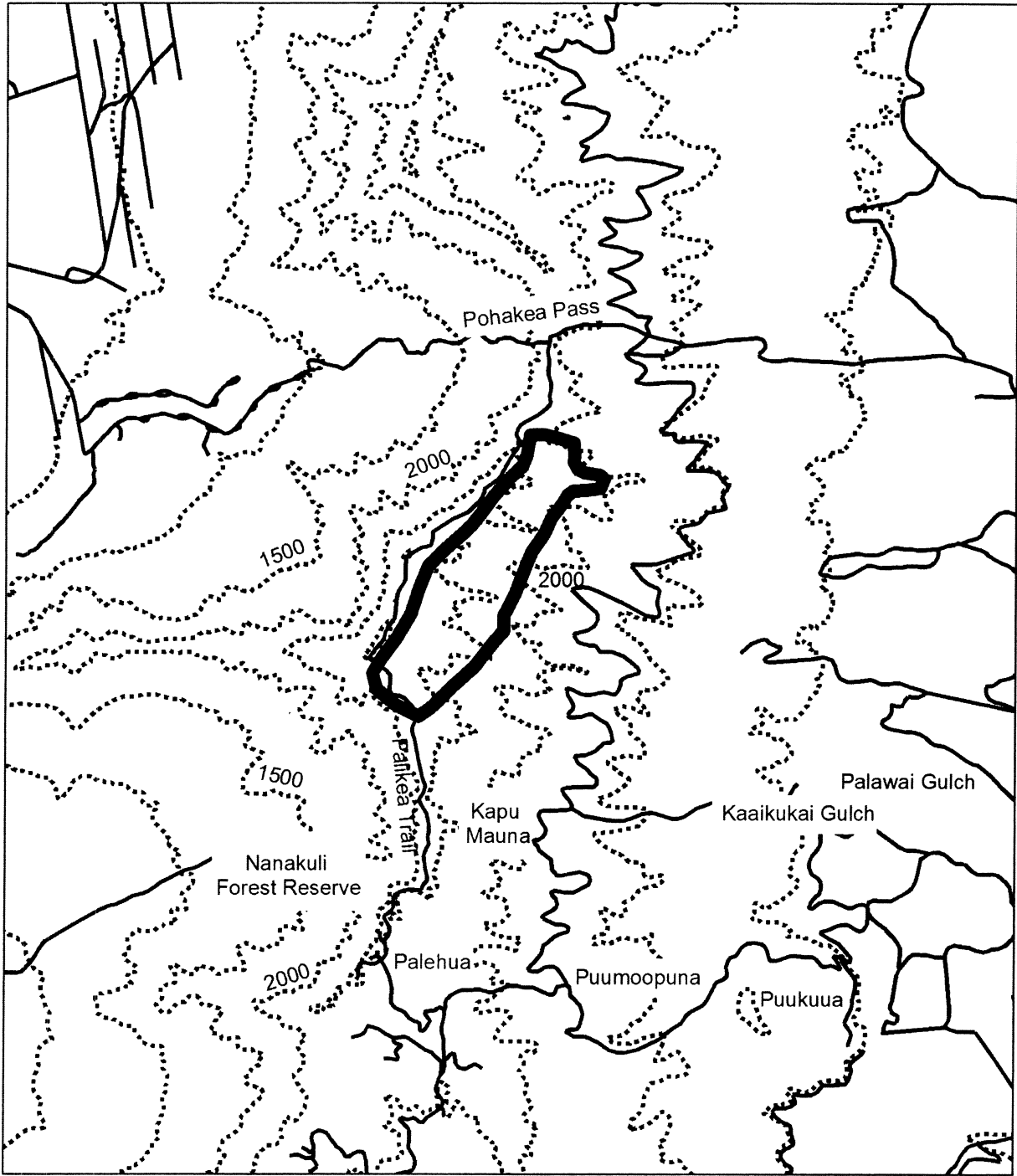
(i) Land bounded by the following
coordinates: 593529, 2367854; 593448,
2367801; 593302, 2367874; 593242,
2367927; 593193, 2367967; 593165,
2368065; 593217, 2368150; 593314,
2368283; 593399, 2368425; 593448,
2368578; 593505, 2368716; 593622,




2368833; 593703, 2368906; 593764,
2368963; 593832, 2369044; 593901,
2369145; 594002, 2369262; 594079,
2369331; 594104, 2369396; 594120,
2369485; 594124, 2369521; 594148,
2369525; 594213, 2369525; 594310,
2369497; 594395, 2369473; 594399,
2369392; 594396, 2369356; 594417,
2369313; 594461, 2369290; 594551,
2369278; 594579, 2369250; 594559,

2369197; 594472, 2369183; 594391,
2369179; 594354, 2369153; 594302,
2369072; 594257, 2369015; 594213,
2368914; 594136, 2368809; 594083,
2368672; 594035, 2368550; 593966,
2368417; 593966, 2368324; 593909,
2368259; 593792, 2368105; 593675,
2368000.


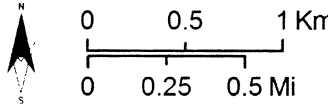
(ii) Note: Map of *Drosophila aglaia*—
Unit 1—Palikea follows:

Drosophila aglaia - Unit 1 - Palikea



-  *Drosophila aglaia* - Unit 1 - Palikea
-  Secondary Roads/Trails
-  Elevation (500-foot contours)

0 0.5 1 Km
0 0.25 0.5 Mi



(7) *Drosophila aglaia*—Unit 2—Puu Kaa, City and County of Honolulu, island of Oahu, Hawaii.

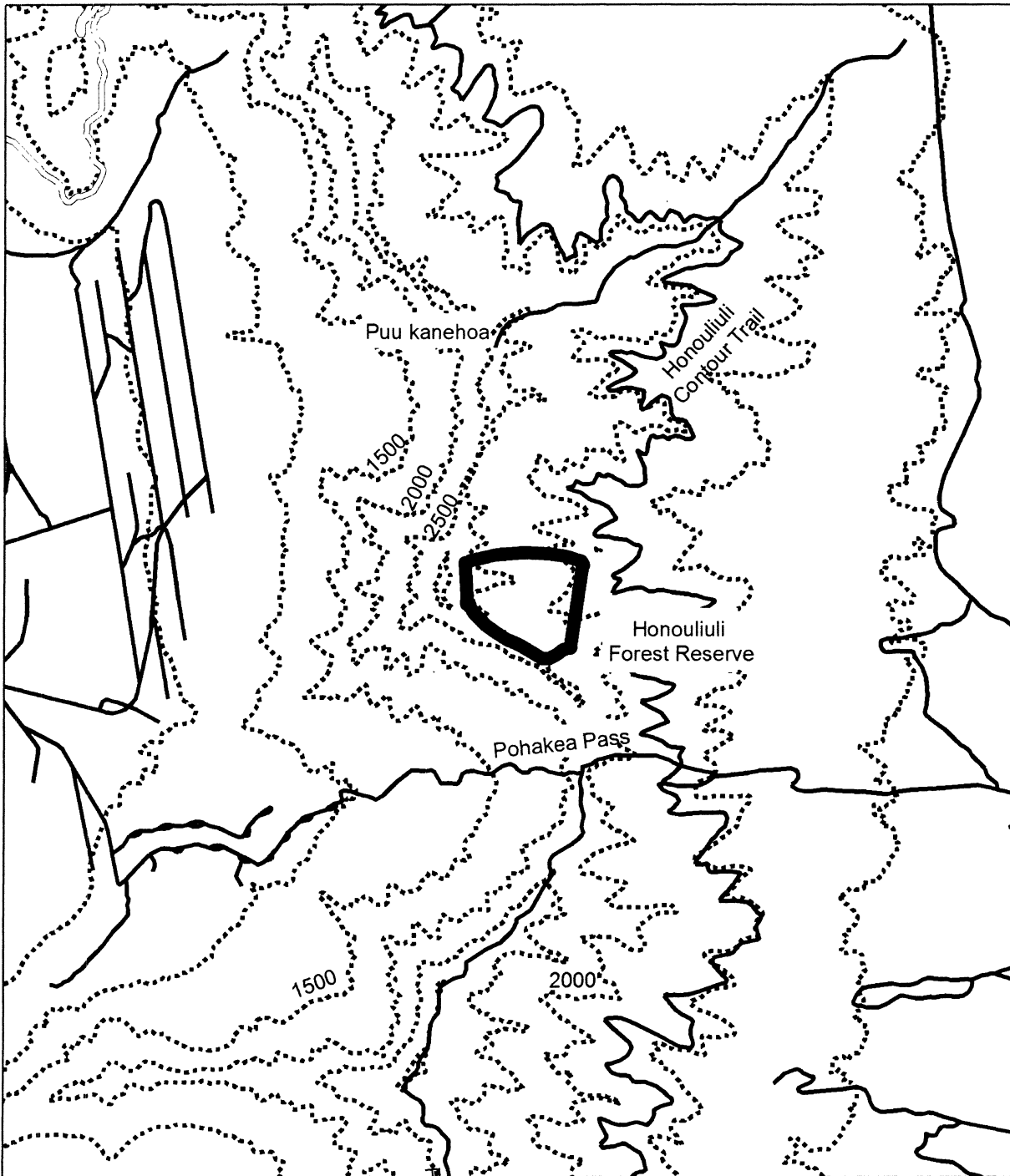
(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930,




2370827; 593852, 2370875; 593778, 2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794,

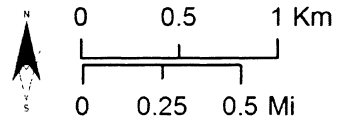
2371431; 593876, 2371437; 593974, 2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) Note: Map of *Drosophila aglaia*—Unit 2—Puu Kaa follows:

Drosophila aglaia - Unit 2 - Puu Kaua



-  *Drosophila aglaia* - Unit 2 - Puu Kaua
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*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 for *Drosophila differens* are:

(i) Wet, montane, ohia forest between the elevations of 3,645–4,495 ft (1,111–1,370 m); and

(ii) The larval host plants *Clermontia arborescens* ssp. *waihia*, *C. grandiflora* ssp. *munroi*, *C. oblongifolia* ssp. *brevipes*, *C. kakeana*, and *C. pallida*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit.

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

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

(i) Land bounded by the following coordinates: 718527, 2337536; 718533, 2337451; 718538, 2337370; 718543,

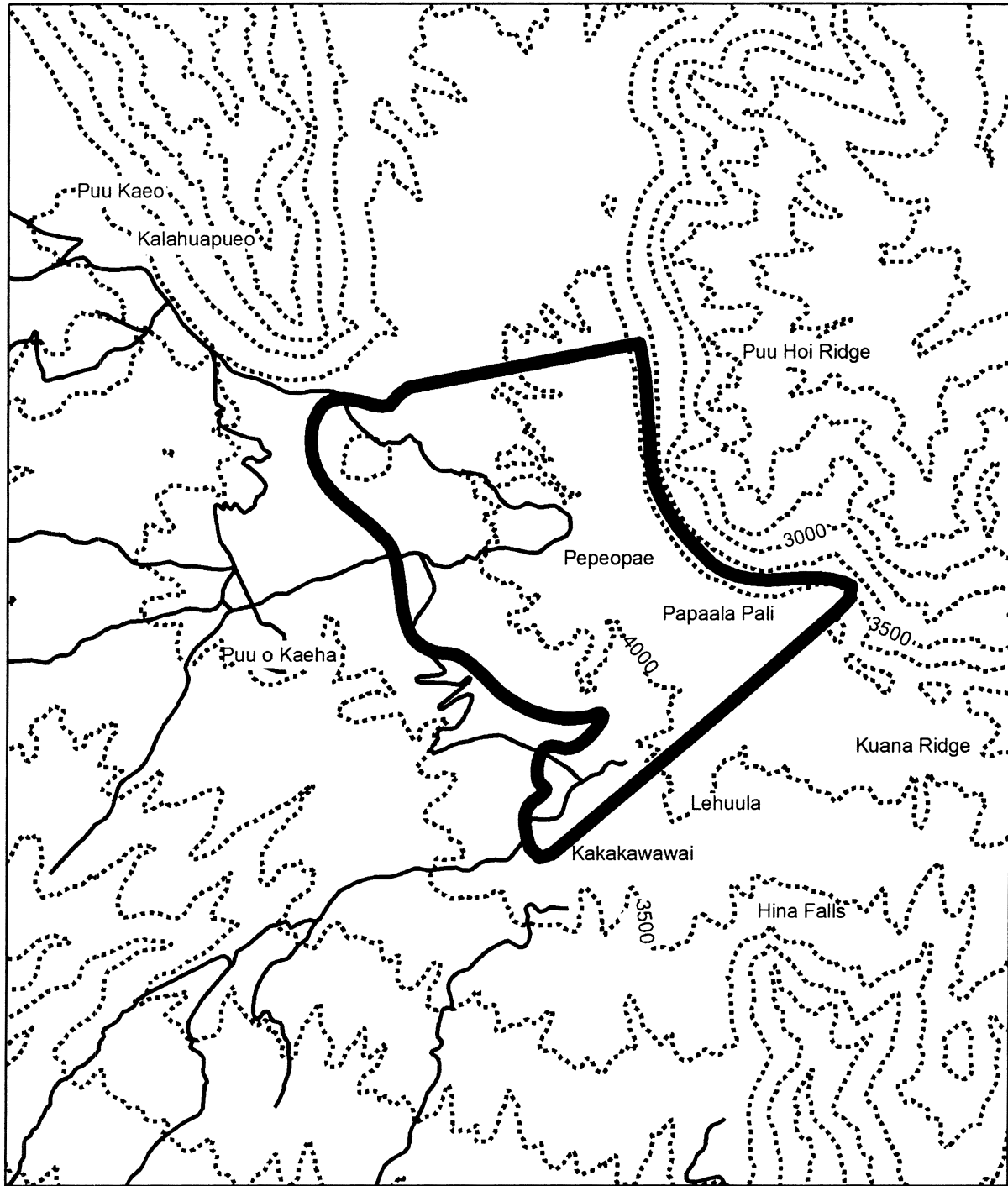
2337298; 718547, 2337236; 718551, 2337182; 718555, 2337138; 718560, 2337098; 718571, 2337055; 718586, 2337010; 718607, 2336962; 718632, 2336912; 718662, 2336860; 718698, 2336807; 718739, 2336754; 718784, 2336700; 718835, 2336646; 718892, 2336593; 718958, 2336551; 719034, 2336520; 719119, 2336502; 719215, 2336497; 719320, 2336503; 719420, 2336509; 719506, 2336508; 719579, 2336500; 719639, 2336484; 719685, 2336462; 719675, 2336394; 719613, 2336327; 718980, 2335781; 718332, 2335236; 718002, 2334953; 717930, 2334932; 717877, 2334988; 717855, 2335060; 717846, 2335123; 717848, 2335175; 717862, 2335217; 717888, 2335249; 717921, 2335272; 717946, 2335291; 717961, 2335308; 717965, 2335322; 717958, 2335333; 717942, 2335342; 717928, 2335356; 717919, 2335377; 717915, 2335404; 717916, 2335438; 717923, 2335478; 717935, 2335515; 717952, 2335542; 717974, 2335558; 718001, 2335564; 718034, 2335559; 718070, 2335550; 718107, 2335553; 718144, 2335567; 718182, 2335593; 718221, 2335630; 718257, 2335675; 718280, 2335710; 718286, 2335733; 718277, 2335745; 718253, 2335744; 718213, 2335731; 718166, 2335721; 718115, 2335717; 718060, 2335719; 718001, 2335728; 717937,


2335742; 717873, 2335764; 717812, 2335793; 717753, 2335829; 717697, 2335873; 717643, 2335924; 717591, 2335977; 717543, 2336020; 717499, 2336052; 717458, 2336073; 717420, 2336083; 717385, 2336085; 717351, 2336089; 717319, 2336098; 717288, 2336110; 717258, 2336127; 717230, 2336148; 717204, 2336180; 717183, 2336223; 717165, 2336280; 717151, 2336348; 717140, 2336429; 717130, 2336510; 717118, 2336579; 717103, 2336636; 717085, 2336680; 717065, 2336713; 717041, 2336739; 717009, 2336769; 716968, 2336806; 716919, 2336847; 716862, 2336894; 716800, 2336946; 716745, 2337000; 716702, 2337055; 716669, 2337112; 716647, 2337171; 716635, 2337231; 716632, 2337289; 716634, 2337341; 716644, 2337388; 716660, 2337430; 716683, 2337468; 716713, 2337497; 716751, 2337516; 716797, 2337523; 716850, 2337520; 716912, 2337507; 716976, 2337488; 717031, 2337481; 717077, 2337486; 717126, 2337542; 717183, 2337585; 718403, 2337817; 718484, 2337833; 718487, 2337824; 718499, 2337760; 718510, 2337691; 718519, 2337616.


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


BILLING CODE 4310–55–P

Drosophila differens - Unit 1 - Puu Kolekole



 *Drosophila differens* - Unit 1 - Puu Kolekole

 Secondary Roads/Trails

 Elevation (500-foot contours)



0 0.5 1 Km

0 0.25 0.5 Mi



Hawaiian picture-wing fly (*Drosophila hemipeza*)

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

(2) The primary constituent elements of critical habitat for *Drosophila hemipeza* are:

(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–3,005 ft (524–916 m); and

(ii) The larval host plants *Cyanea angustifolia*, *C. calycina*, *C. grimesiana* ssp. *grimesiana*, *C. grimesiana* ssp. *obatae*, *C. membranacea*, *C. pinnatifida*, *C. superba* ssp. *superba*, *Lobelia hypoleuca*, *L. niihauensis*, *L. yuccoides*, and *Urera kaalae*, which exhibit one or more life stages (from seedlings to senescent individuals).

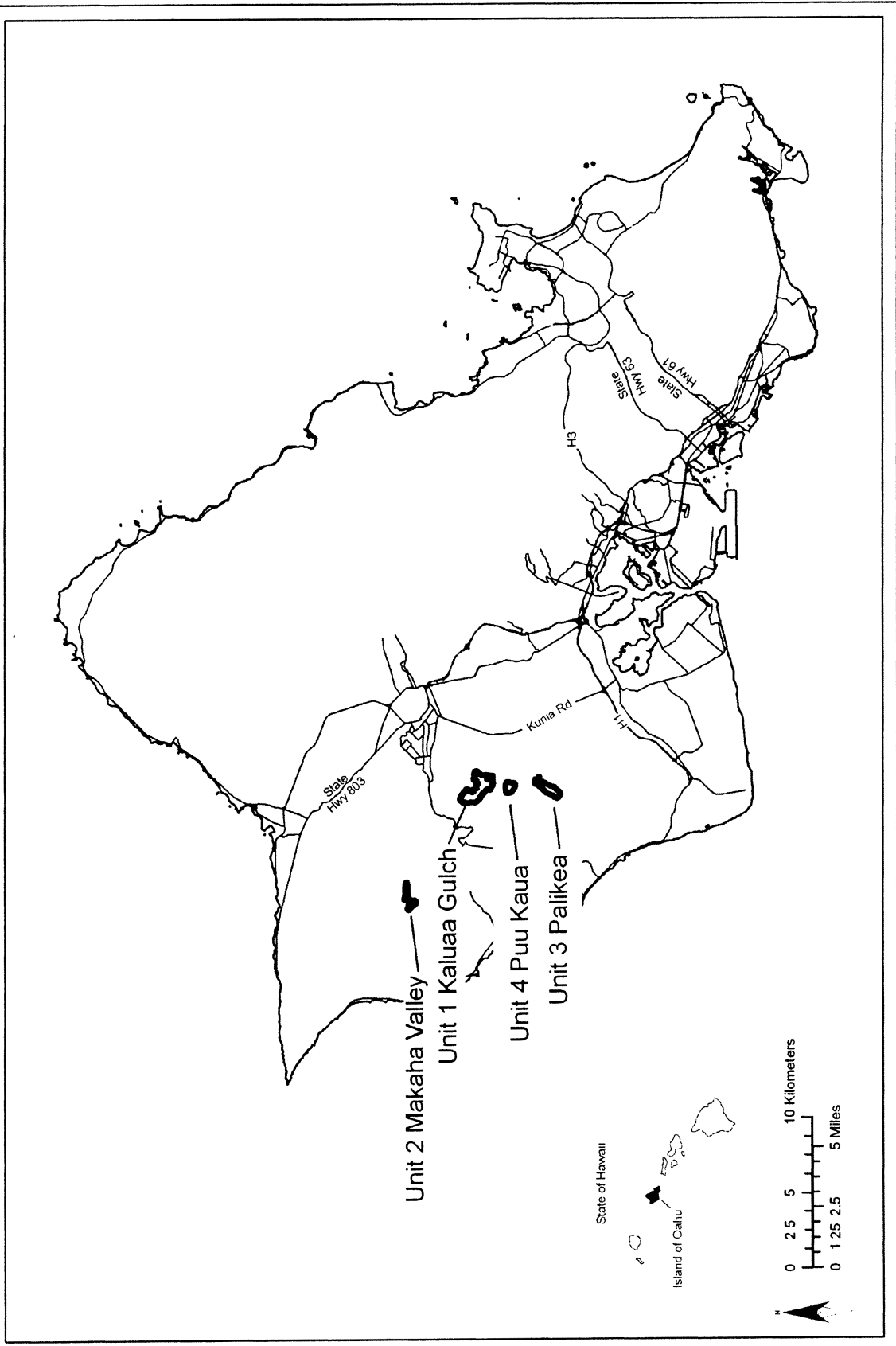
(3) Critical habitat does not include manmade structures (such as buildings,

aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila hemipeza* follows:

Index Map of Critical Habitat Units for *Drosophila hemipeza*



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

(i) Land bounded by the following
coordinates: 593240, 2374436; 593231,

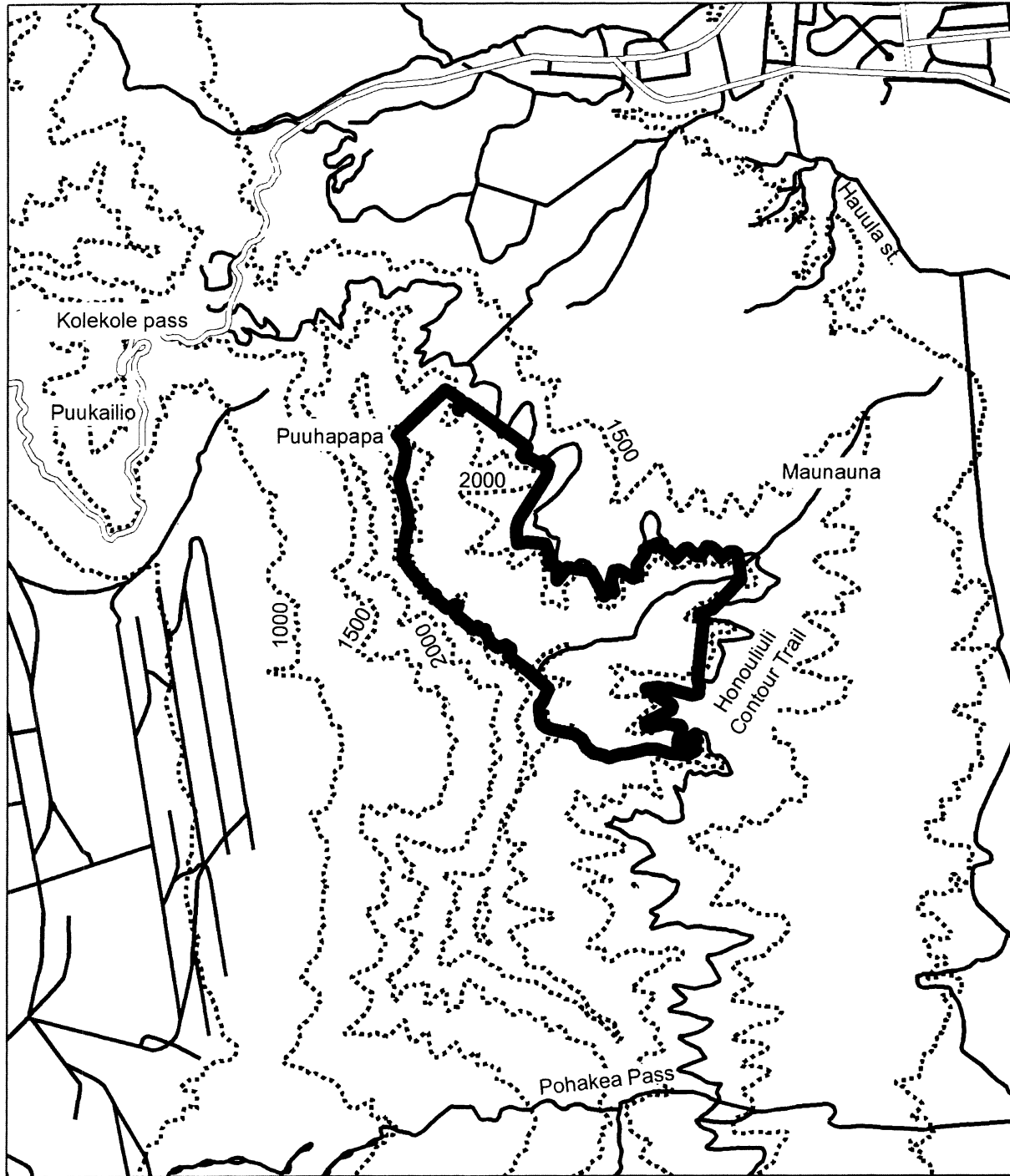
2374371; 593281, 2374410; 593315,
2374385; 593612, 2374173; 593656,
2374138; 593621, 2374096; 593641,
2374077; 593676, 2374072; 593703,
2374057; 593734, 2374039; 593758,
2374058; 593793, 2374029; 593779,
2373964; 593731, 2373894; 593660,
2373784; 593609, 2373702; 593592,
2373648; 593592, 2373594; 593598,
2373553; 593657, 2373561; 593770,
2373549; 593792, 2373496; 593797,
2373417; 593842, 2373411; 593842,
2373326; 593905, 2373404; 594053,
2373383; 594103, 2373292; 594134,
2373228; 594156, 2373250; 594194,
2373256; 594178, 2373323; 594196,
2373386; 594229, 2373390; 594312,
2373340; 594341, 2373350; 594339,
2373421; 594383, 2373487; 594381,
2373513; 594460, 2373552; 594496,
2373553; 594497, 2373518; 594526,
2373509; 594572, 2373460; 594632,





2373519; 594649, 2373523; 594699,
2373475; 594728, 2373476; 594762,
2373532; 594791, 2373529; 594828,
2373501; 594852, 2373465; 594903,
2373501; 594933, 2373500; 594952,
2373489; 594974, 2373334; 594800,
2373150; 594718, 2373120; 594718,
2373102; 594744, 2373091; 594710,
2372721; 594720, 2372686; 594716,
2372633; 594678, 2372623; 594566,
2372651; 594536, 2372666; 594506,
2372663; 594467, 2372672; 594395,
2372663; 594406, 2372650; 594546,
2372567; 594558, 2372553; 594551,
2372535; 594389, 2372452; 594395,
2372434; 594415, 2372428; 594511,
2372449; 594603, 2372437; 594614,
2372421; 594607, 2372385; 594593,
2372353; 594591, 2372317; 594618,
2372322; 594661, 2372357; 594700,
2372384; 594696, 2372334; 594697,
2372333; 594697, 2372283; 594652,
2372257; 594541, 2372266; 594454,
2372294; 594400, 2372294; 594293,
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2372267; 594030, 2372303; 593999,

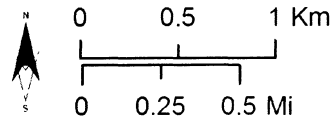
2372354; 593948, 2372388; 593889,
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2372467; 593742, 2372490; 593736,
2372521; 593736, 2372560; 593757,
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2373238; 593064, 2373243; 593019,
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2373597; 592923, 2373668; 592914,
2373772; 592889, 2373866; 592868,
2373941; 592867, 2373950; 592894,
2374029; 592908, 2374120; 592894,
2374162; 592860, 2374213; 592854,
2374216; 593151, 2374494.

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

Drosophila hemipeza - Unit 1 - Kaluaa Gulch



-  *Drosophila hemipeza* - Unit 1 - Kaluaa Gulch
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(7) *Drosophila hemipeza*—Unit 2—
Makaha Valley, City and County of
Honolulu, island of Oahu, Hawaii.

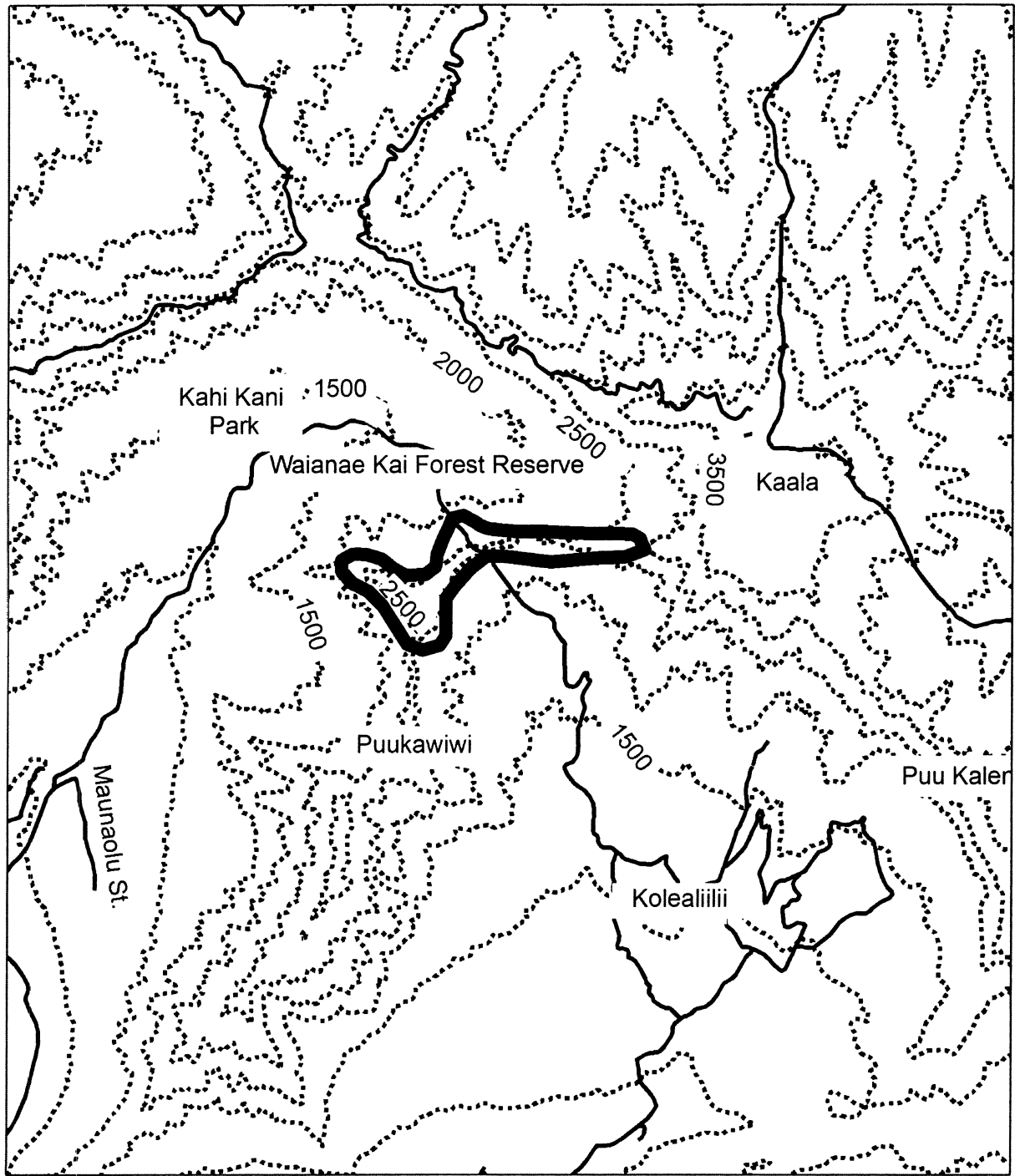
(i) Land bounded by the following
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2378046; 587641, 2378038; 587666,
2377980; 587543, 2377935; 587399,




2377931; 587243, 2377919; 587090,
2377906; 586794, 2377943; 586696,
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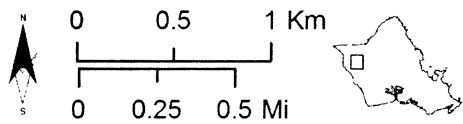
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2378034; 586461, 2378116; 586482,
2378174; 586552, 2378190; 586630,
2378149; 586655, 2378128.

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

Drosophila hemipeza - Unit 2 - Makaha Valley



-  *Drosophila hemipeza* - Unit 2 - Makaha Valley
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(8) *Drosophila hemipeza*—Unit 3—Palikea, City and County of Honolulu, island of Oahu, Hawaii.

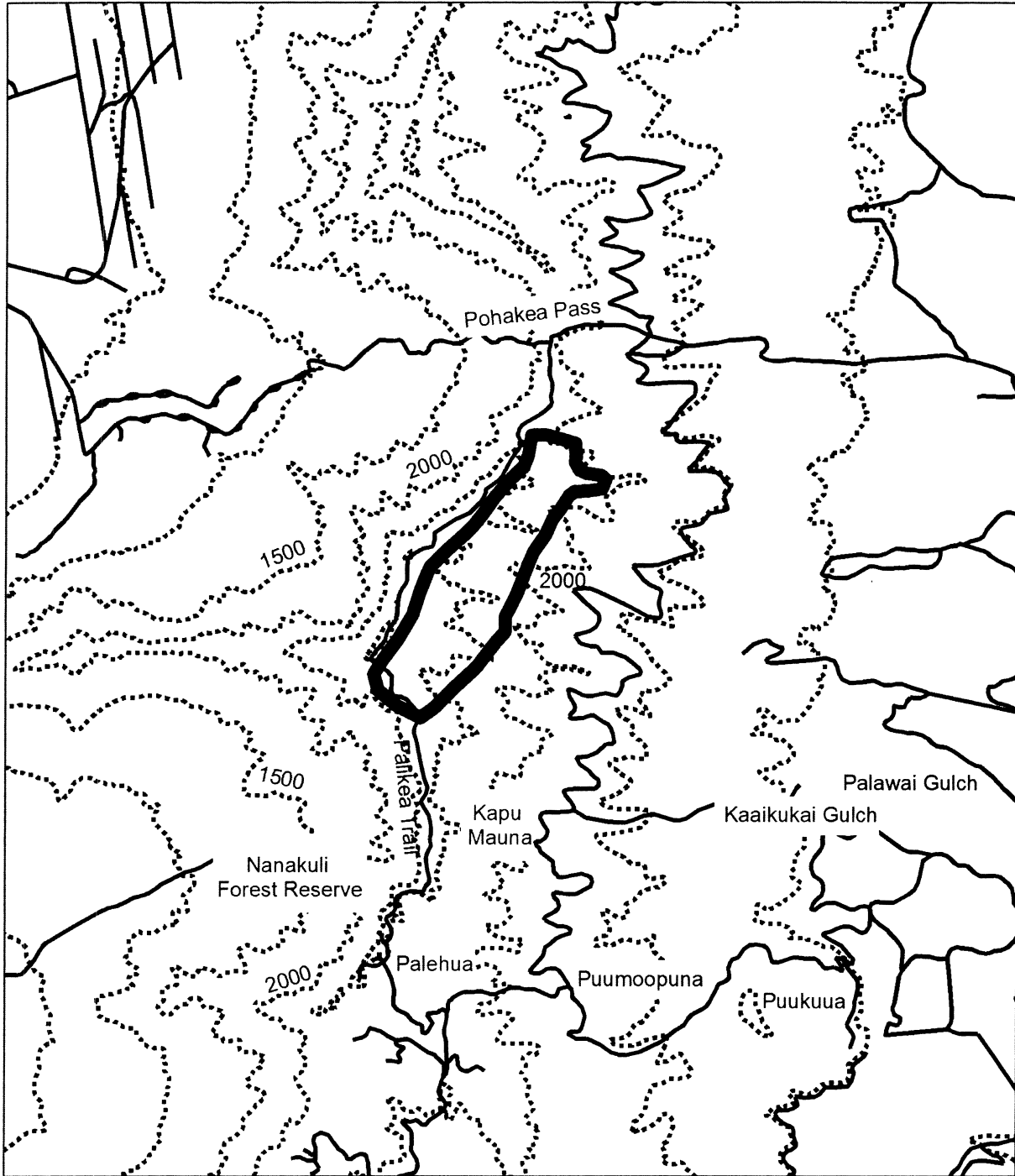
(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399, 2368425; 593448, 2368578; 593505, 2368716; 593622,




2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559,

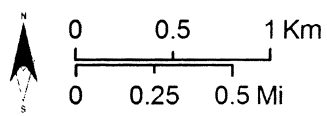
2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

(ii) Note: Map of *Drosophila hemipeza*—Unit 3—Palikea follows:

Drosophila hemipeza - Unit 3 - Palikea



-  *Drosophila hemipeza* - Unit 3 - Palikea
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(9) *Drosophila hemipeza*—Unit 4—
Puu Kaua, City and County of Honolulu,
island of Oahu, Hawaii.

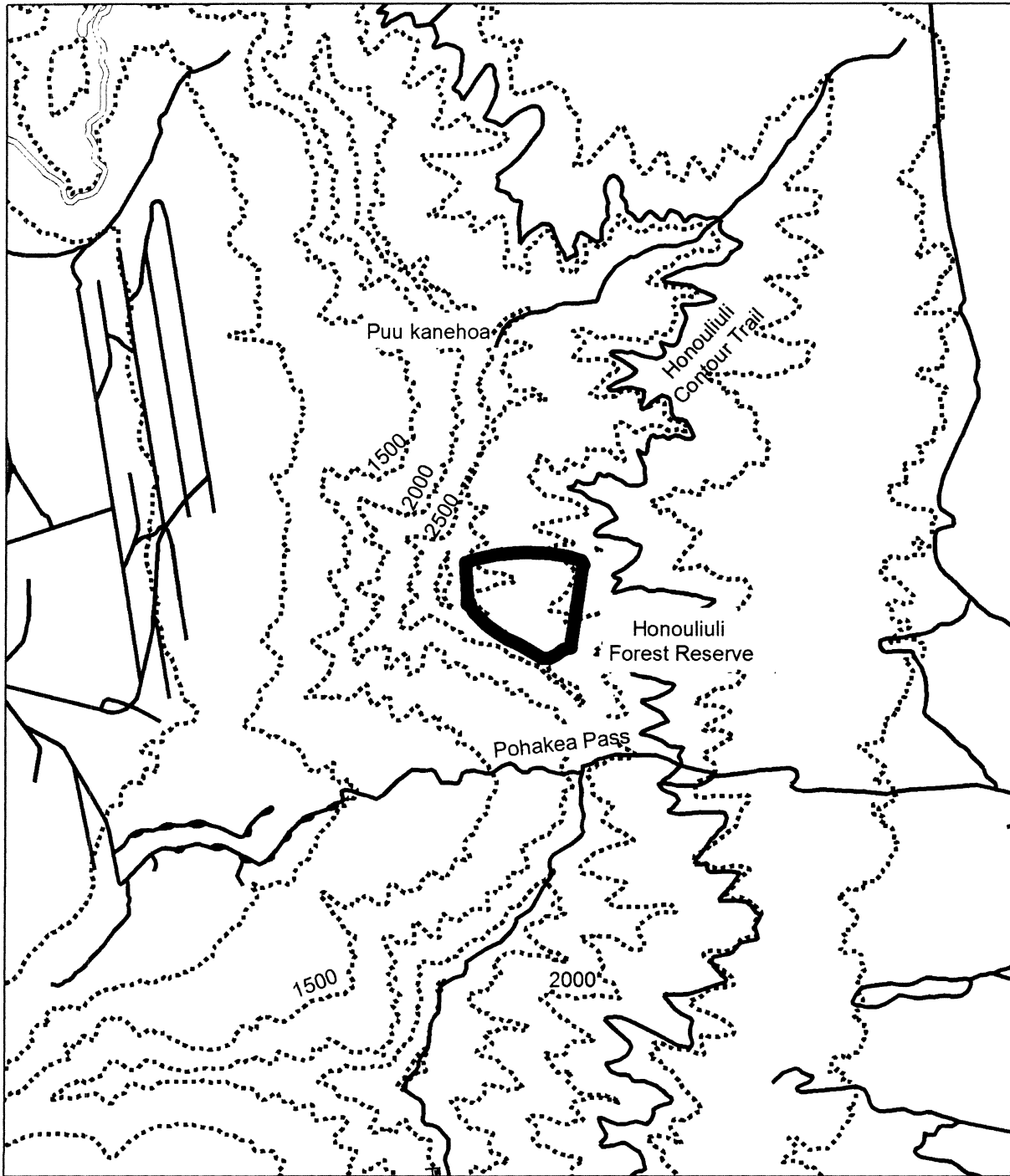
(i) Land bounded by the following
coordinates: 594166, 2370854; 594166,
2370853; 594164, 2370854; 594122,
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2370789; 593996, 2370789; 593930,




2370827; 593852, 2370875; 593778,
2370907; 593716, 2370947; 593642,
2370999; 593602, 2371041; 593574,
2371067; 593558, 2371095; 593539,
2371118; 593531, 2371121; 593534,
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2371404; 593716, 2371426; 593794,

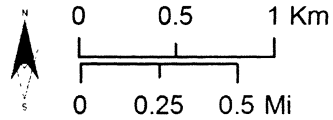
2371431; 593876, 2371437; 593974,
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2371415; 594190, 2371399; 594232,
2371385; 594246, 2371359; 594239,
2371354; 594170, 2370879; 594172,
2370877; 594170, 2370855.

(ii) Note: Map of *Drosophila*
hemipeza—Unit 4—Puu Kaua follows:

Drosophila hemipeza - Unit 4 - Puu Kaua



-  *Drosophila hemipeza* - Unit 4 - Puu Kaua
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*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 for *Drosophila heteroneura* are:

(i) Mesic to wet, montane, ohia and koa forest between the elevations of 2,908–5,755 ft (908–1,754 m); and

(ii) The larval host plants *Cheirodendron trigynum* ssp. *trigynum*, *Clermontia clermontioides*, *C. clermontioides* ssp. *rockiana*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyricularia*, and *Delissea parviflora*, which exhibit one or more life stages (from seedlings to senescent individuals).

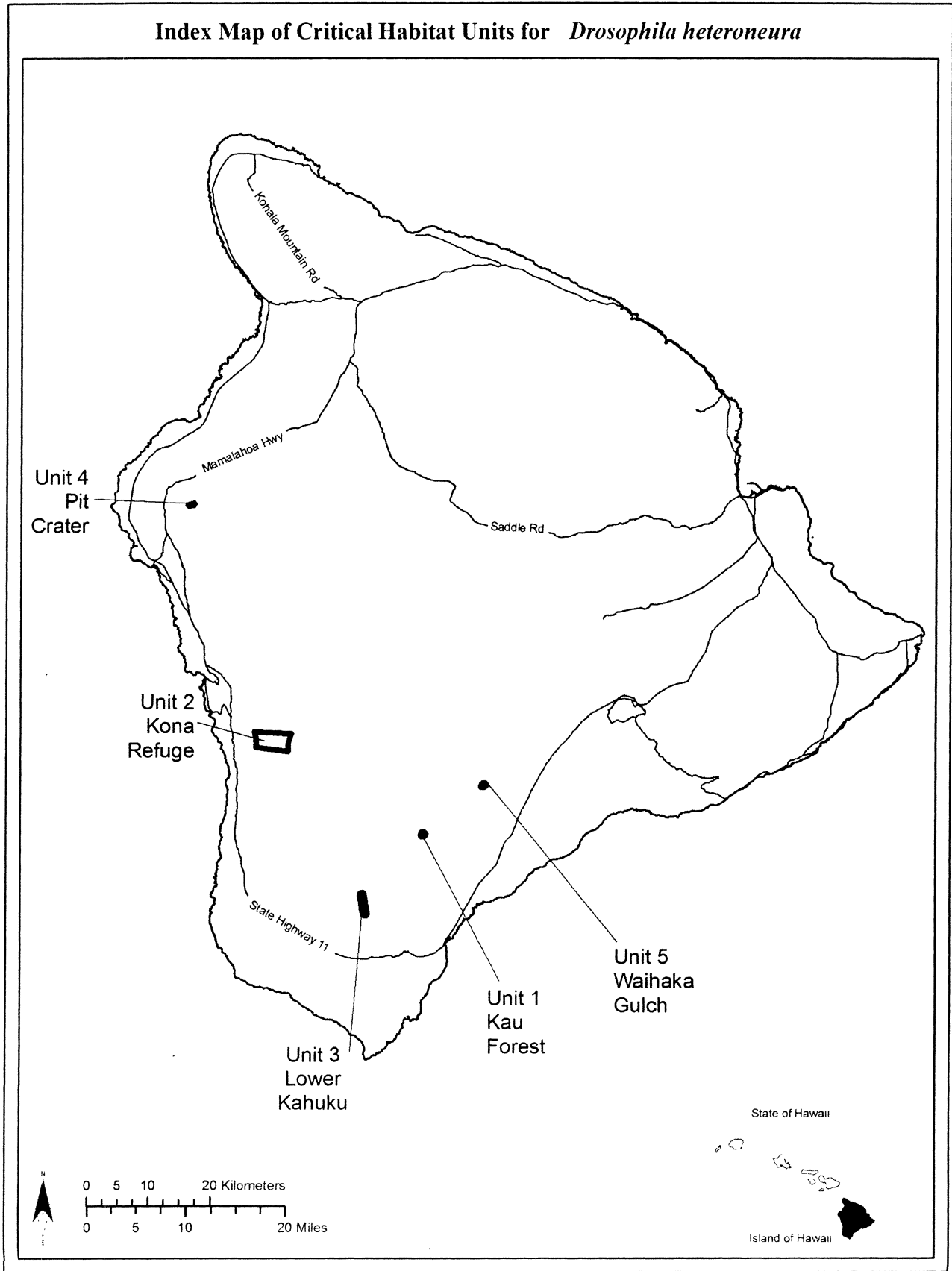
(3) Critical habitat does not include manmade structures (such as buildings,

aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila heteroneura* follows:

Index Map of Critical Habitat Units for *Drosophila heteroneura*

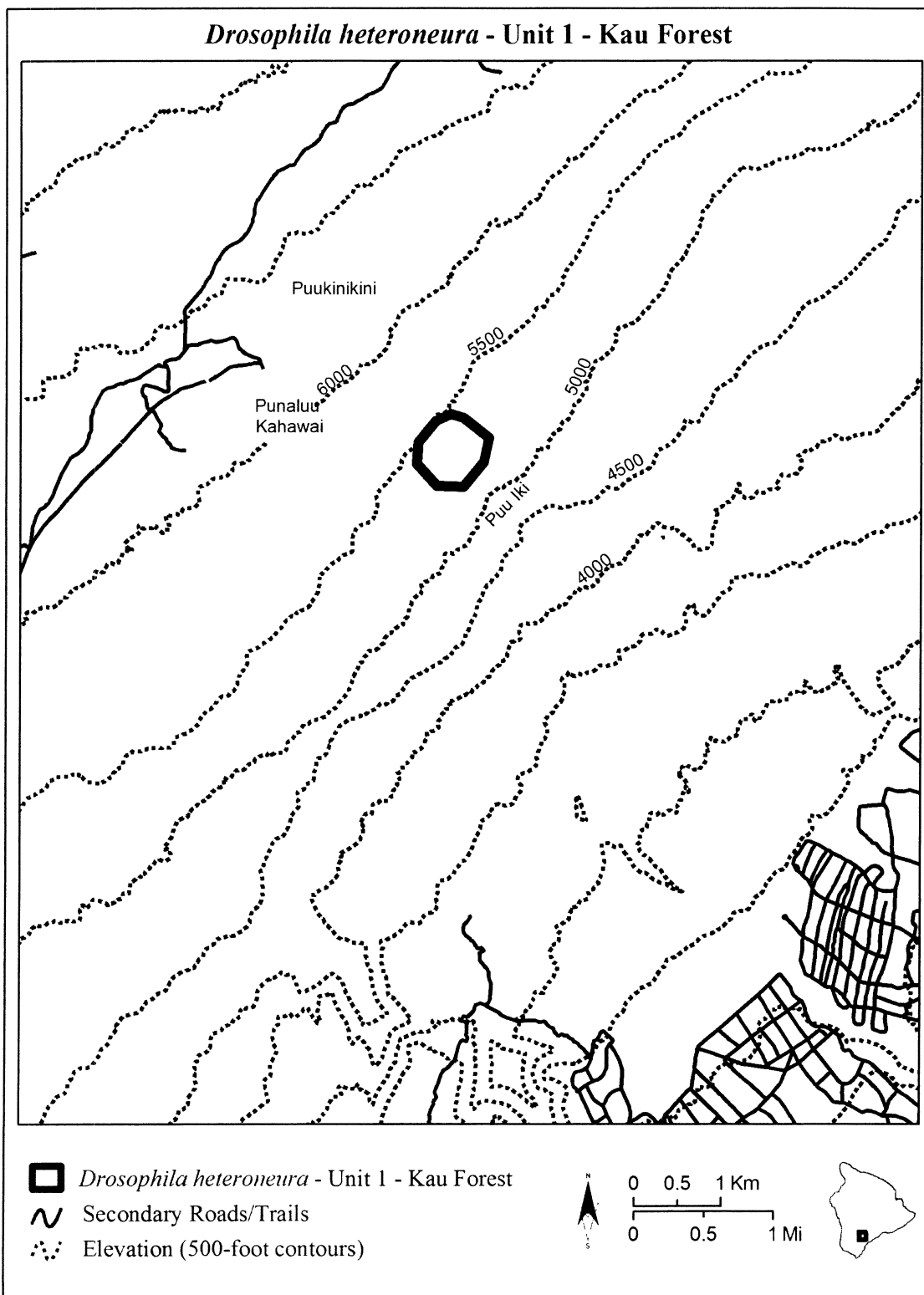


(6) *Drosophila heteroneura*—Unit 1—
Kau Forest, Hawaii County, island of
Hawaii, Hawaii.

(i) Land bounded by the following
coordinates: 859357, 2130685; 859117,

2130401; 858810, 2130412; 858577,
2130667; 858596, 2130918; 858800,
2131167; 858976, 2131240; 859117,
2131196; 859416, 2130970.

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



(7) *Drosophila heteroneura*—Unit 2—Kona Refuge, Hawaii County, island of Hawaii, Hawaii.

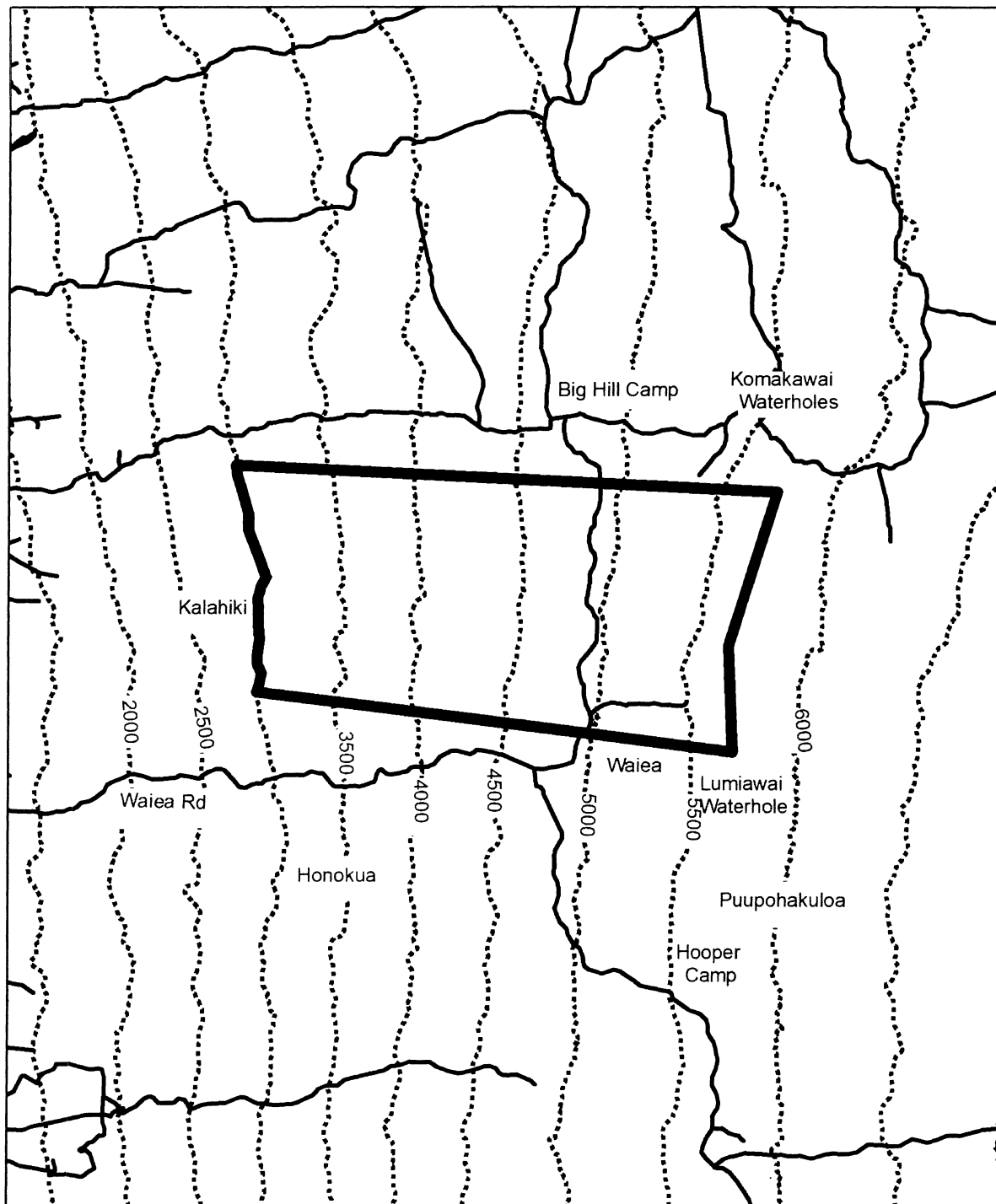
(i) Land bounded by the following coordinates: 836880, 2145492; 836927, 2144316; 836473, 2144373; 835378, 2144516; 831663, 2144980; 31685,





2145029; 831718, 2145184; 831669, 2145289; 831669, 2145387; 831694, 2145557; 31685, 2145727; 831685, 2145882; 831677, 2146020; 831710, 2146149; 831767, 2146247; 31685, 2146482; 831572, 2146766; 831572,

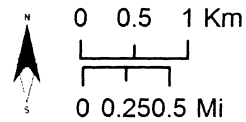
2146953; 831515, 2147156; 831442, 2147391; 31438, 2147486; 837419, 2147183.

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

Drosophila heteroneura - Unit 2 - Kona Refuge



-  *Drosophila heteroneura* - Unit 2 - Kona Refuge
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(8) *Drosophila heteroneura*—Unit 3—
Lower Kahuku, Hawaii County, island
of Hawaii, Hawaii.

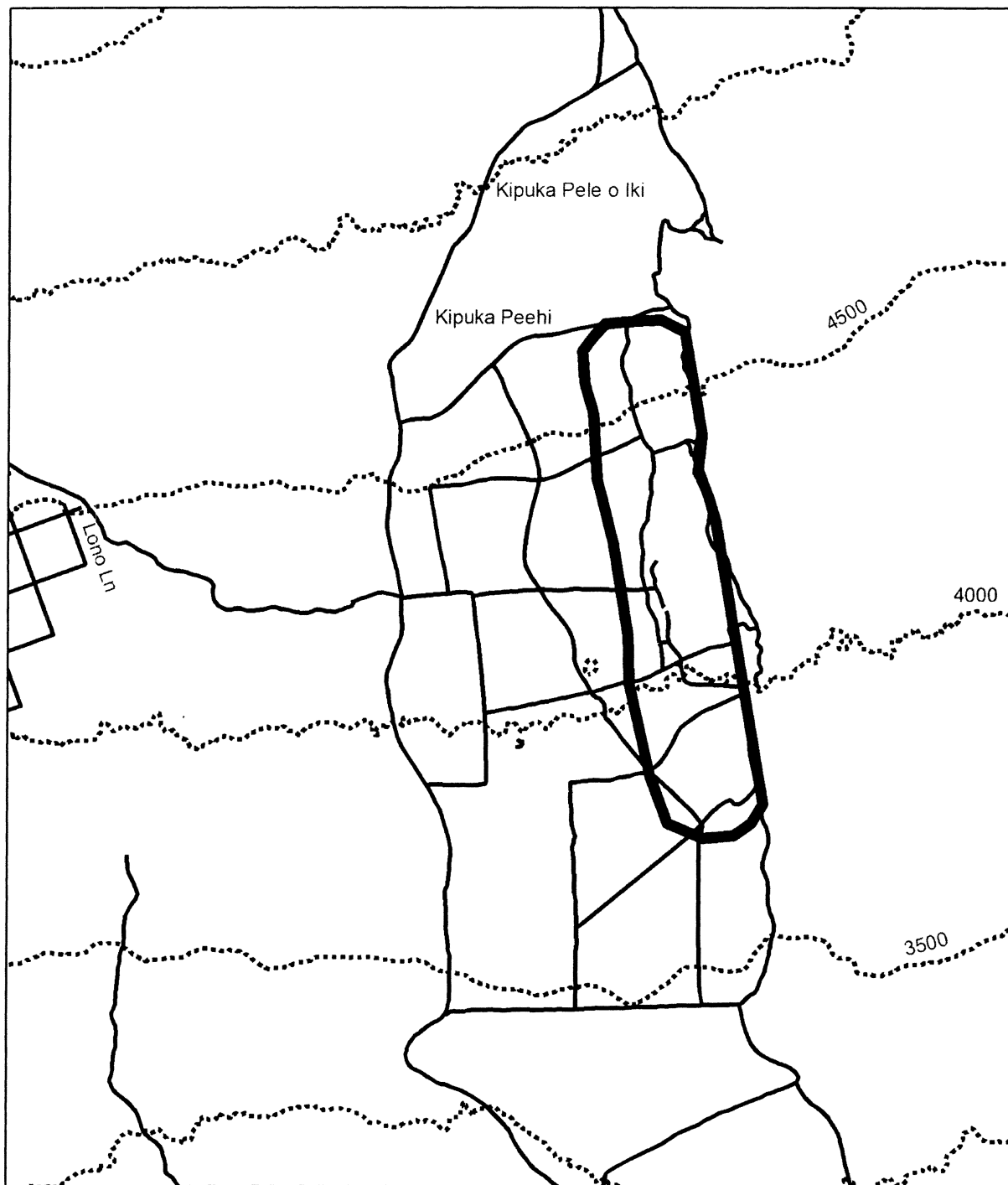
(i) Land bounded by the following
coordinates: 849578, 2119874; 849925,
2117860; 849842, 2117726; 849716,
2117636; 849492, 2117618; 49240,




2117726; 849114, 2118058; 848962,
2118723; 848953, 2119065; 848845,
2119720; 48728, 2120187; 848701,
2120646; 848638, 2120870; 848620,
2121095; 848692, 2121194; 48782,
2121292; 849007, 2121310; 849177,

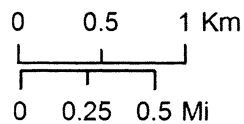
2121319; 849350, 2121233; 849475,
2120505; 49474, 2120484; 849447,
2120250; 849528, 2120044.

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

Drosophila heteroneura - Unit 3 - Lower Kahuku



-  *Drosophila heteroneura* - Unit 3 - Lower Kahuku
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(9) *Drosophila heteroneura*—Unit 4—
Pit Crater, Hawaii County, island of
Hawaii, Hawaii.

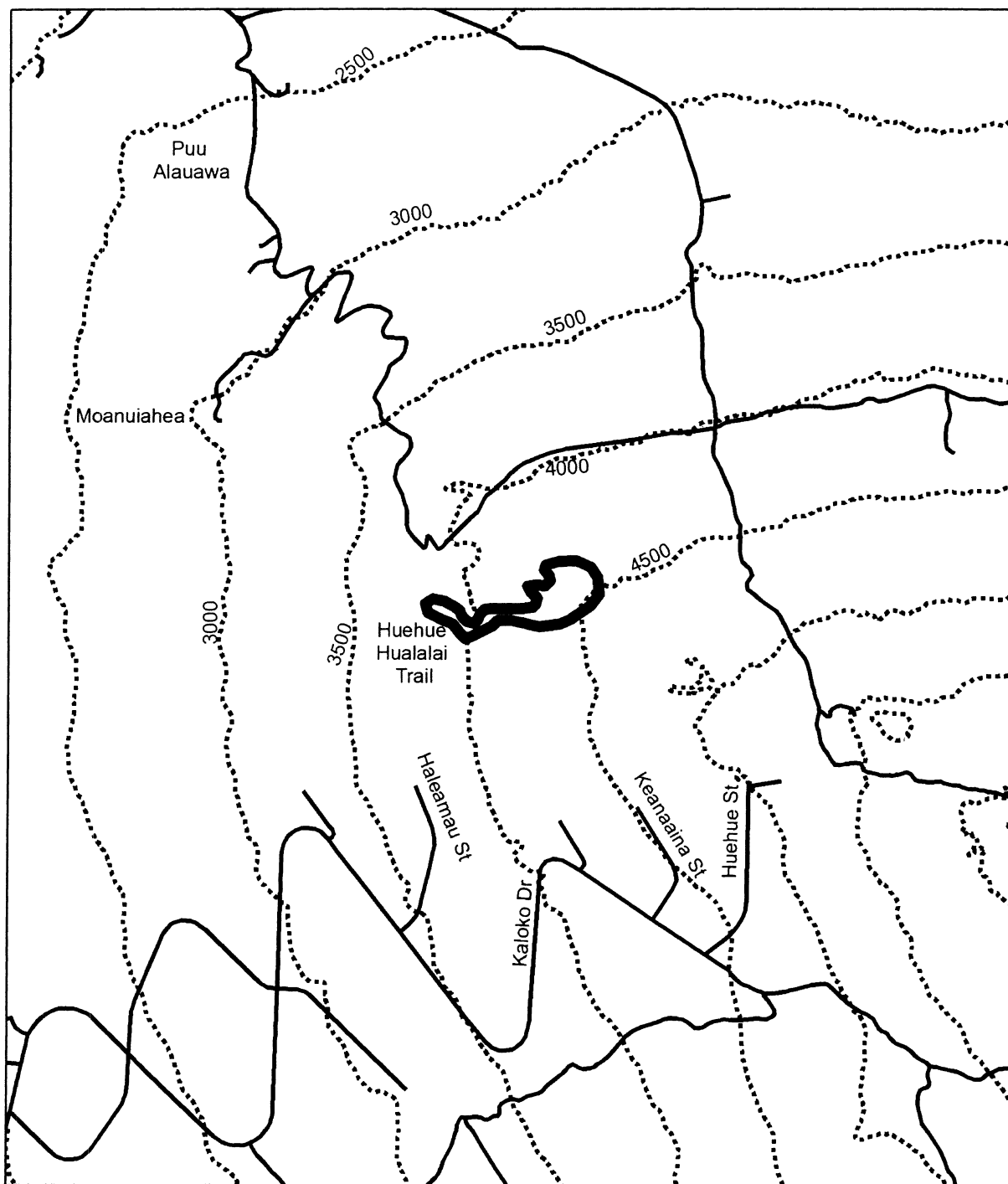
(i) Land bounded by the following
coordinates: 821660, 2184453; 821670,
2184348; 821617, 2184279; 821490,
2184191; 821428, 2184164; 821304,
2184150; 821131, 2184187; 821052,
2184187; 821012, 2184150; 820889,
2184086; 820850, 2184076; 820824,
2184102; 820778, 2184164; 820705,


2184193; 820626, 2184233; 820610,
2184289; 820657, 2184318; 820673,
2184316; 820707, 2184310; 820723,
2184306; 820747, 2184293; 820790,
2184269; 820818, 2184247; 820832,
2184215; 820861, 2184180; 820905,
2184168; 820929, 2184191; 820939,
2184221; 820974, 2184255; 821024,
2184261; 821109, 2184261; 821206,
2184261; 821264, 2184269; 821282,
2184285; 821292, 2184322; 821254,


2184360; 821232, 2184396; 821276,
2184404; 821341, 2184400; 821369,
2184431; 821363, 2184463; 821333,
2184499; 821345, 2184528; 821426,
2184550; 821531, 2184554; 821619,
2184513.


(ii) Note: Map of *Drosophila
heteroneura*—Unit 4—Pit Crater
follows:

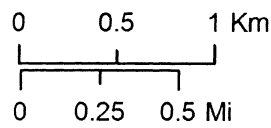
Drosophila heteroneura - Unit 4 - Pit Crater



 *Drosophila heteroneura* - Unit 4 - Pit Crater

 Secondary Roads/Trails

 Elevation (500-foot contours)



(10) *Drosophila heteroneura*—Unit 5—Waihaka Gulch, Hawaii County, island of Hawaii, Hawaii.

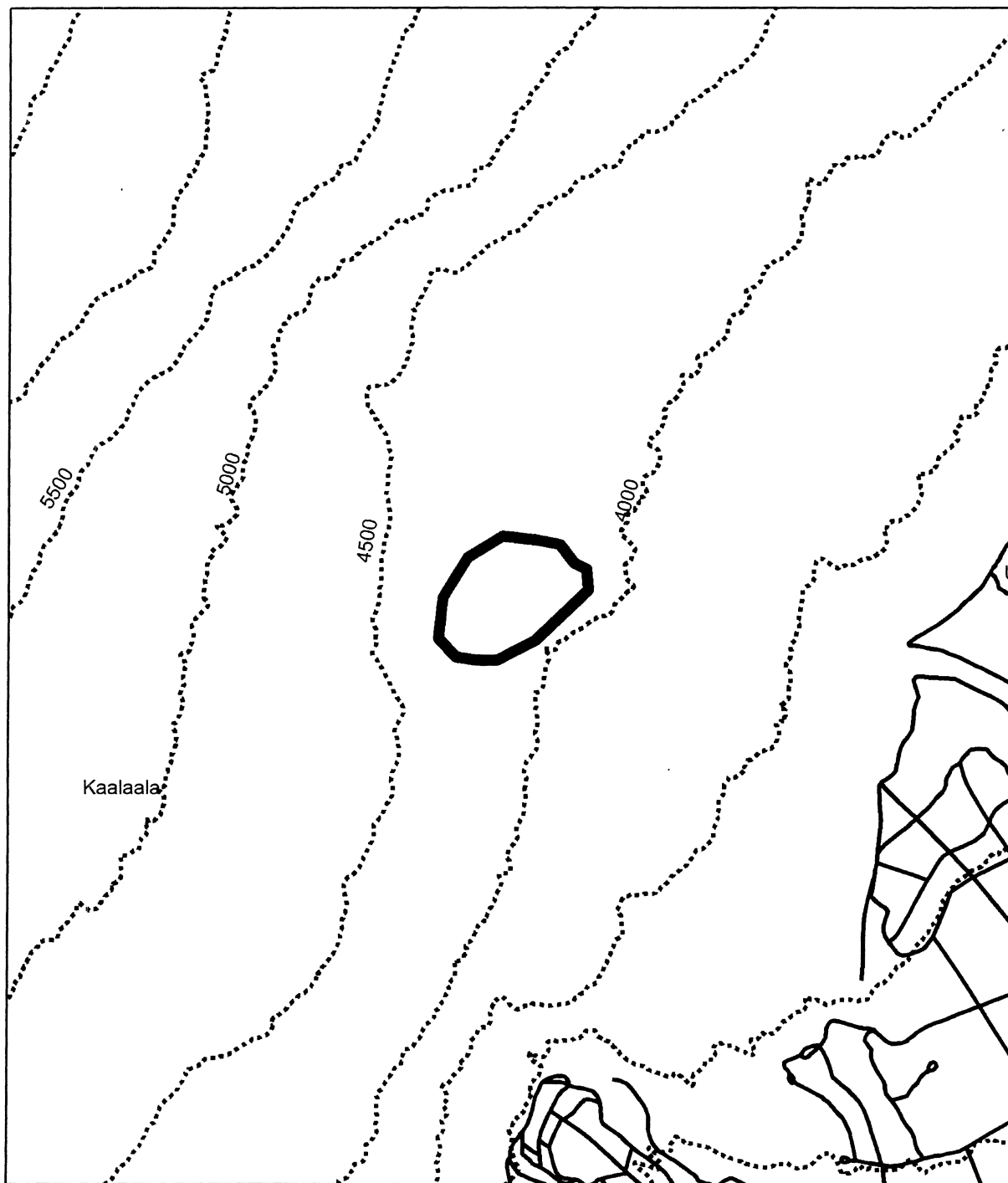
(i) Land bounded by the following coordinates: 868924, 2138585; 868686,




2138463; 868564, 2138464; 868434, 2138482; 868325, 2138598; 868350, 2138841; 868378, 2138886; 868503, 2139088; 868720, 2139220; 868946, 2139193; 869076, 2139167; 869160,

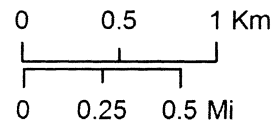
2139055; 869238, 2139018; 869248, 2138892.

(ii) Note: Map of *Drosophila heteroneura*—Unit 5—Waihaka Gulch follows:

Drosophila heteroneura - Unit 5 - Waihaka Gulch



-  *Drosophila heteroneura* - Unit 5 - Waihaka Gulch
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*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 for *Drosophila montgomeryi* are:

(i) Mesic, lowland, diverse ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Urera kaalae*, which exhibits one or more life stages (from seedlings to senescent individuals).

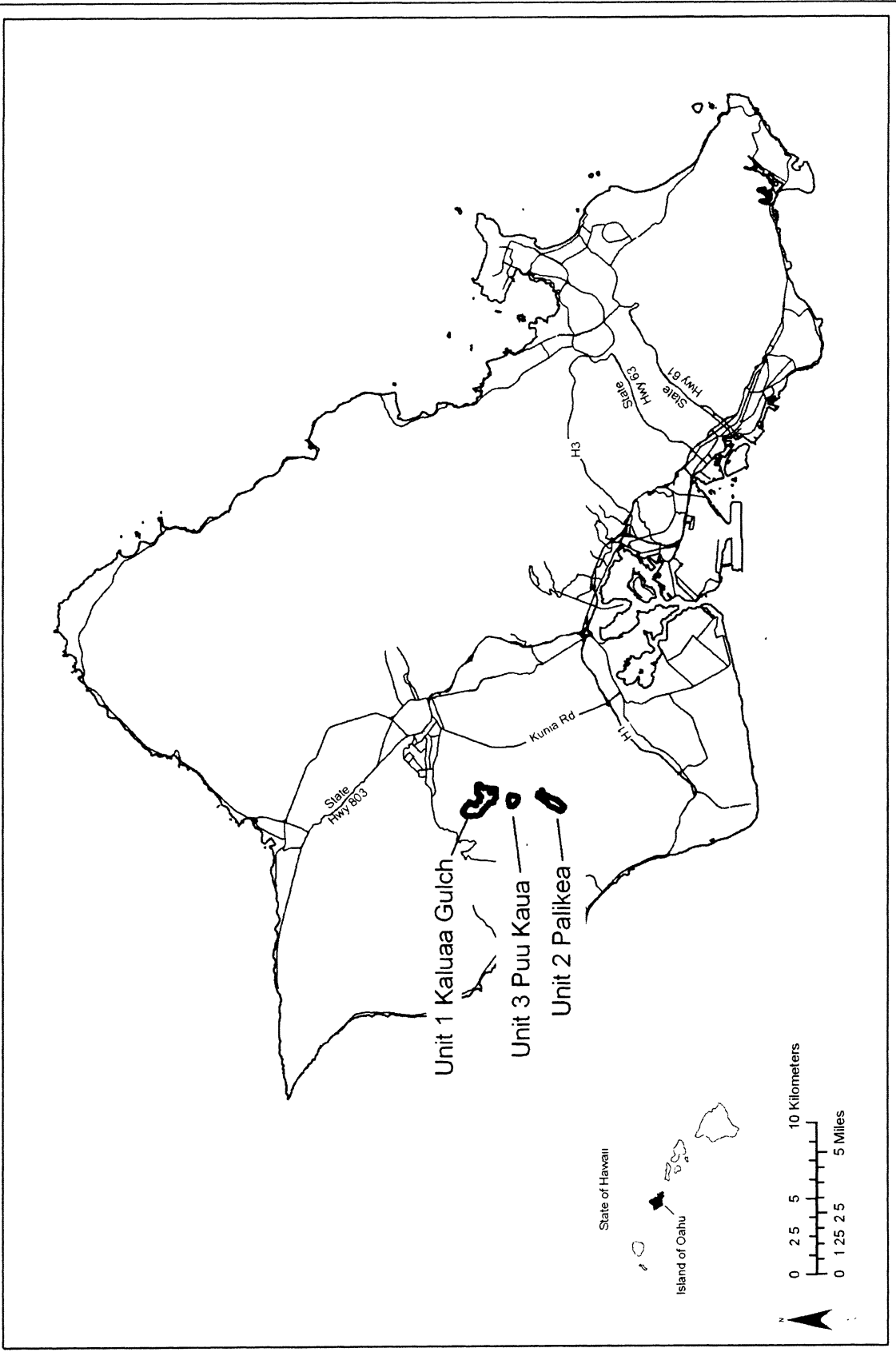
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing

within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila montgomeryi* follows:

Index Map of Critical Habitat Units for *Drosophila montgomeryi*



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

(i) Land bounded by the following coordinates: 593240, 2374436; 593231,

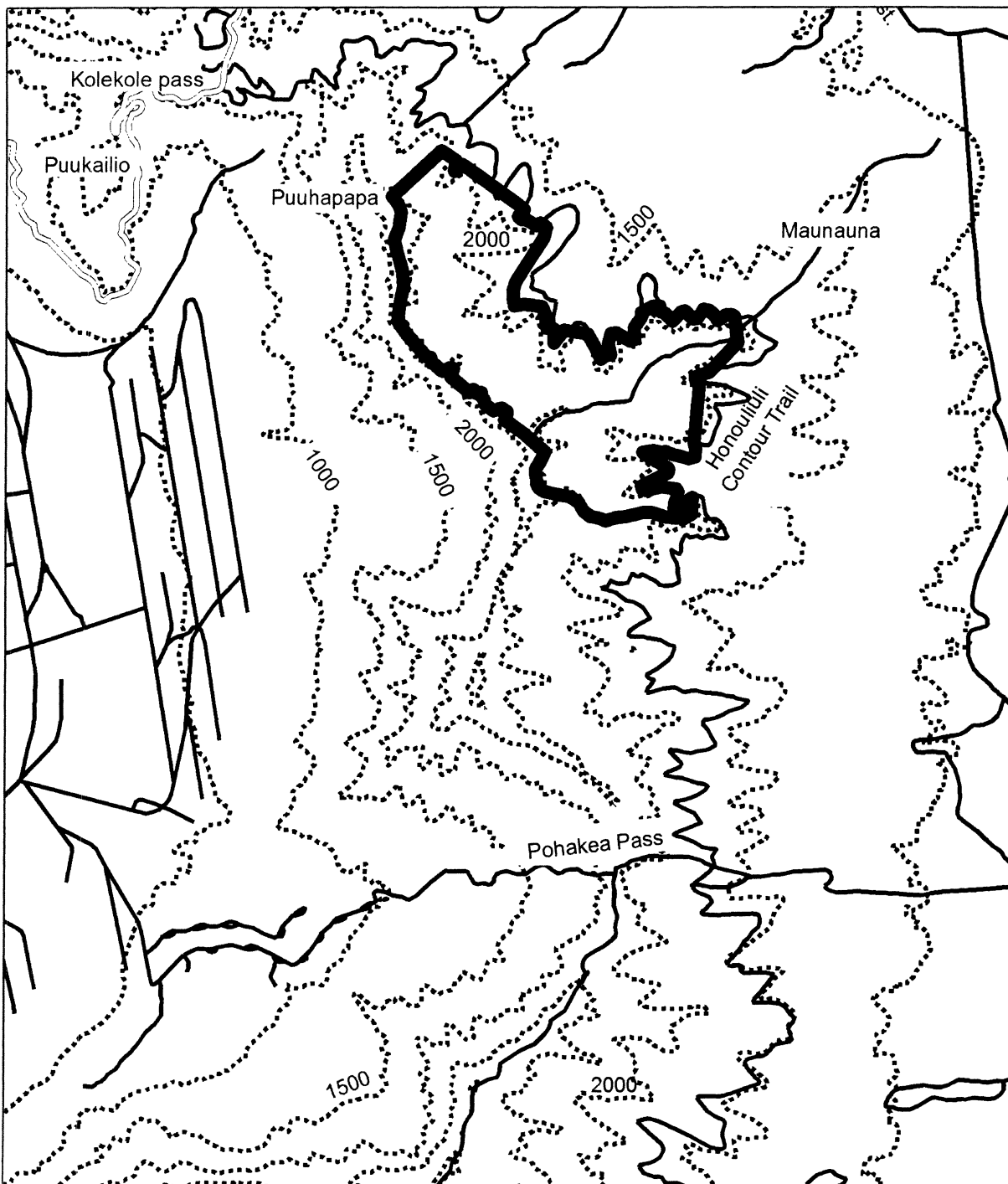
2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676, 2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632,





2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999,

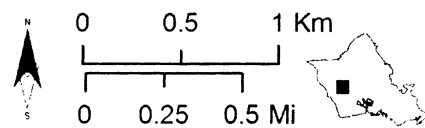
2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

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

Drosophila montgomeryi - Unit 1 - Kaluaa Gulch



-  *Drosophila montgomeryi* - Unit 1 - Kaluaa Gulch
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



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

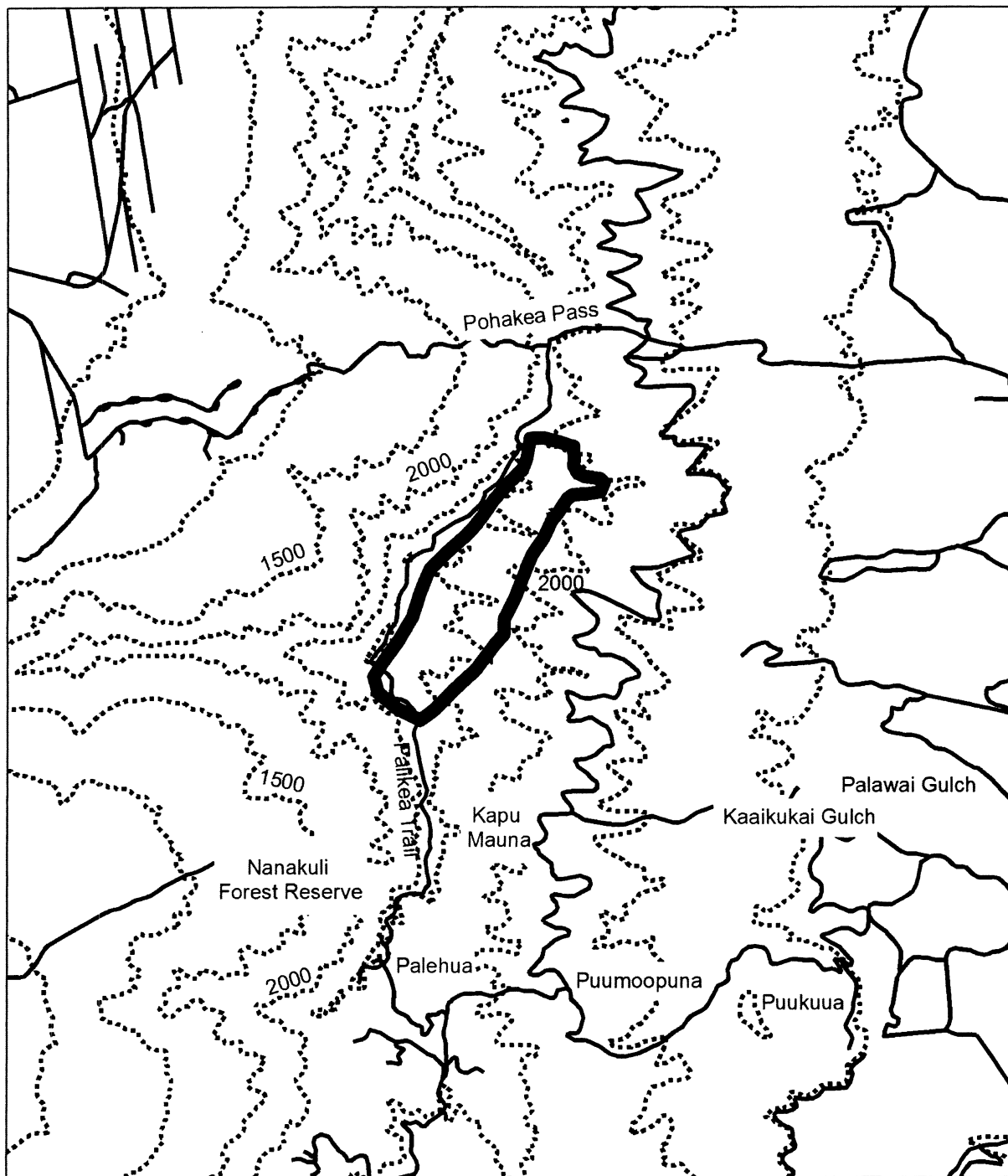
(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399, 2368425; 593448, 2368578; 593505, 2368716; 593622,




2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559,

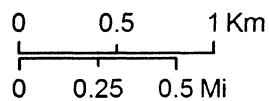
2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

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

Drosophila montgomeryi - Unit 2 - Palikea



-  *Drosophila montgomeryi* - Unit 2 - Palikea
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(8) *Drosophila montgomeryi*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

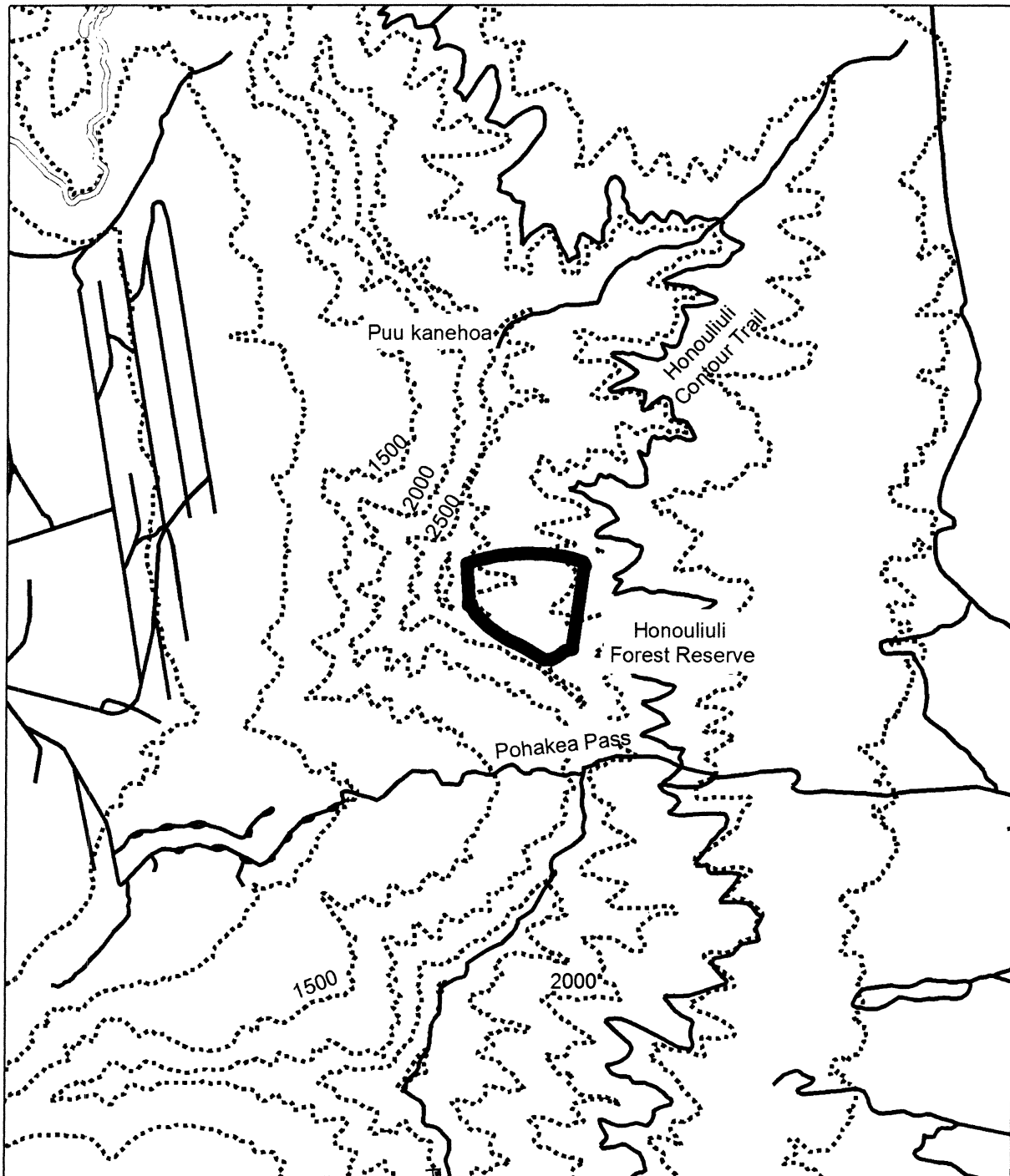
(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852, 2370875; 593778,




2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974,

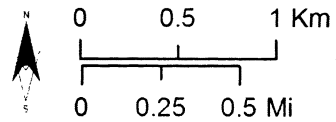
2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) Note: Map of *Drosophila montgomeryi*—Unit 3—Puu Kaua follows:

Drosophila montgomeryi - Unit 3 - Puu Kaua



-  *Drosophila montgomeryi* - Unit 3 - Puu Kaua
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*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 for *Drosophila mulli* are:

(i) Wet, montane, ohia forest between the elevations of 1,955–3,250 ft (596–1,093 m); and

(ii) The larval host plant *Pritchardia beccariana*, which exhibits one or more life stages (from seedlings to senescent individuals).

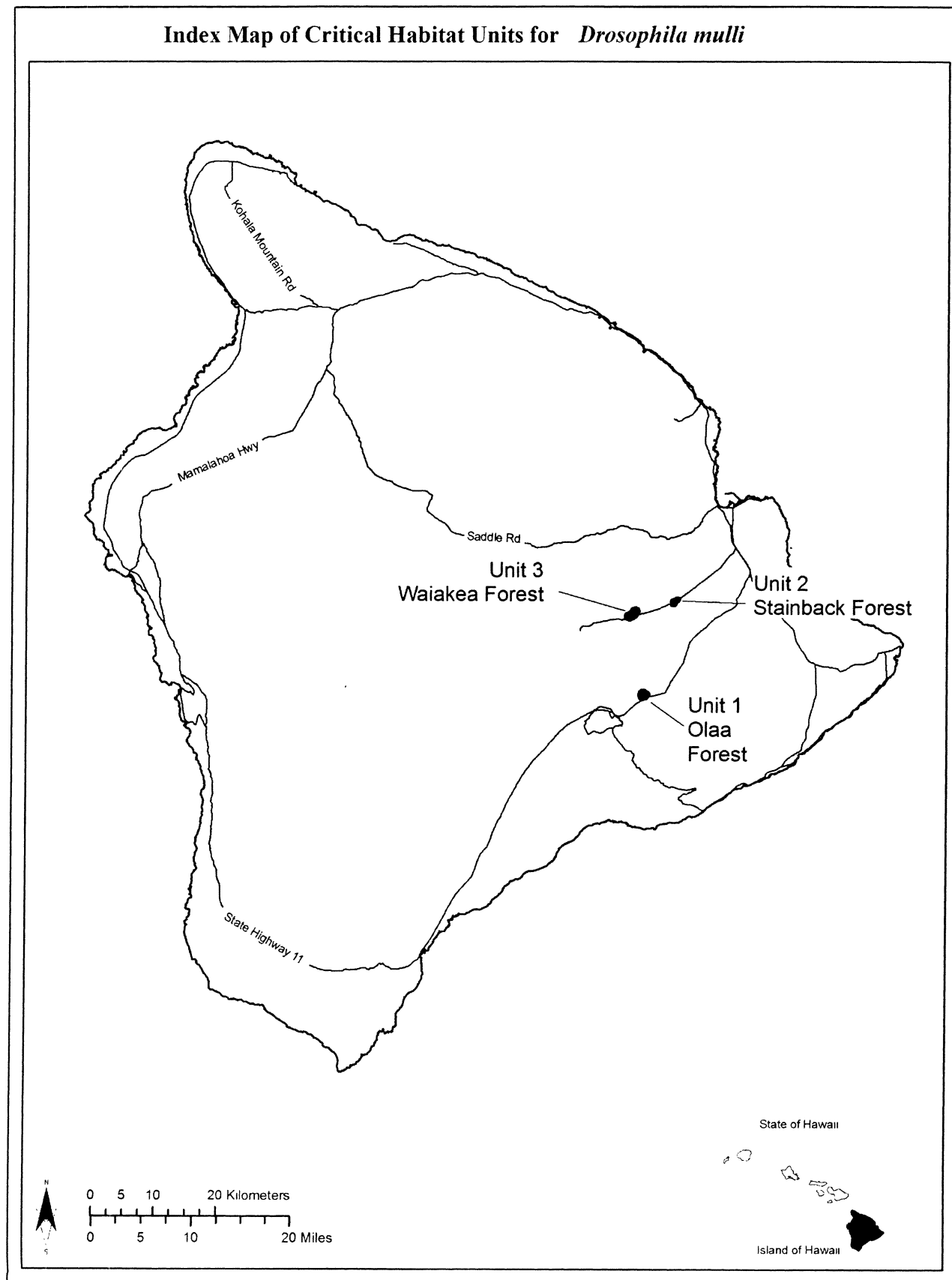
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the

land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila mulli* follows:

Index Map of Critical Habitat Units for *Drosophila mulli*

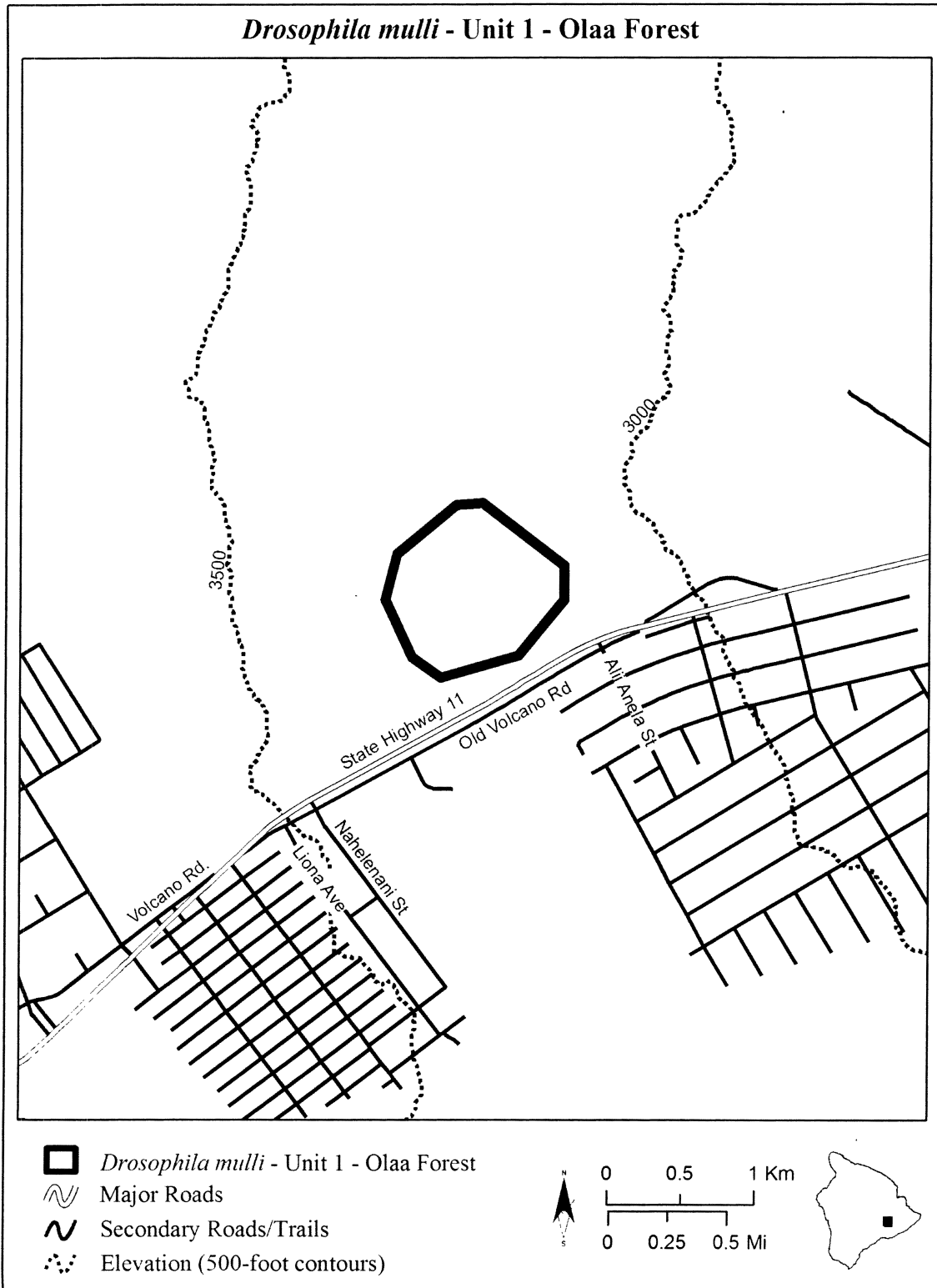


(6) *Drosophila mulli*—Unit 1—Olaa Forest, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 898754, 2154890; 898225, 2154740; 898030, 2154878; 897846, 2155268; 897927, 2155578; 898328,

2155910; 898508, 2155922; 899064, 2155498; 899064, 2155268.

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



(7) *Drosophila mulli*—Unit 2—
Stainback Forest, Hawaii County, island
of Hawaii, Hawaii.

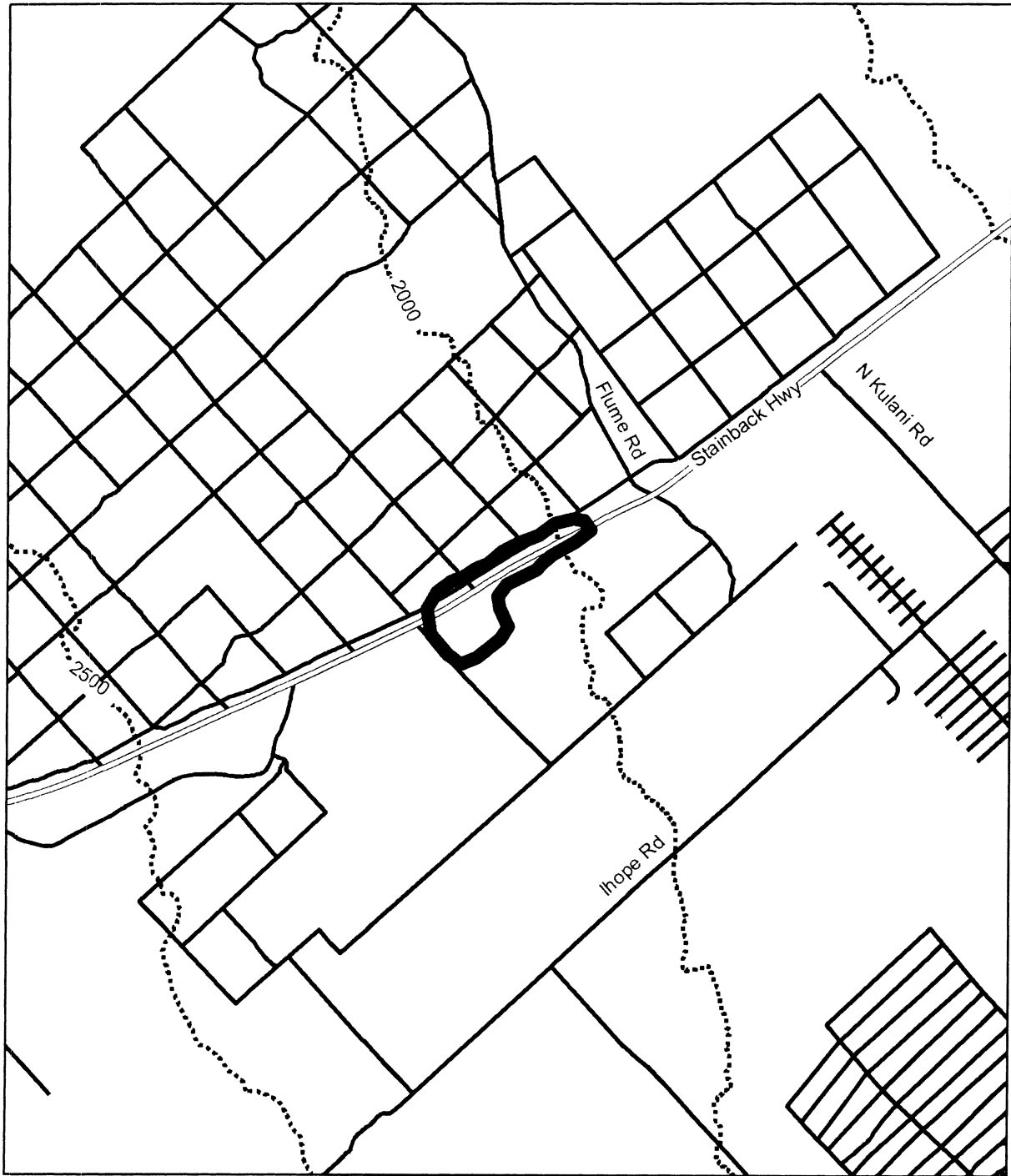
(i) Land bounded by the following
coordinates: 903259, 2169945; 903159,
2169907; 903080, 2169965; 902974,
2170089; 902953, 2170247; 903012,





2170346; 903101, 2170415; 903166,
2170439; 903245, 2170490; 903324,
2170521; 903420, 2170603; 903509,
2170651; 903636, 2170699; 903732,
2170771; 903849, 2170799; 903914,
2170789; 903955, 2170730; 903869,
2170662; 903866, 2170658; 903718,

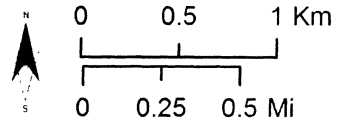
2170579; 903653, 2170521; 903622,
2170487; 903441, 2170394; 903386,
2170322; 903399, 2170250; 903451,
2170133; 903403, 2170058.

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

Drosophila mulli - Unit 2 - Stainback Forest



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



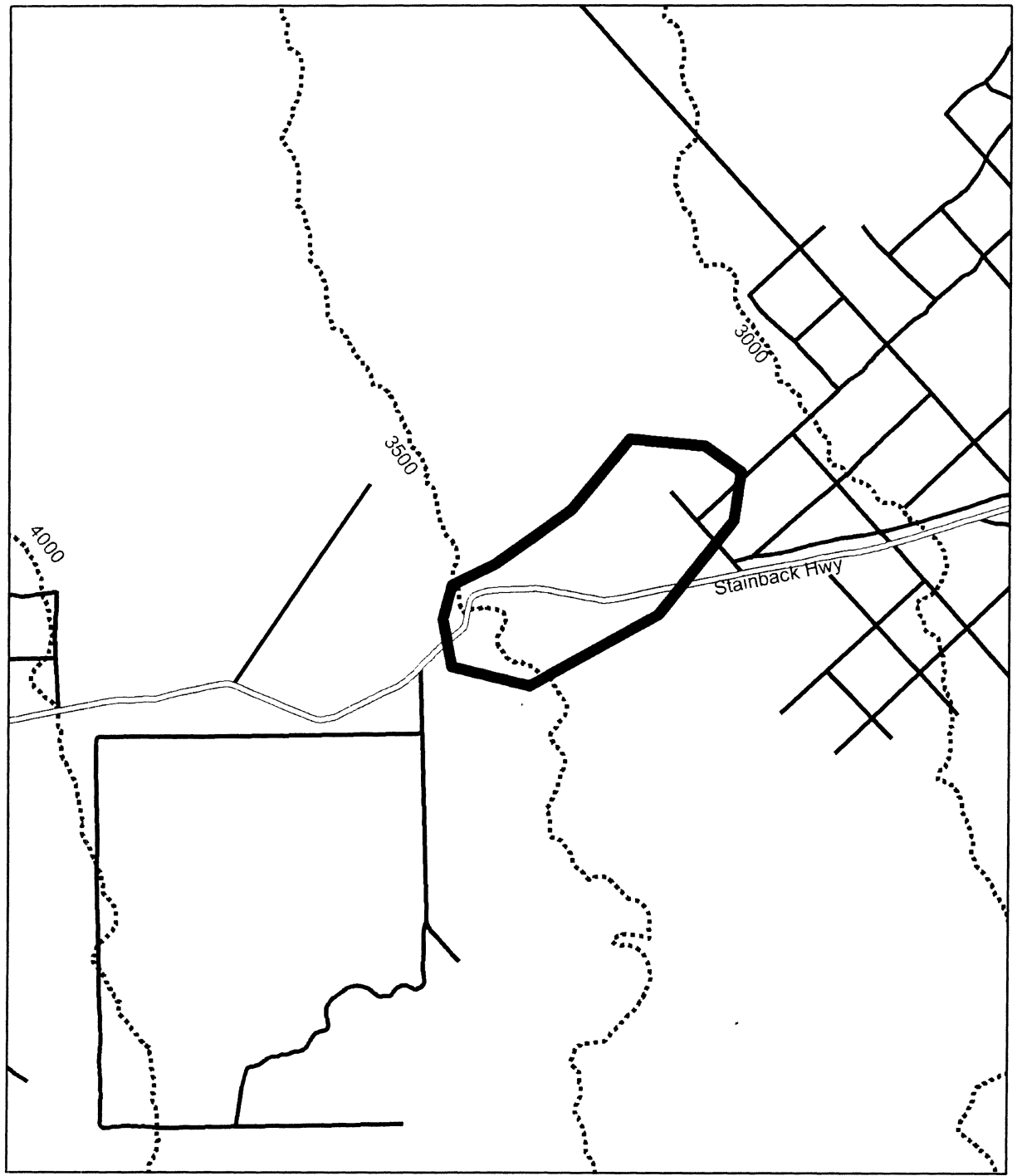
(8) *Drosophila mulli*—Unit 3—
Waiakea Forest, Hawaii County, island
of Hawaii, Hawaii.





(i) Land bounded by the following
coordinates: 897021, 2168026; 896225,

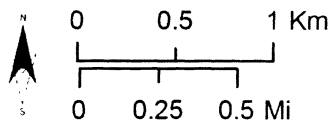
2167587; 895745, 2167704; 895687,
2167996; 895745, 2168207; 896014,
2168335; 896480, 2168668; 896841,
2169108; 897302, 2169068; 897522,
2168908; 897482, 2168607.

(ii) Note: Map of *Drosophila mulli*—
Unit 3—Waiakea Forest follows:

Drosophila mulli - Unit 3 - Waiakea Forest



-  *Drosophila mulli* - Unit 3 - Waiakea Forest
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*Drosophila musaphilia*)

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

(2) The primary constituent elements of critical habitat for *Drosophila musaphilia* are:

(i) Mesic, montane, ohia and koa forest between the elevations of 3,310–3,740 ft (1,009–1,128 m); and

(ii) The larval host plant *Acacia koa*, which exhibits one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) Critical habitat map unit.

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

(5) *Drosophila musaphilia*—Unit 1—Kokee, Kauai County, island of Kauai, Hawaii.

(i) Land bounded by the following coordinates: 432035, 2448683; 432126, 2448510; 432111, 2448312; 432111, 2448119; 432106, 2447977; 432010, 2447906; 432025, 2447779; 431992, 2447749; 431962, 2447768; 431938, 2447766; 431926, 2447752; 431895, 2447719; 431861, 2447686; 431825, 2447651; 431786, 2447616; 431745, 2447581; 431701, 2447544; 431658, 2447505; 431616, 2447462; 431575, 2447417; 431535, 2447368; 431496, 2447318; 431457, 2447271; 431418, 2447231; 431379, 2447198; 431339, 2447172; 431299, 2447153; 431267, 2447131; 431247, 2447103; 431239, 2447068; 431244, 2447027; 431260, 2446979; 431278, 2446930; 431292, 2446881; 431300, 2446834; 431303,

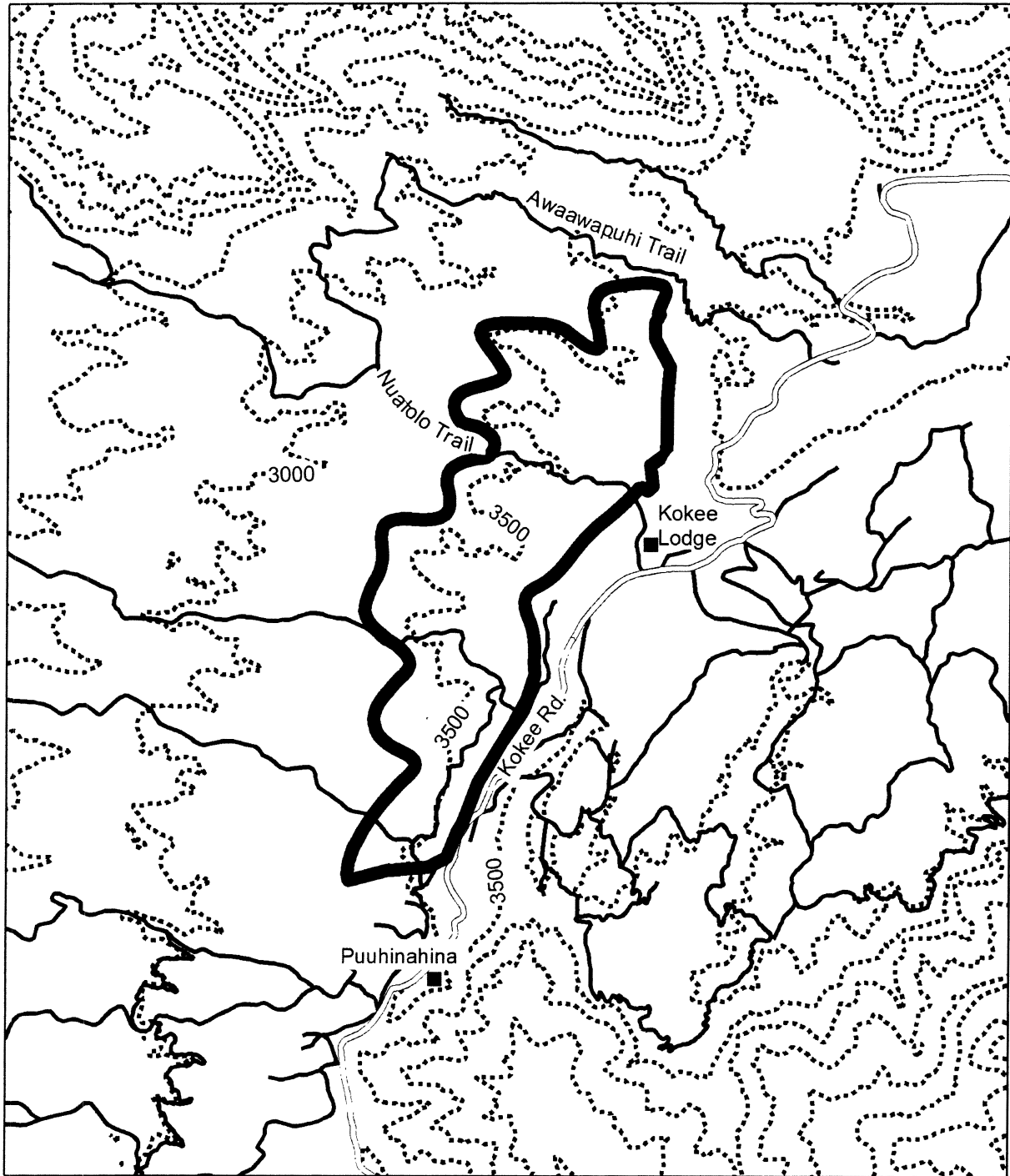
2446788; 431302, 2446743; 431300, 2446700; 431301, 2446659; 431306, 2446621; 431252, 2446466; 431186, 2446345; 431181, 2446332; 430955, 2445963; 430860, 2445709; 430831, 2445664; 430760, 2445497; 430648, 2445441; 430416, 2445421; 430405, 2445422; 430396, 2445420; 430159, 2445358; 430153, 2445371; 430148, 2445402; 430150, 2445437; 430157, 2445475; 430170, 2445517; 430188, 2445562; 430212, 2445610; 430240, 2445660; 430270, 2445707; 430302, 2445754; 430335, 2445799; 430371, 2445842; 430407, 2445883; 430441, 2445921; 430474, 2445956; 430506, 2445988; 430535, 2446017; 430559, 2446044; 430567, 2446070; 430558, 2446095; 430533, 2446120; 430492, 2446144; 430441, 2446167; 430398, 2446193; 430363, 2446221; 430337, 2446252; 430320, 2446284; 430311, 2446319; 430309, 2446353; 430315, 2446388; 430327, 2446423; 430347, 2446457; 430373, 2446492; 430401, 2446525; 430430, 2446558; 430459, 2446589; 430489, 2446619; 430518, 2446649; 430531, 2446681; 430524, 2446716; 430497, 2446755; 430451, 2446797; 430387, 2446842; 430330, 2446887; 430288, 2446930; 430262, 2446971; 430250, 2447010; 430253, 2447047; 430263, 2447083; 430274, 2447118; 430288, 2447153; 430304, 2447187; 430323, 2447220; 430339, 2447254; 430350, 2447291; 430356, 2447331; 430358, 2447373; 430354, 2447418; 430351, 2447461; 430354, 2447496; 430361, 2447524; 430374, 2447545; 430392, 2447558; 430416, 2447567; 430445, 2447573; 430479, 2447576; 430518, 2447577; 430563, 2447574; 430609, 2447572; 430649, 2447573; 430684, 2447578; 430714, 2447587; 430737, 2447599; 430755, 2447616; 430767, 2447639; 430772, 2447667; 430772, 2447701; 430766, 2447740; 430756, 2447783; 430755,





2447821; 430762, 2447853; 430778, 2447879; 430802, 2447900; 430834, 2447916; 430864, 2447928; 430893, 2447937; 430920, 2447943; 430945, 2447947; 430968, 2447947; 430989, 2447952; 431007, 2447961; 431022, 2447974; 431035, 2447992; 431045, 2448014; 431049, 2448036; 431046, 2448057; 431036, 2448077; 431019, 2448096; 430996, 2448113; 430971, 2448128; 430946, 2448140; 430921, 2448149; 430896, 2448155; 430871, 2448158; 430849, 2448165; 430830, 2448179; 430815, 2448200; 430804, 2448228; 430796, 2448263; 430799, 2448299; 430816, 2448330; 430848, 2448356; 430894, 2448377; 430956, 2448393; 431018, 2448407; 431064, 2448423; 431094, 2448440; 431109, 2448459; 431107, 2448479; 431094, 2448502; 431076, 2448530; 431054, 2448563; 431027, 2448601; 430996, 2448643; 430967, 2448687; 430957, 2448722; 430966, 2448749; 430994, 2448766; 431042, 2448775; 431103, 2448778; 431162, 2448779; 431218, 2448779; 431269, 2448779; 431317, 2448777; 431361, 2448775; 431403, 2448767; 431443, 2448754; 431480, 2448736; 431515, 2448712; 431548, 2448685; 431579, 2448661; 431607, 2448643; 431633, 2448630; 431657, 2448622; 431678, 2448620; 431692, 2448631; 431697, 2448656; 431694, 2448695; 431683, 2448749; 431665, 2448816; 431657, 2448878; 431666, 2448928; 431692, 2448967; 431735, 2448994; 431795, 2449009; 431857, 2449019; 431913, 2449024; 431963, 2449027; 432008, 2449026; 432046, 2449022; 432076, 2449012; 432094, 2448996; 432100, 2448974; 432095, 2448945; 432078, 2448910; 432060, 2448872; 432053, 2448837; 432063, 2448834; 432035, 2448784.

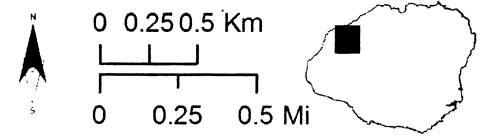
(ii) Note: Map of *Drosophila musaphilia*—Unit 1—Kokee follows:

BILLING CODE 4310-55-P

Drosophila musaphilia - Unit 1 - Kokee



-  *Drosophila musaphilia* - Unit 1 - Kokee
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*Drosophila neoclavisetae*)

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

(2) The primary constituent elements of critical habitat for *Drosophila neoclavisetae* are:

(i) Wet, montane, ohia forest between the elevations of 3,405–4,590 ft (1,036–1,399 m); and

(ii) The larval host plants *Cyanea kunthiana* and *C. macrostegia* ssp. *macrostegia*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) *Drosophila neoclavisetae*—Unit 1—Puu Kukui, Maui County, island of Maui, Hawaii.

(i) Land bounded by the following coordinates: 749957, 2315007; 750017, 2314927; 750054, 2314874; 750054, 2314874; 750070, 2314854; 750070, 2314854; 750070, 2314853; 750070, 2314853; 750095, 2314828; 750095, 2314828; 750095, 2314828; 750118, 2314807; 750118, 2314807; 750118, 2314806; 750119, 2314806; 750119, 2314806; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750137, 2314795; 750137,

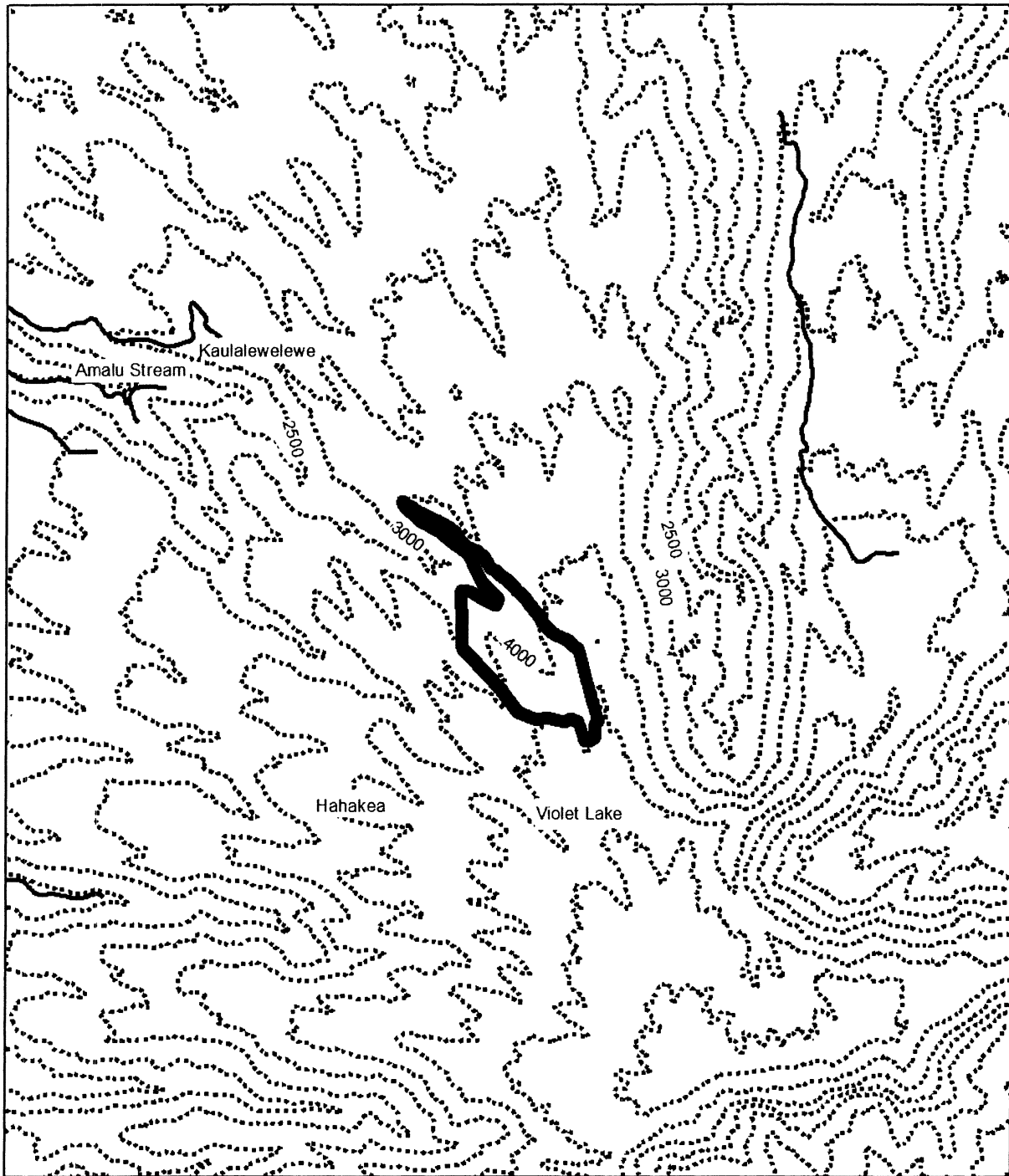
2314795; 750138, 2314795; 750138, 2314795; 750172, 2314783; 750197, 2314770; 750214, 2314760; 750222, 2314756; 750222, 2314756; 750222, 2314756; 750231, 2314751; 750244, 2314735; 750244, 2314735; 750244, 2314735; 750245, 2314735; 750263, 2314718; 750263, 2314718; 750263, 2314718; 750283, 2314702; 750381, 2314361; 750381, 2314360; 750421, 2314232; 750421, 2314232; 750421, 2314232; 750421, 2314231; 750421, 2314231; 750421, 2314231; 750422, 2314231; 750422, 2314230; 750422, 2314230; 750402, 2314210; 750397, 2314126; 750357, 2314098; 750329, 2314098; 750312, 2314143; 750290, 2314227; 750239, 2314244; 750194, 2314227; 750133, 2314238; 750076, 2314255; 750009, 2314238; 749958, 2314259; 749885, 2314289; 749773, 2314435; 749721, 2314492; 749520, 2314710; 749515, 2314969; 749509, 2315036; 749509, 2315093; 749565, 2315087; 749649, 2315036; 749739, 2314991; 749756, 2315031; 749655, 2315132; 749599, 2315244; 749554, 2315340; 749458, 2315407; 749368, 2315480; 749254, 2315543; 749183, 2315602; 749145, 2315636; 749117, 2315676; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315679; 749125, 2315678; 749125, 2315678; 749126, 2315678; 749126, 2315678; 749126, 2315677; 749138, 2315668; 749138, 2315668; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749172, 2315644; 749186, 2315637; 749203, 2315624; 749221, 2315611; 749221, 2315611; 749221, 2315611; 749221, 2315611; 749222,




2315611; 749222, 2315611; 749222, 2315611; 749243, 2315602; 749331, 2315566; 749351, 2315553; 749351, 2315553; 749383, 2315533; 749383, 2315533; 749403, 2315522; 749419, 2315511; 749468, 2315475; 749476, 2315462; 749483, 2315449; 749483, 2315449; 749484, 2315449; 749484, 2315449; 749498, 2315429; 749498, 2315429; 749498, 2315428; 749522, 2315400; 749522, 2315400; 749522, 2315400; 749523, 2315399; 749523, 2315399; 749523, 2315399; 749523, 2315399; 749548, 2315382; 749548, 2315382; 749548, 2315382; 749570, 2315370; 749570, 2315370; 749570, 2315370; 749616, 2315349; 749626, 2315340; 749626, 2315340; 749627, 2315340; 749650, 2315324; 749664, 2315305; 749675, 2315287; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749679, 2315278; 749680, 2315278; 749698, 2315255; 749698, 2315254; 749698, 2315254; 749718, 2315234; 749718, 2315234; 749718, 2315234; 749718, 2315233; 749718, 2315233; 749734, 2315222; 749779, 2315184; 749779, 2315184; 749780, 2315183; 749780, 2315183; 749780, 2315183; 749802, 2315170; 749831, 2315145; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749872, 2315096; 749873, 2315095; 749873, 2315095; 749886, 2315085; 749931, 2315044; 749957, 2315008.

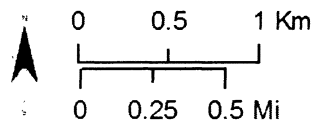
(ii) Note: Map of *Drosophila neoclavisetae*—Unit 1—Puu Kukui follows:

BILLING CODE 4310-55-P

Drosophila neoclavisetae - Unit 1 - Puu Kukui



-  *Drosophila neoclavisetae* - Unit 1 - Puu Kukui
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*Drosophila obatai*)

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

(2) The primary constituent elements of critical habitat for *Drosophila obatai* are:

(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,475–2,535 ft (450–773 m); and

(ii) The larval host plant *Pleomele forbesii*, which exhibits one or more life stages (from seedlings to senescent individuals).

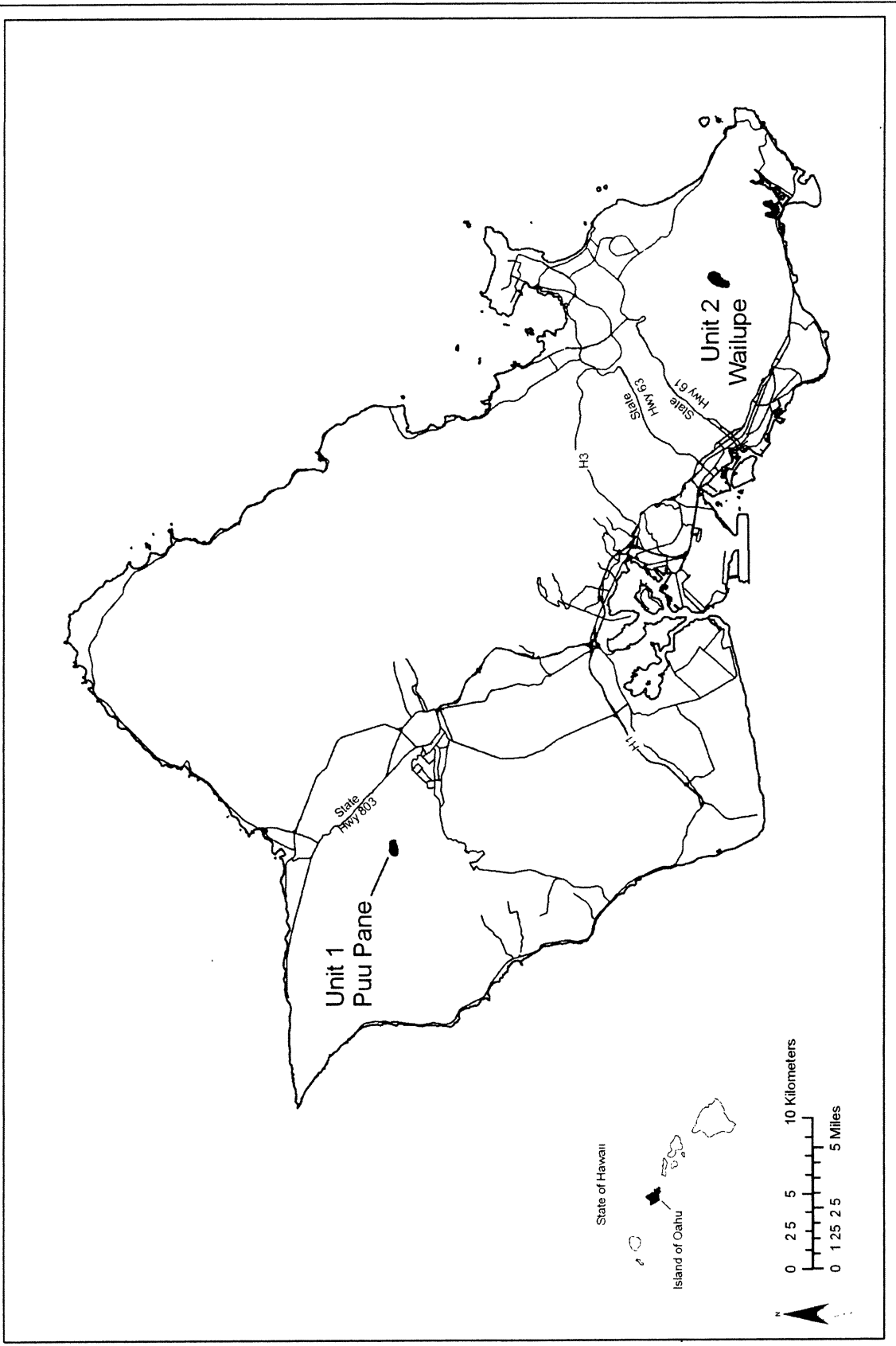
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing

within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of the critical habitat units for *Drosophila obatai* follows:

Index Map of Critical Habitat Units for *Drosophila obatai*



(6) *Drosophila obatai*—Unit 1—Puu Pane, City and County of Honolulu, island of Oahu, Hawaii.

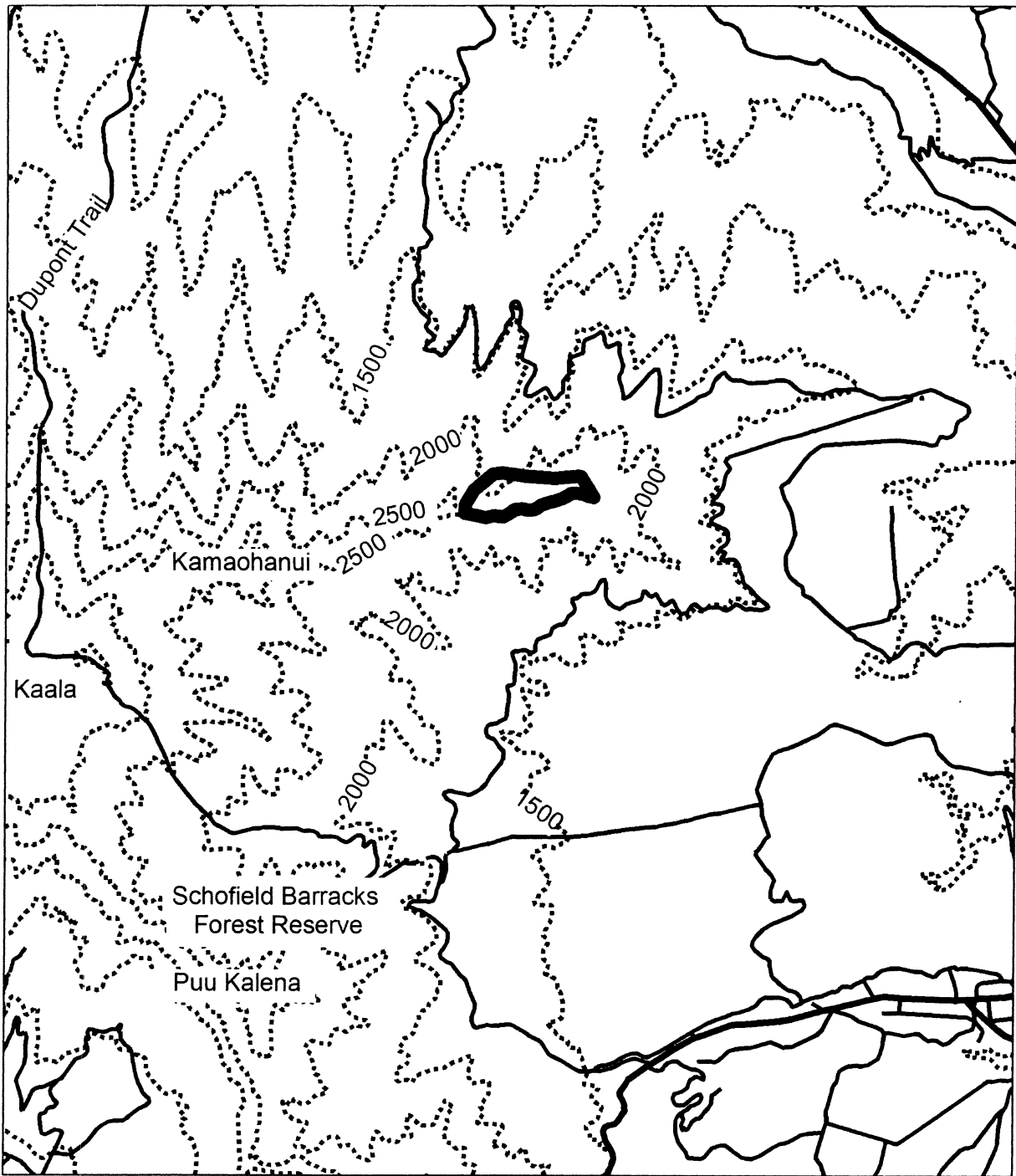
(i) Land bounded by the following coordinates: 591489, 2379704; 591662, 2379690; 591807, 2379704; 591822, 2379699; 591901, 2379571; 591871, 2379579; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591830, 2379596; 591791, 2379600; 591791, 2379600; 591791, 2379601; 591791, 2379600; 591791, 2379600; 591791, 2379600; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766, 2379597; 591766,




2379597; 591766, 2379597; 591766, 2379597; 591741, 2379583; 591741, 2379583; 591710, 2379565; 591672, 2379554; 591672, 2379554; 591635, 2379542; 591614, 2379537; 591614, 2379537; 591614, 2379537; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591582, 2379526; 591545, 2379500; 591523, 2379495; 591496, 2379495; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591461, 2379505; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444, 2379502; 591444,

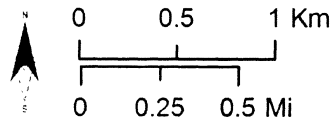
2379502; 591444, 2379502; 591432, 2379498; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591421, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591420, 2379497; 591405, 2379487; 591405, 2379487; 591405, 2379487; 591405, 2379486; 591405, 2379486; 591405, 2379486; 591403, 2379483; 591354, 2379454; 591283, 2379460; 591240, 2379449; 591113, 2379474; 591116, 2379531; 591169, 2379618; 591284, 2379716; 591345, 2379723.

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

Drosophila obatai - Unit 1 - Puu Pane



-  *Drosophila obatai* - Unit 1 - Puu Pane
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



(7) *Drosophila obatai*—Unit 2—
Wailupe, City and County of Honolulu,
island of Oahu, Hawaii.

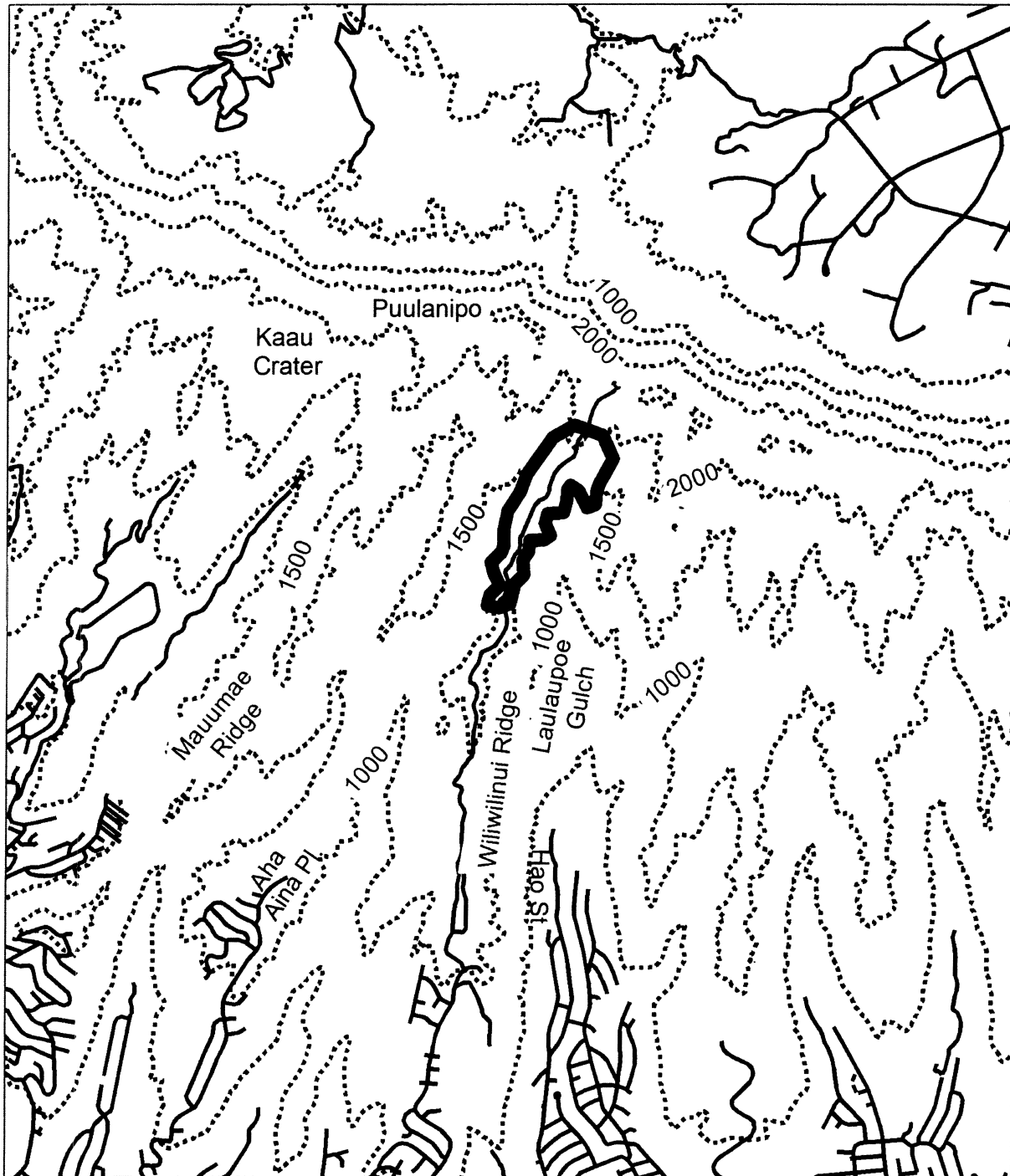
(i) Land bounded by the following
coordinates: 629222, 2358352; 629208,
2358307; 629199, 2358225; 629147,
2358205; 629100, 2358307; 629048,
2358343; 629028, 2358316; 629023,




2358250; 629005, 2358174; 628908,
2358169; 628890, 2358110; 628922,
2358034; 628883, 2358011; 628795,
2358007; 628791, 2357939; 628753,
2357885; 628759, 2357799; 628705,
2357743; 628676, 2357619; 628606,
2357592; 628536, 2357607; 628552,
2357673; 628610, 2357731; 628574,

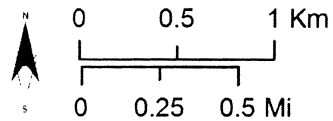
2357806; 628559, 2357874; 628619,
2357932; 628637, 2357973; 628635,
2358074; 628660, 2358185; 628735,
2358298; 628775, 2358411; 628936,
2358634; 629070, 2358711; 629243,
2358647; 629307, 2358506.

(ii) Note: Map of *Drosophila obatai*—
Unit 2—Wailupe follows:

Drosophila obatai - Unit 2 - Wailupe



-  *Drosophila obatai* - Unit 2 - Wailupe
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*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 for *Drosophila ochrobasis* are:

(i) Mesic to wet, montane, ohia, koa, and *Cheirodendron* sp. forest between the elevations of 3,850–5,390 ft (1,173–1,643 m); and

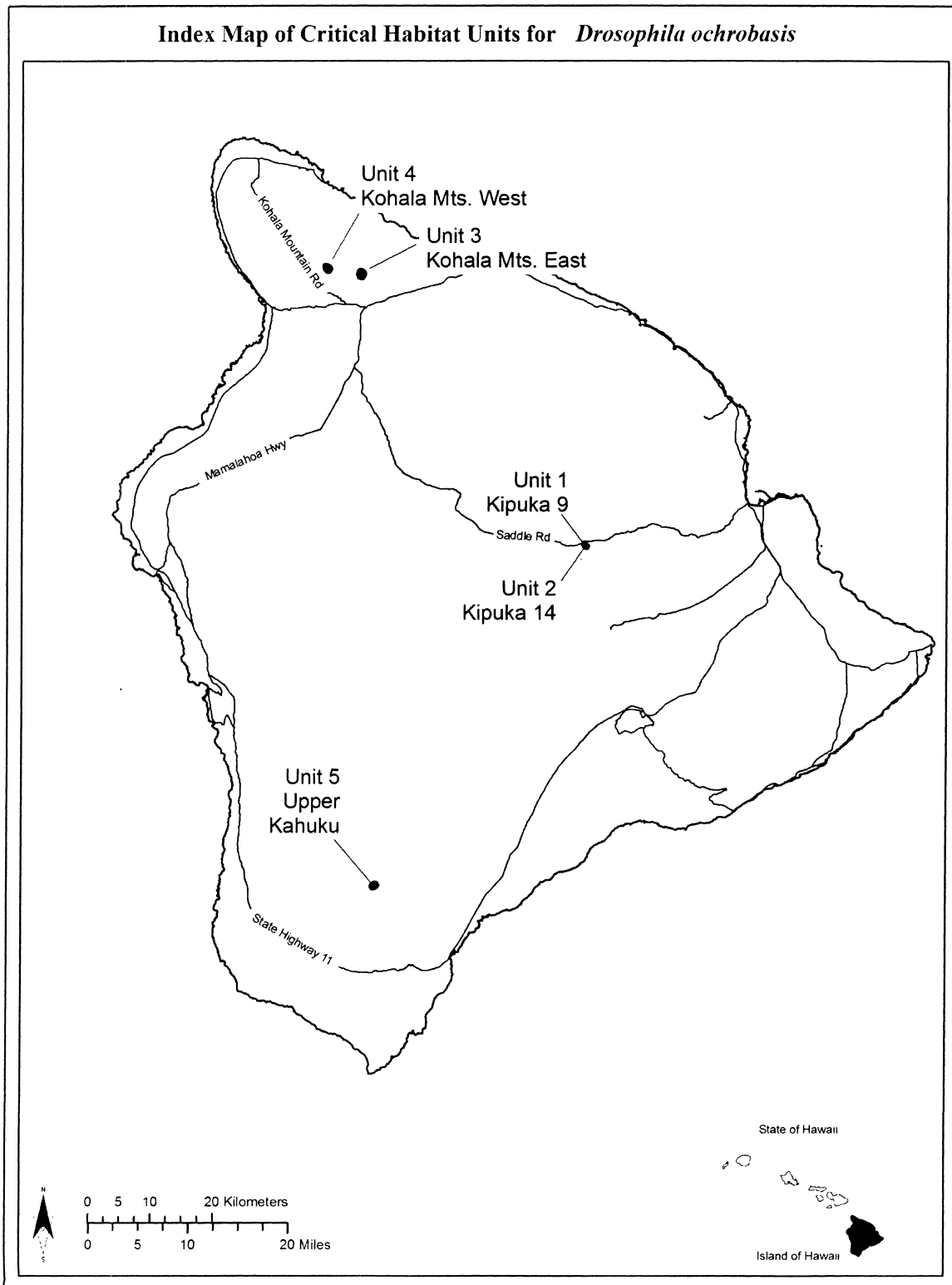
(ii) The larval host plants *Clermontia calophylla*, *C. clermontioides*, *C. clermontioides ssp. rockiana*, *C. drepanomorpha*, *C. hawaiiensis*, *C. kohalae*, *C. lindseyana*, *C. montis-loa*, *C. parviflora*, *C. peleana*, *C. pyrularia*, *C. waimeae*, *Marattia douglasii*, *Myrsine lanaiensis*, *M. lessertiana*, and *M. sandwicensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

(3) Critical habitat does not include manmade structures (such as buildings,

aqueducts, airports, and roads) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila ochrobasis* follows:



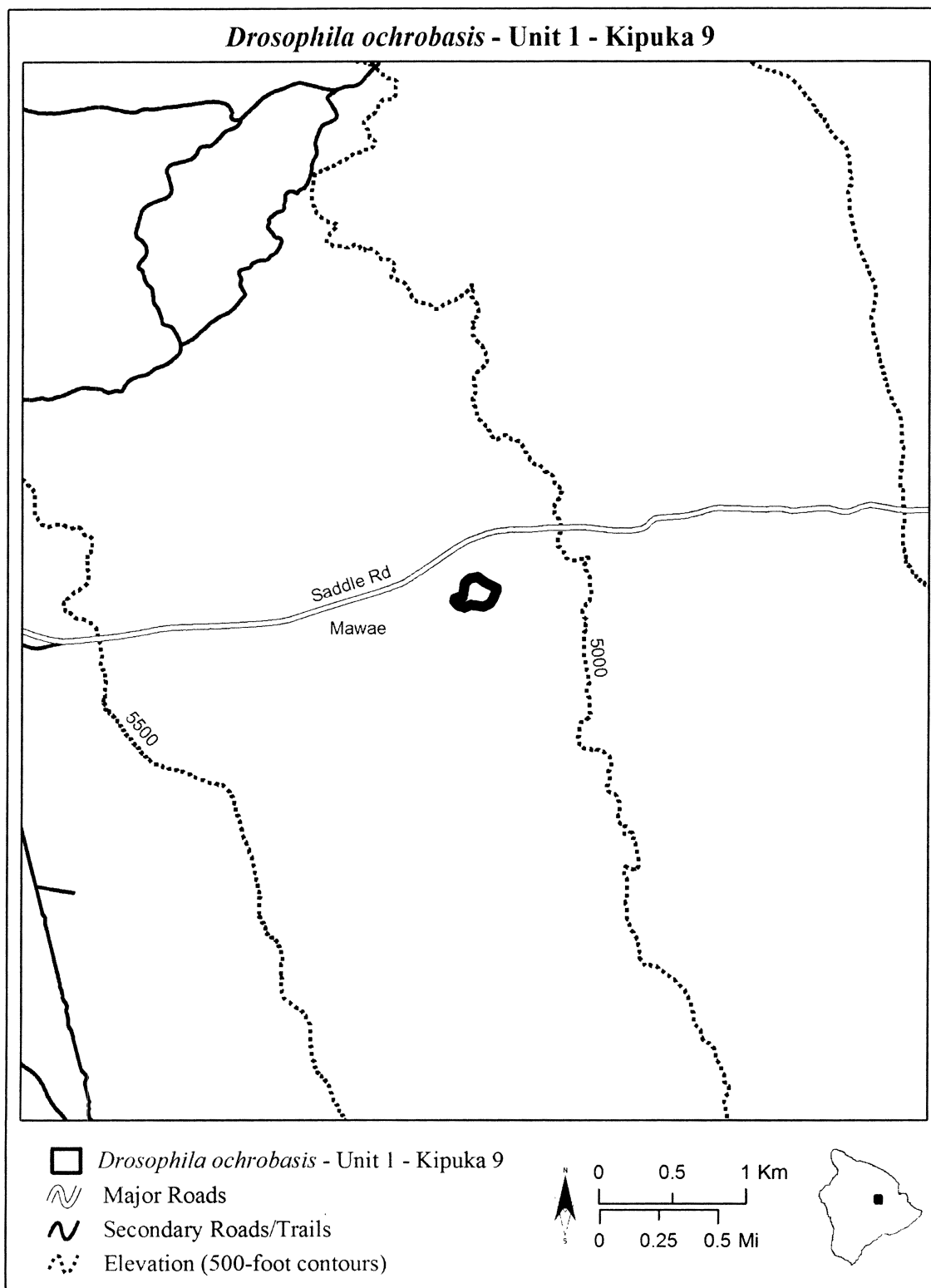
(6) *Drosophila ochrobasis*—Unit 1—Kipuka 9, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884112, 2179392; 884090, 2179333; 884069, 2179303; 884023,

2179281; 883971, 2179292; 883936, 2179295; 883896, 2179273; 883855, 2179287; 883825, 2179319; 883828, 2179335; 883861, 2179349; 883869, 2179346; 883885, 2179346; 883888, 2179373; 883893, 2179409; 883896,

2179441; 883934, 2179473; 883985, 2179484; 884036, 2179444; 884112, 2179409.

(ii) Note: Map of *Drosophila ochrobasis*—Unit 1—Kipuka 9 follows:



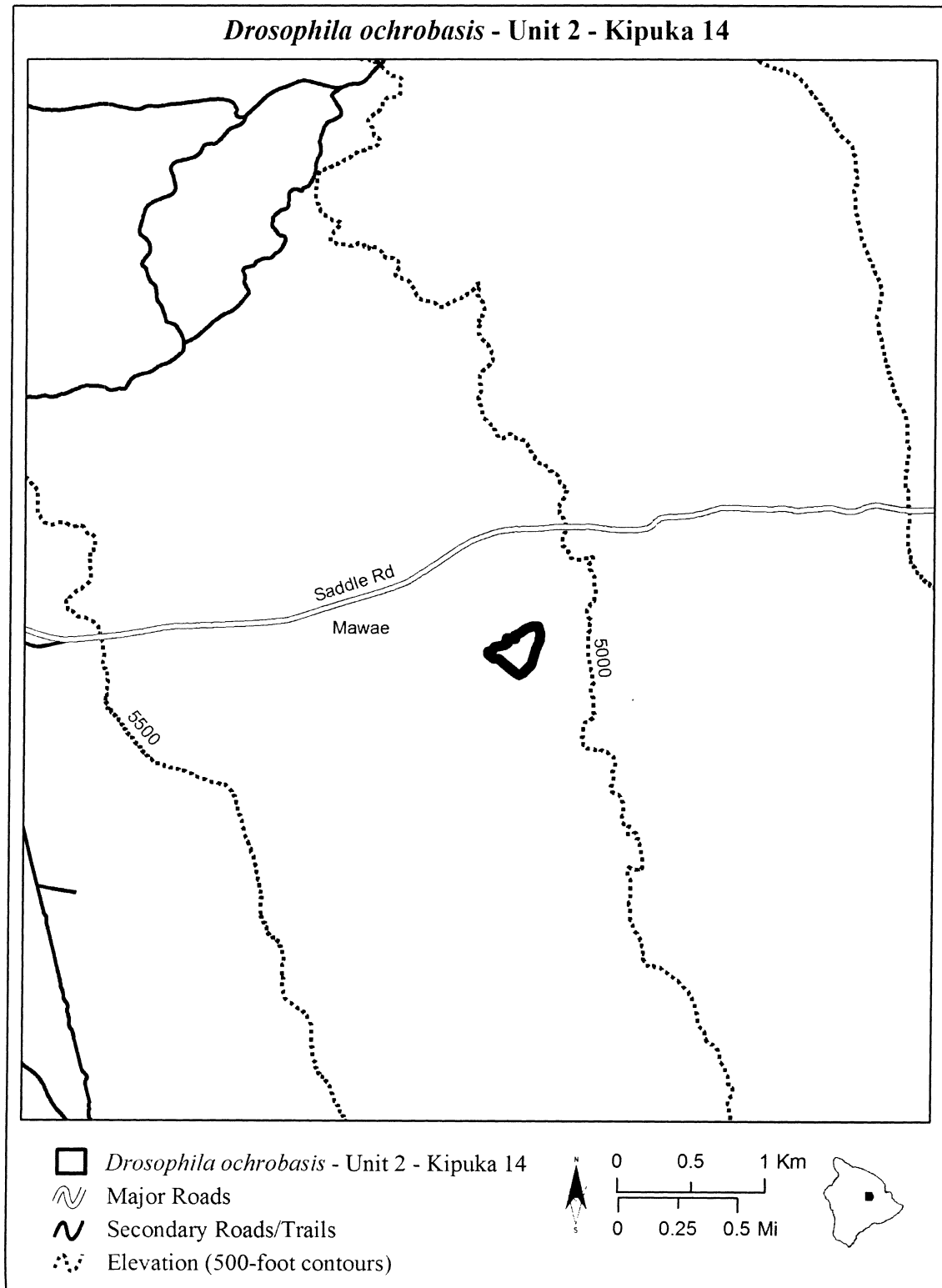
(7) *Drosophila ochrobasis*—Unit 2—Kipuka 14, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 884379, 2179103; 884375, 2179051; 884351, 2178992; 884320, 2178889; 884264, 2178832; 884236,

2178818; 884211, 2178834; 884141, 2178891; 884099, 2178924; 884064, 2178929; 884026, 2178959; 884026, 2178976; 884052, 2178983; 884071, 2179008; 884101, 2179013; 884137, 2179021; 884160, 2179035; 884148,

2179051; 884151, 2179065; 884210, 2179063; 884208, 2179084; 884242, 2179101; 884280, 2179131; 884323, 2179146; 884365, 2179146.

(ii) Note: Map of *Drosophila ochrobasis*—Unit 2—Kipuka 14 follows:



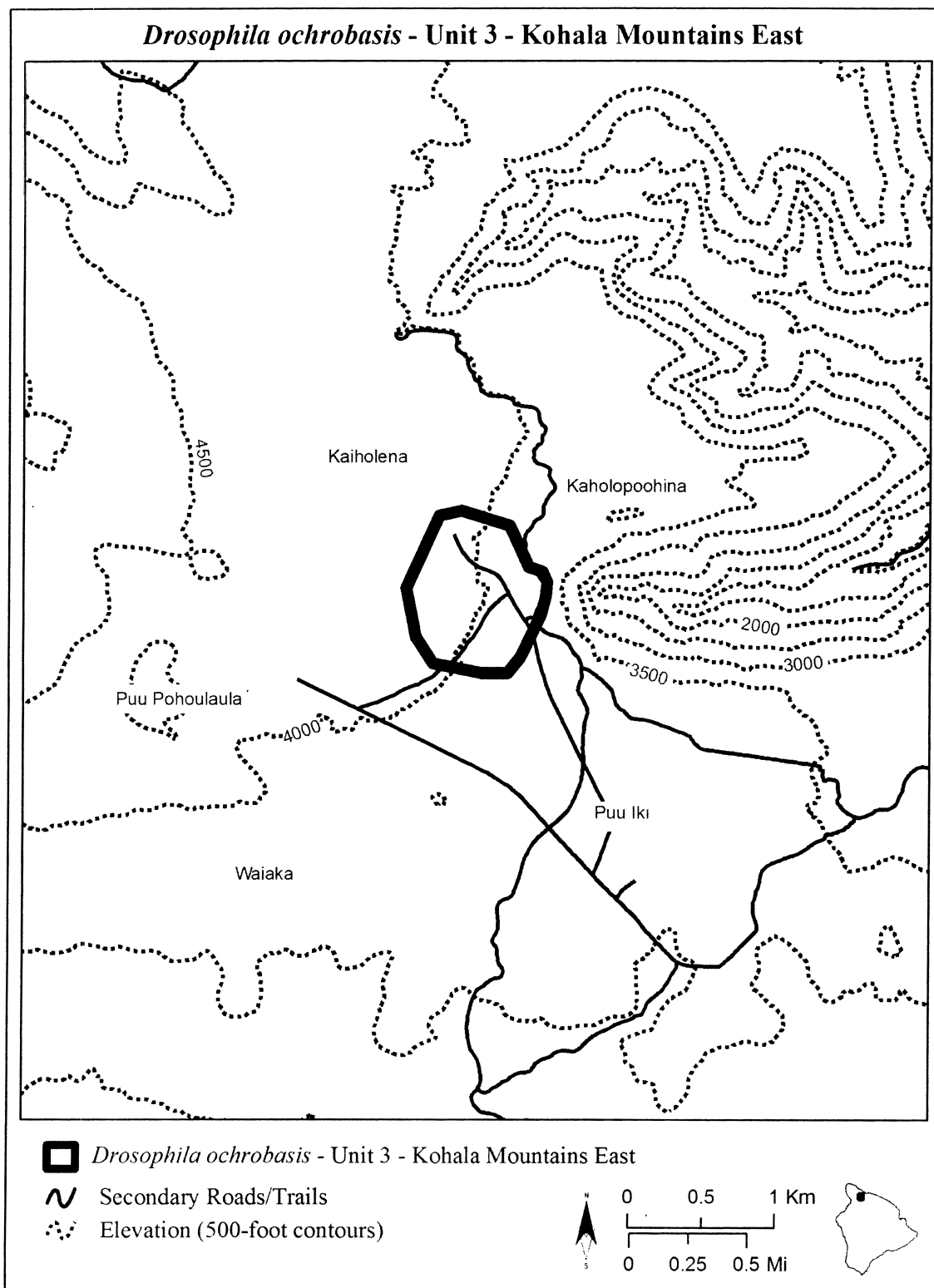
(8) *Drosophila ochrobasis*—Unit 3—Kohala Mountains East, Hawaii County, island of Hawaii, Hawaii.

(i) Land bounded by the following coordinates: 848091, 2222077; 847912, 2222077; 847578, 2222142; 847461,

2222323; 847396, 2222654; 847508, 2222900; 847620, 2223146; 847773, 2223179; 848104, 2223079; 848172, 2222934; 848235, 2222798; 848327, 2222764; 848361, 2222693; 848350,

2222595; 848317, 2222476; 848177, 2222184.

(ii) Note: Map of *Drosophila ochrobasis*—Unit 3—Kohala Mountains East follows:



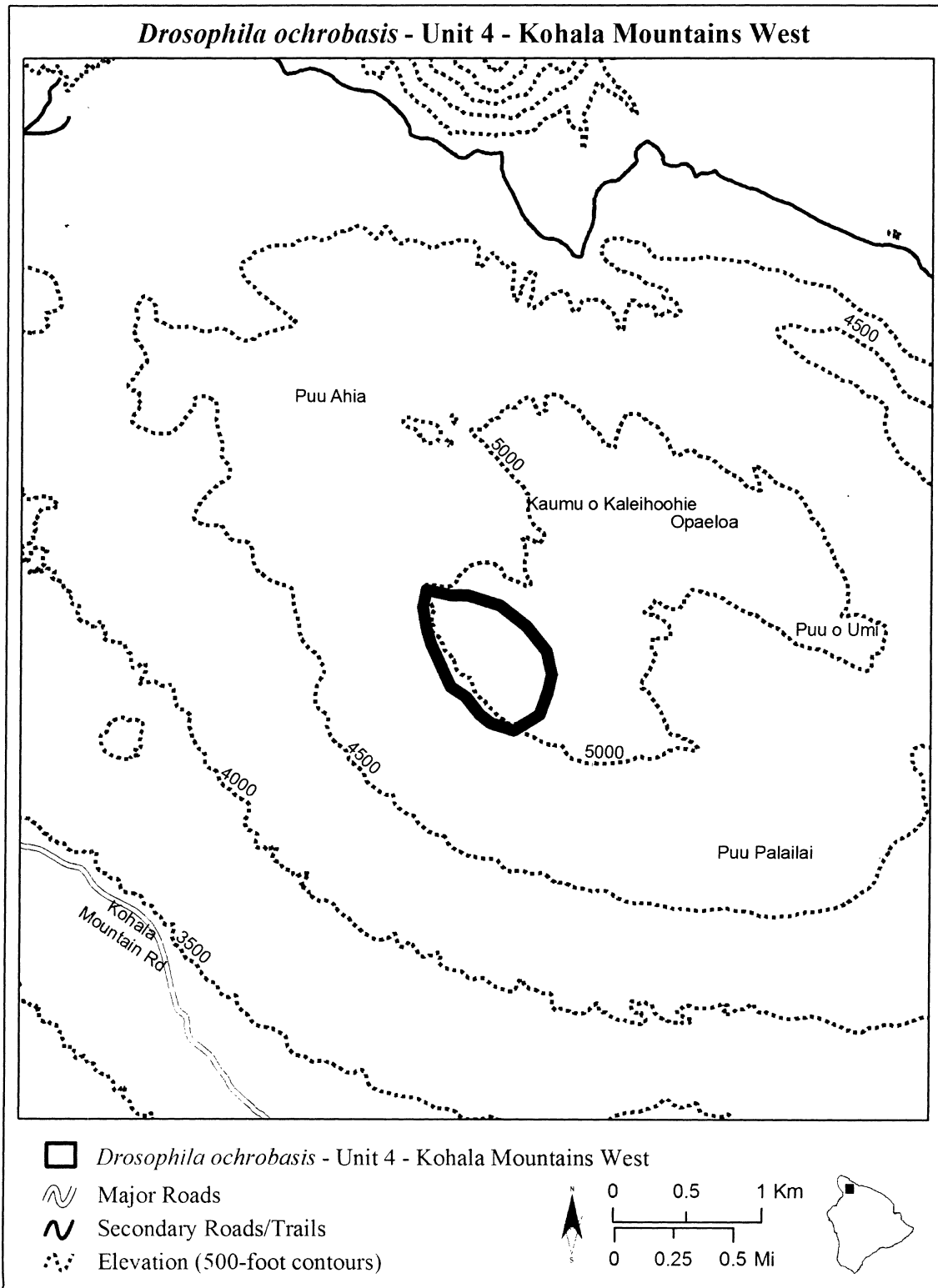
(9) *Drosophila ochrobasis*—Unit 4—
Kohala Mountains West, Hawaii
County, island of Hawaii, Hawaii.

(i) Land bounded by the following
coordinates: 841990, 2224000; 842156,
2223966; 842268, 2223966; 842486,

2223897; 842666, 2223757; 842803,
2223586; 842840, 2223426; 842812,
2223314; 842758, 2223157; 842584,
2223047; 842430, 2223096; 842355,
2223157; 842260, 2223278; 842154,

2223345; 842020, 2223634; 841988,
2223746; 841967, 2223882.

(ii) Note: Map of *Drosophila
ochrobasis*—Unit 4—Kohala Mountains
West follows:



(10) *Drosophila ochrobasis*—Unit 5—
Upper Kahuku, Hawaii County, island
of Hawaii, Hawaii.

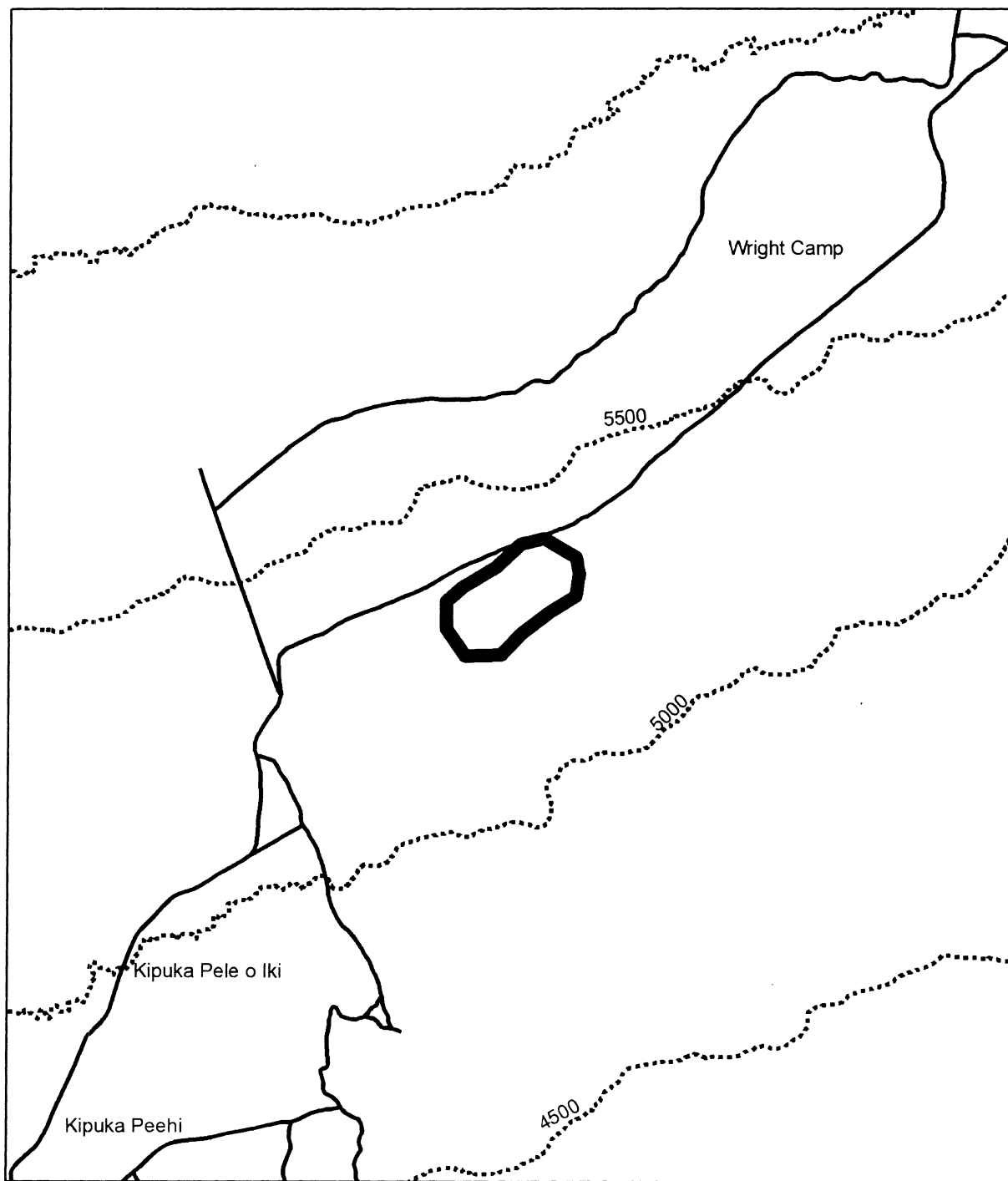
(i) Land bounded by the following
coordinates: 850211, 2124185; 849989,


2124179; 849874, 2124347; 849874,
2124516; 849975, 2124603; 850177,
2124724; 850332, 2124866; 850474,
2124900; 850589, 2124832; 850669,
2124785; 850690, 2124684; 850669,


2124549; 850508, 2124448; 850339,
2124320.


(ii) Note: Map of *Drosophila
ochrobasis*—Unit 5—Upper Kahuku
follows:

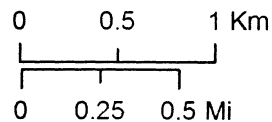
Drosophila ochrobasis - Unit 5 - Upper Kahuku



 *Drosophila ochrobasis* - Unit 5 - Upper Kahuku

 Secondary Roads/Trails

 Elevation (500-foot contours)



Hawaiian picture-wing fly (*Drosophila substenoptera*)

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

(2) The primary constituent elements of critical habitat for *Drosophila substenoptera* are:

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

elevations of 1,920–4,030 ft (585–1,228 m); and

(ii) The larval host plants *Cheirodendron platyphyllum* ssp. *platyphyllum*, *C. trigynum* ssp. *trigynum*, *Tetraplasandra kawaiensis*, and *T. oahuensis*, which exhibit one or more life stages (from seedlings to senescent individuals).

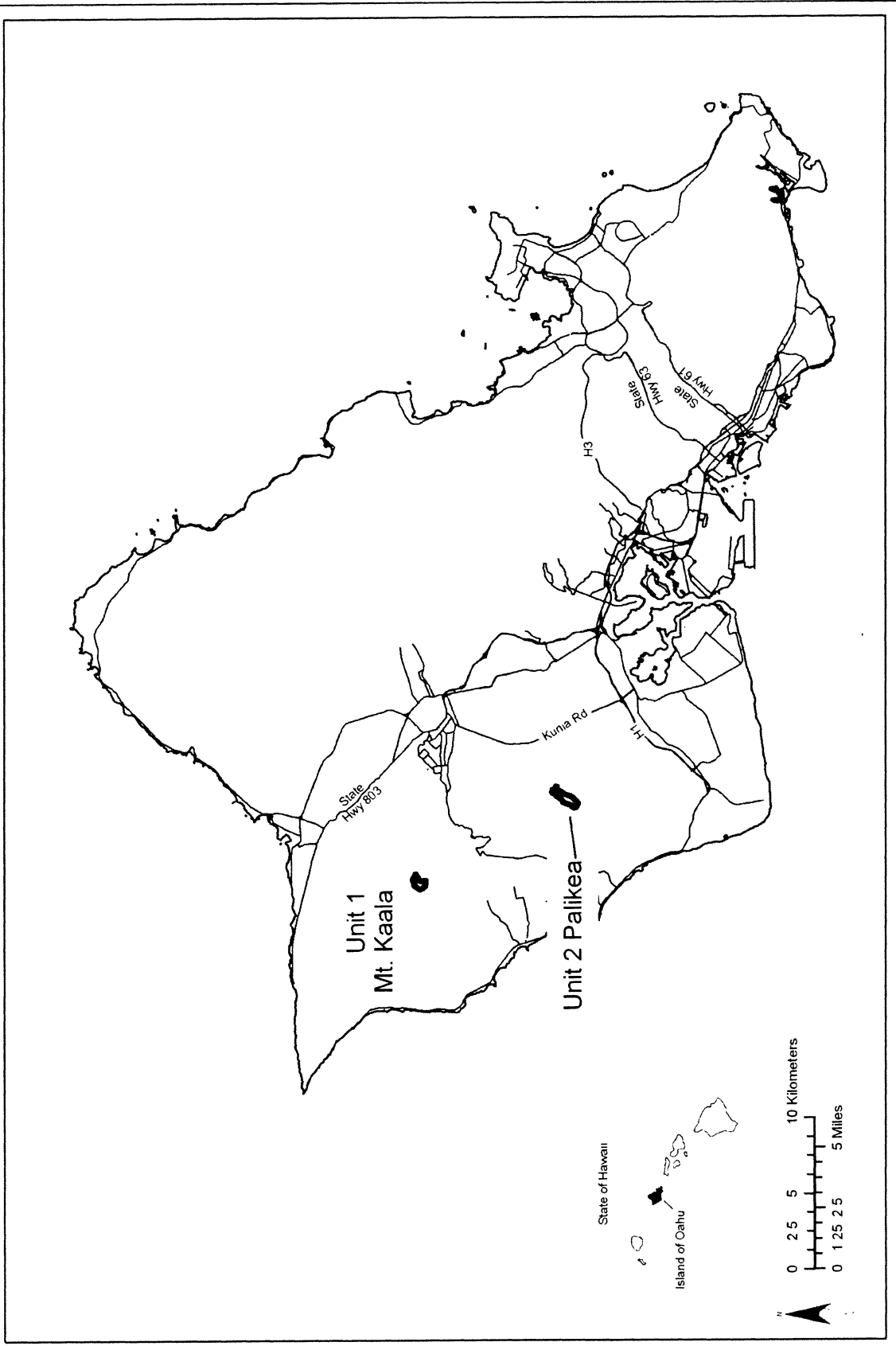
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the

land on which they are located existing within the legal boundaries on the effective date of this rule.

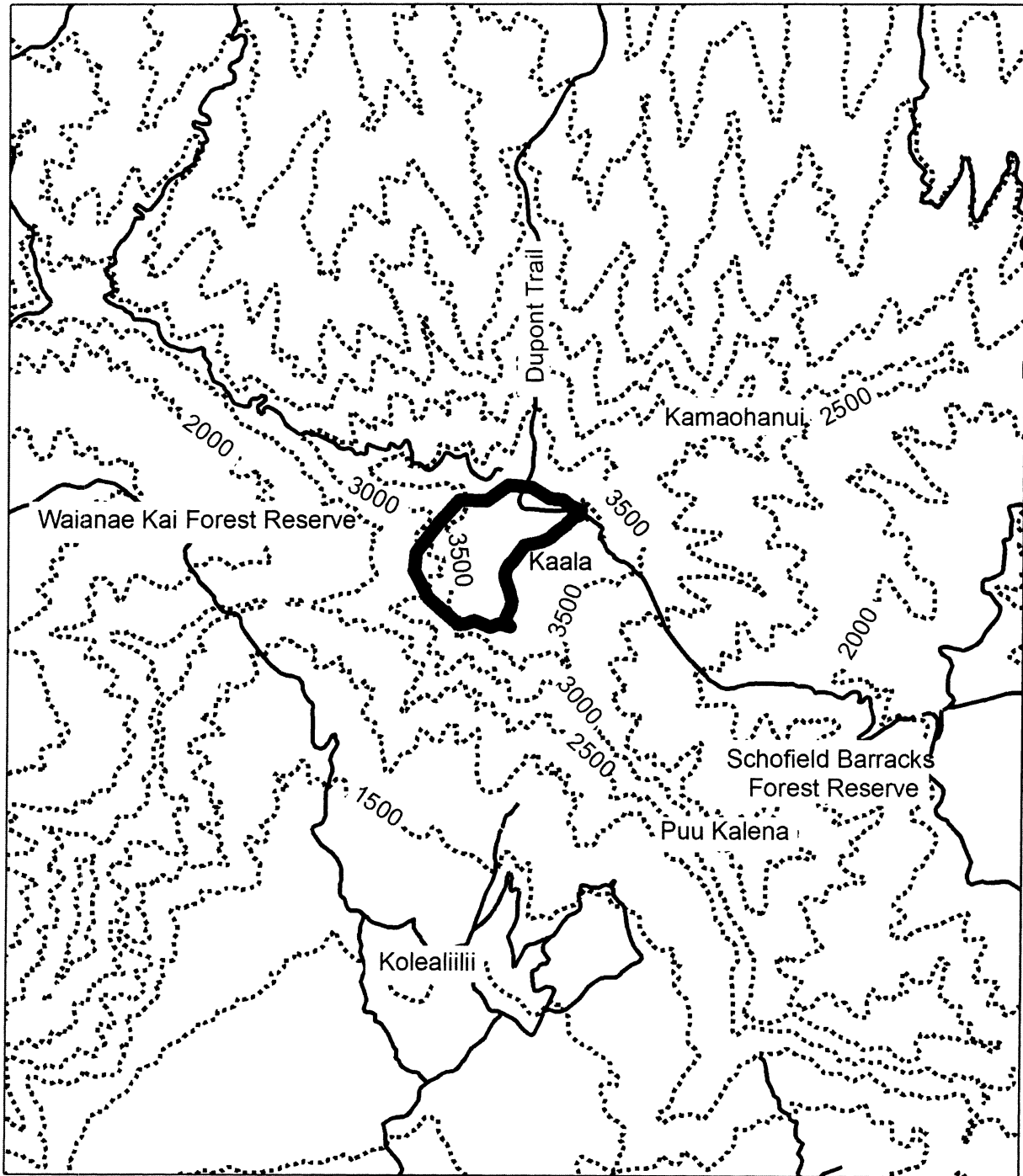
(4) Critical habitat map units. Coordinates are in Universal Transverse Mercator (UTM) Zone 4 with units in meters using North American Datum of 1983 (NAD83).




(5) Note: Index map of critical habitat units for *Drosophila substenoptera* follows:

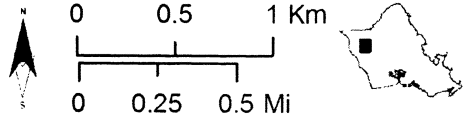
Index Map of Critical Habitat Units for *Drosophila substenoptera*



Drosophila substenoptera - Unit 1 - Mt. Kaala



-  *Drosophila substenoptera* - Unit 1 - Mt. Kaala
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



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

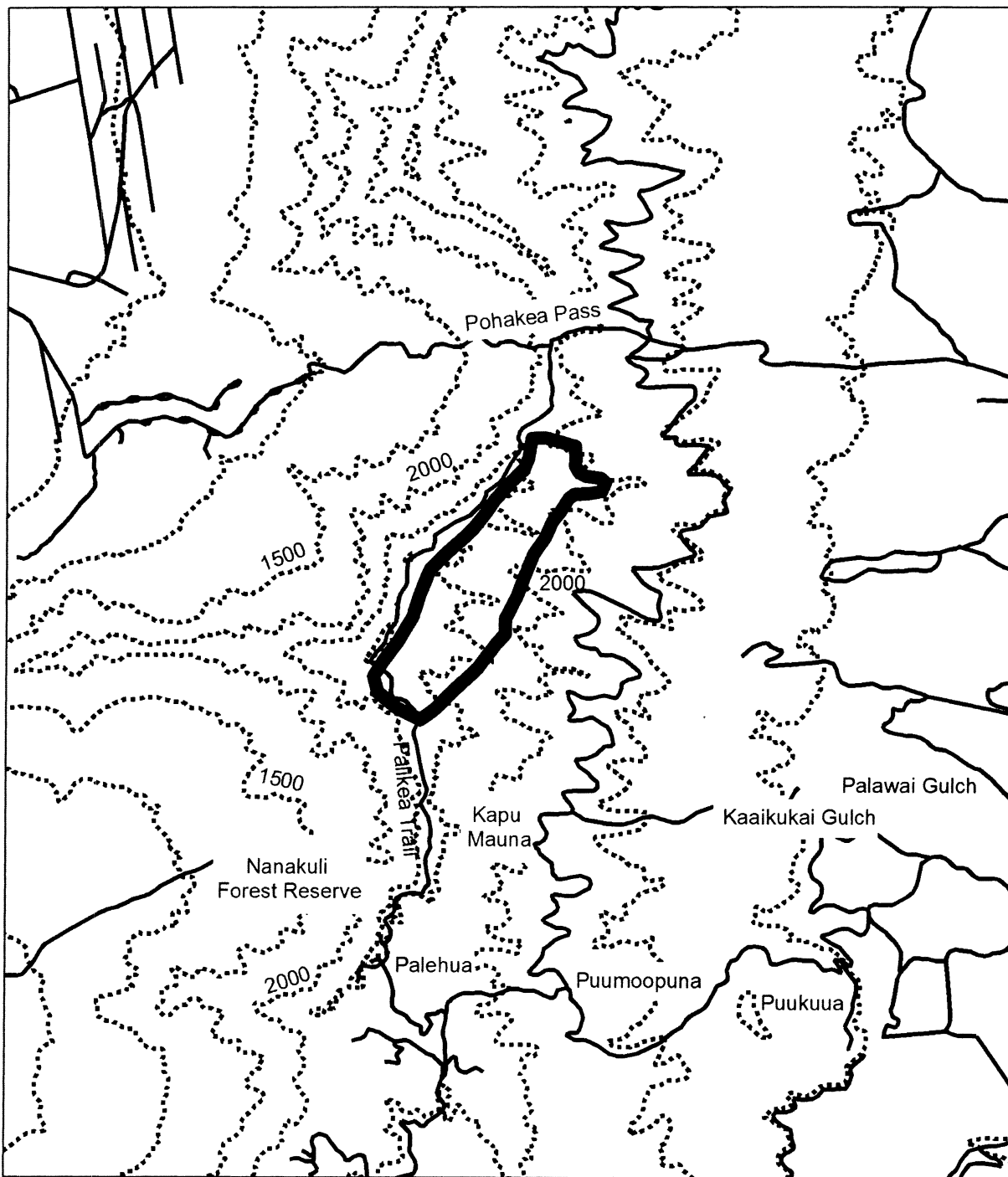
(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399, 2368425; 593448, 2368578; 593505, 2368716; 593622,




2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559,

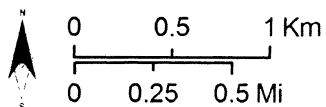
2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

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

Drosophila substenoptera - Unit 2 - Palikea



-  *Drosophila substenoptera* - Unit 2 - Palikea
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



Hawaiian picture-wing fly (*Drosophila tarphytrichia*)

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

(2) The primary constituent elements of critical habitat for *Drosophila tarphytrichia* are:

(i) Dry to mesic, lowland, ohia and koa forest between the elevations of 1,720–2,985 ft (524–910 m); and

(ii) The larval host plant *Charpentiera obovata*, which exhibits one or more life stages (from seedlings to senescent individuals).

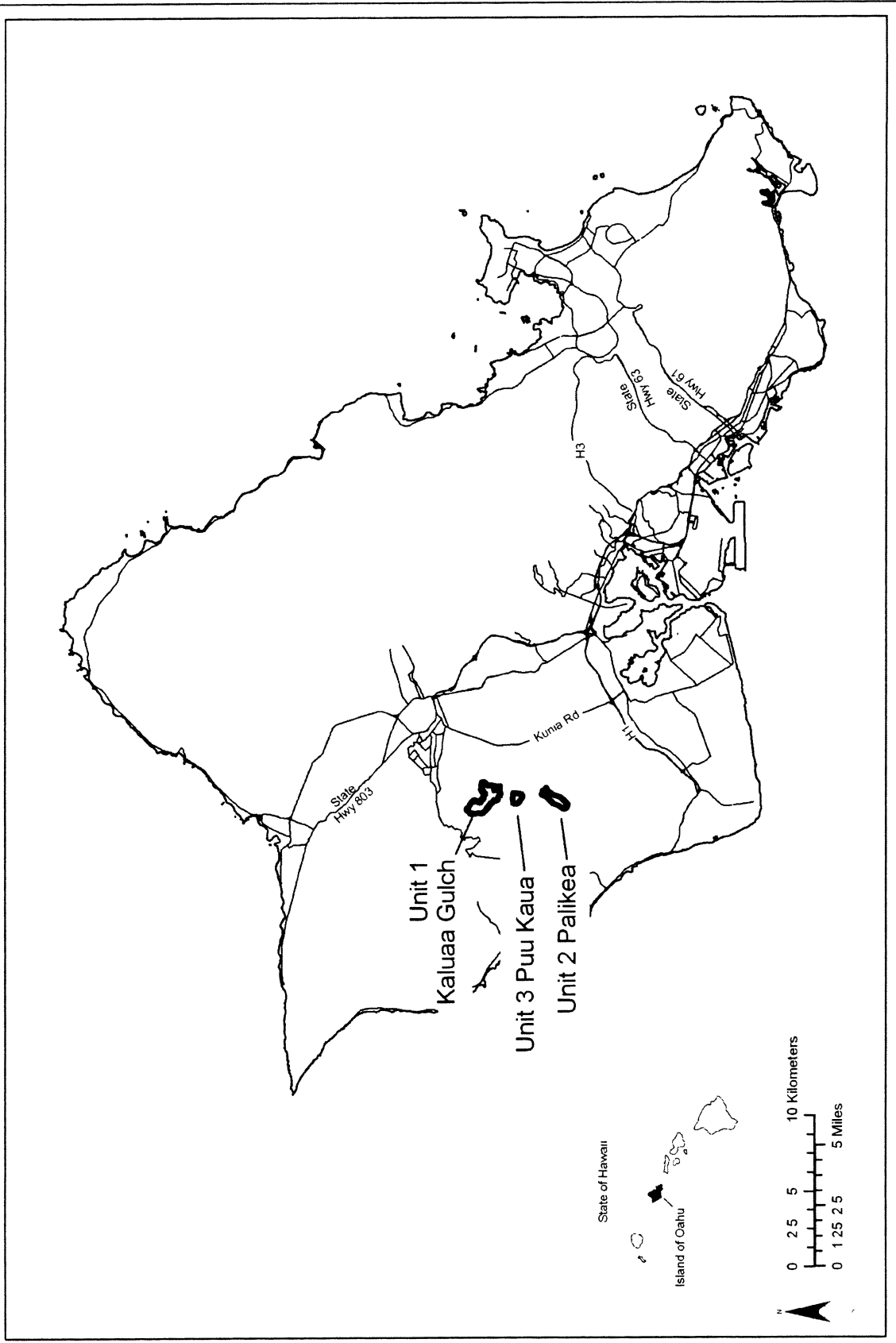
(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, airports, and roads) and the land on which they are located existing

within the legal boundaries on the effective date of this rule.

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

(5) Note: Index map of critical habitat units for *Drosophila tarphytrichia* follows:

Index Map of Critical Habitat Units for *Drosophila tarphytrichia*



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

(i) Land bounded by the following coordinates: 593240, 2374436; 593231,

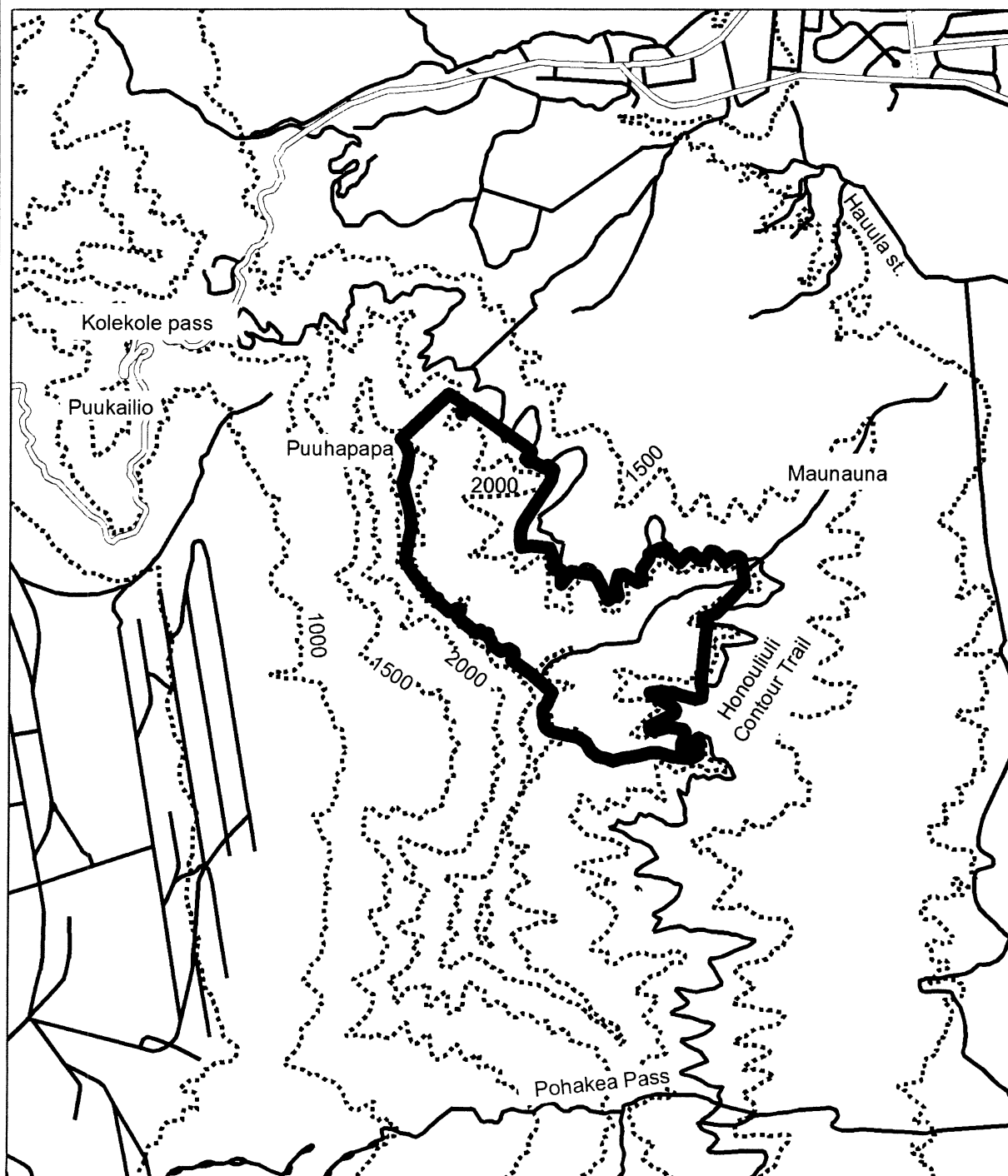
2374371; 593281, 2374410; 593315, 2374385; 593612, 2374173; 593656, 2374138; 593621, 2374096; 593641, 2374077; 593676, 2374072; 593703, 2374057; 593734, 2374039; 593758, 2374058; 593793, 2374029; 593779, 2373964; 593731, 2373894; 593660, 2373784; 593609, 2373702; 593592, 2373648; 593592, 2373594; 593598, 2373553; 593657, 2373561; 593770, 2373549; 593792, 2373496; 593797, 2373417; 593842, 2373411; 593842, 2373326; 593905, 2373404; 594053, 2373383; 594103, 2373292; 594134, 2373228; 594156, 2373250; 594194, 2373256; 594178, 2373323; 594196, 2373386; 594229, 2373390; 594312, 2373340; 594341, 2373350; 594339, 2373421; 594383, 2373487; 594381, 2373513; 594460, 2373552; 594496, 2373553; 594497, 2373518; 594526, 2373509; 594572, 2373460; 594632,





2373519; 594649, 2373523; 594699, 2373475; 594728, 2373476; 594762, 2373532; 594791, 2373529; 594828, 2373501; 594852, 2373465; 594903, 2373501; 594933, 2373500; 594952, 2373489; 594974, 2373334; 594800, 2373150; 594718, 2373120; 594718, 2373102; 594744, 2373091; 594710, 2372721; 594720, 2372686; 594716, 2372633; 594678, 2372623; 594566, 2372651; 594536, 2372666; 594506, 2372663; 594467, 2372672; 594395, 2372663; 594406, 2372650; 594546, 2372567; 594558, 2372553; 594551, 2372535; 594389, 2372452; 594395, 2372434; 594415, 2372428; 594511, 2372449; 594603, 2372437; 594614, 2372421; 594607, 2372385; 594593, 2372353; 594591, 2372317; 594618, 2372322; 594661, 2372357; 594700, 2372384; 594696, 2372334; 594697, 2372333; 594697, 2372283; 594652, 2372257; 594541, 2372266; 594454, 2372294; 594400, 2372294; 594293, 2372267; 594231, 2372261; 594168, 2372241; 594126, 2372258; 594075, 2372267; 594030, 2372303; 593999,

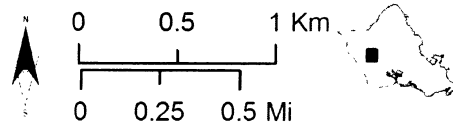
2372354; 593948, 2372388; 593889, 2372397; 593812, 2372413; 593781, 2372425; 593756, 2372442; 593742, 2372467; 593742, 2372490; 593736, 2372521; 593736, 2372560; 593757, 2372587; 593790, 2372662; 593663, 2372772; 593543, 2372859; 593558, 2372894; 593555, 2372910; 593526, 2372928; 593476, 2372912; 593422, 2372953; 593420, 2372976; 593403, 2372997; 593400, 2373025; 593373, 2373016; 593352, 2373044; 593328, 2373025; 593215, 2373118; 593230, 2373171; 593214, 2373176; 593163, 2373154; 593095, 2373213; 593091, 2373238; 593064, 2373243; 593019, 2373295; 592937, 2373388; 592889, 2373462; 592897, 2373535; 592908, 2373597; 592923, 2373668; 592914, 2373772; 592889, 2373866; 592868, 2373941; 592867, 2373950; 592894, 2374029; 592908, 2374120; 592894, 2374162; 592860, 2374213; 592854, 2374216; 593151, 2374494.

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

Drosophila tarphytrichia - Unit 1 - Kaluaa Gulch



-  *Drosophila tarphytrichia* - Unit 1 - Kaluaa Gulch
-  Major Roads
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



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

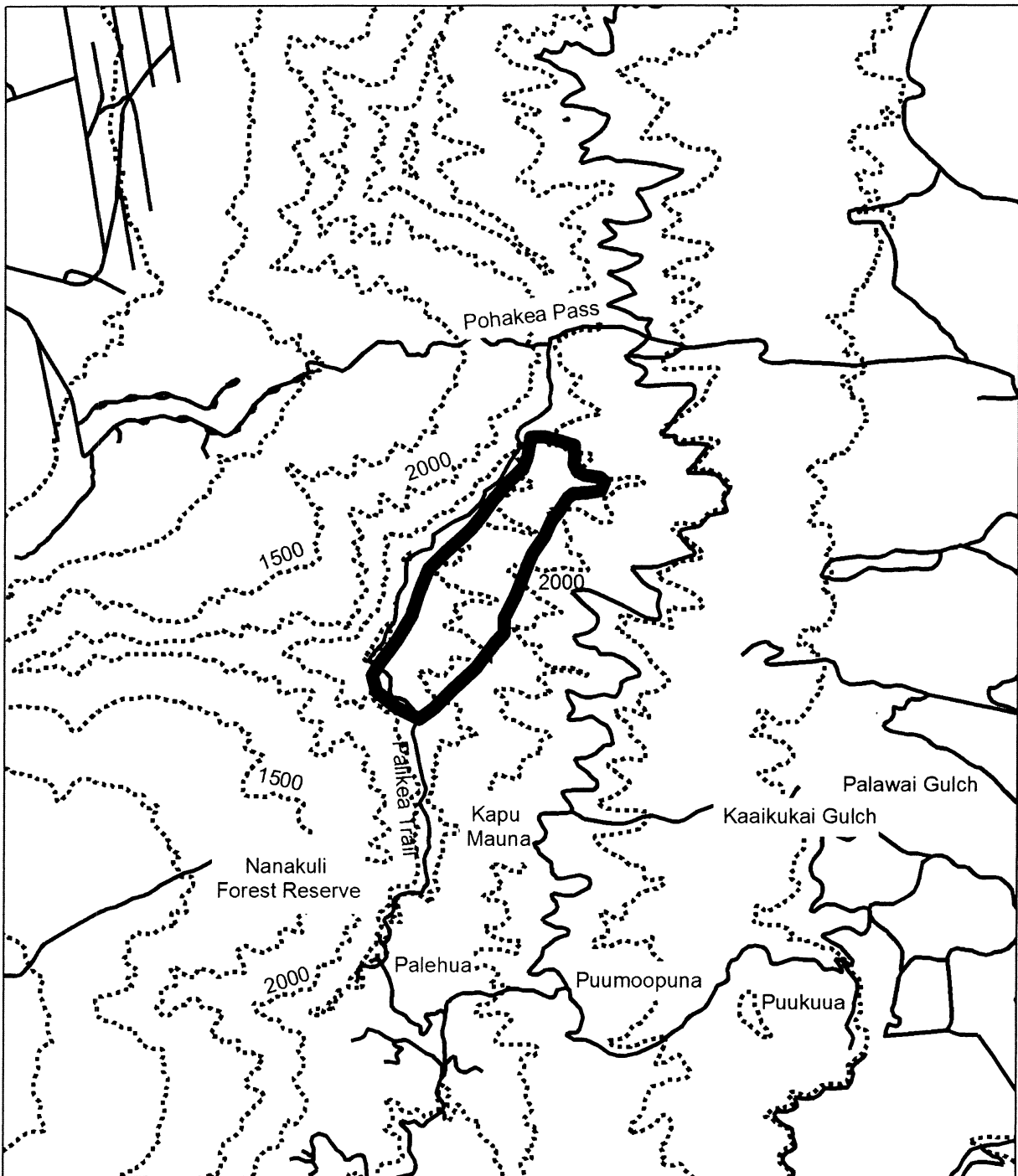
(i) Land bounded by the following coordinates: 593529, 2367854; 593448, 2367801; 593302, 2367874; 593242, 2367927; 593193, 2367967; 593165, 2368065; 593217, 2368150; 593314, 2368283; 593399, 2368425; 593448, 2368578; 593505, 2368716; 593622,




2368833; 593703, 2368906; 593764, 2368963; 593832, 2369044; 593901, 2369145; 594002, 2369262; 594079, 2369331; 594104, 2369396; 594120, 2369485; 594124, 2369521; 594148, 2369525; 594213, 2369525; 594310, 2369497; 594395, 2369473; 594399, 2369392; 594396, 2369356; 594417, 2369313; 594461, 2369290; 594551, 2369278; 594579, 2369250; 594559,

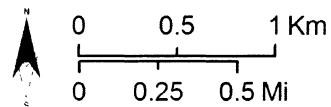
2369197; 594472, 2369183; 594391, 2369179; 594354, 2369153; 594302, 2369072; 594257, 2369015; 594213, 2368914; 594136, 2368809; 594083, 2368672; 594035, 2368550; 593966, 2368417; 593966, 2368324; 593909, 2368259; 593792, 2368105; 593675, 2368000.

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

Drosophila tarphytrichia - Unit 2 - Palikea



-  *Drosophila tarphytrichia* - Unit 2 - Palikea
-  Secondary Roads/Trails
-  Elevation (500-foot contours)



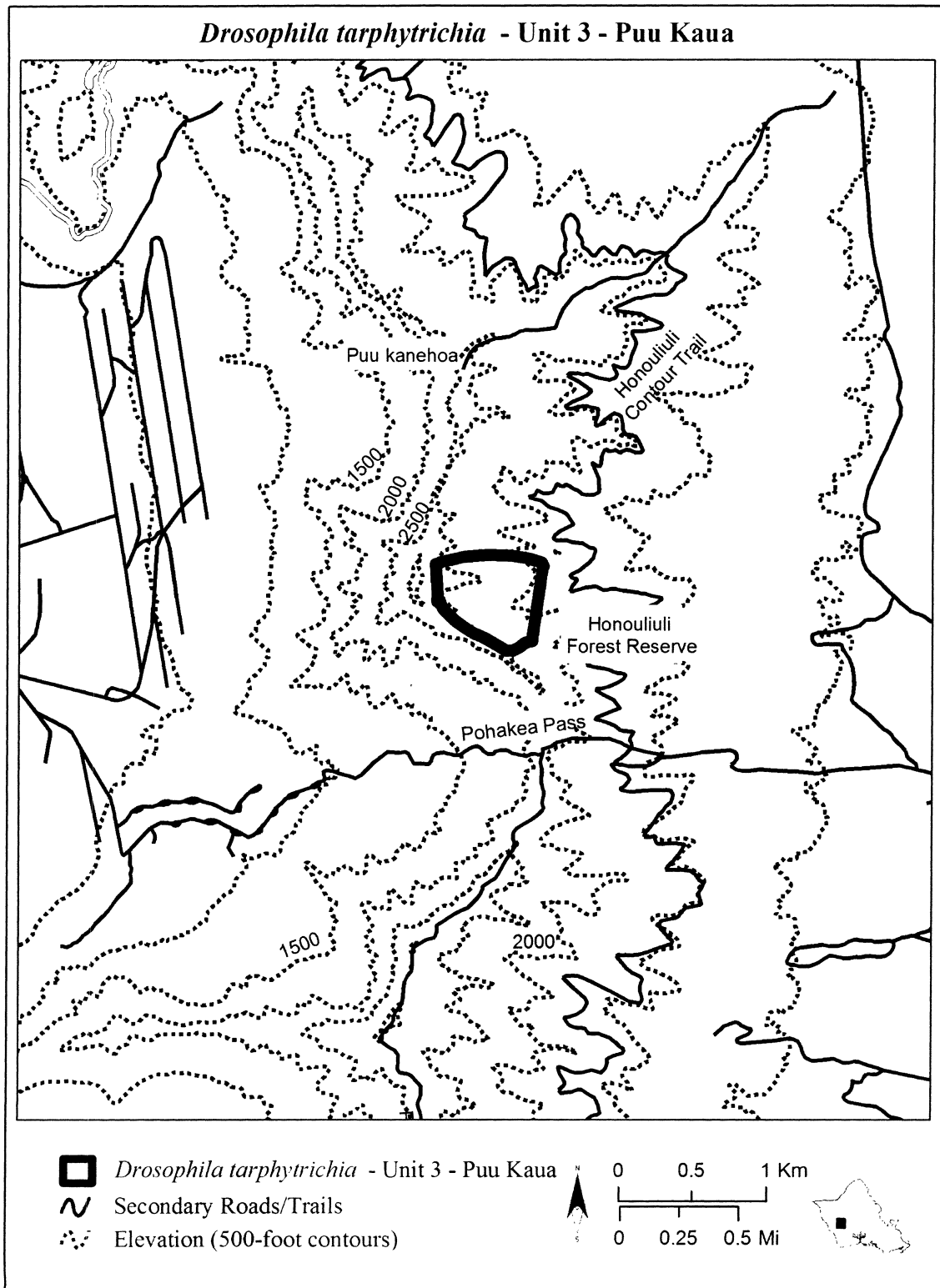
(8) *Drosophila tarphytrichia*—Unit 3—Puu Kaua, City and County of Honolulu, island of Oahu, Hawaii.

(i) Land bounded by the following coordinates: 594166, 2370854; 594166, 2370853; 594164, 2370854; 594122, 2370843; 594090, 2370815; 594040, 2370789; 593996, 2370789; 593930, 2370827; 593852, 2370875; 593778,

2370907; 593716, 2370947; 593642, 2370999; 593602, 2371041; 593574, 2371067; 593558, 2371095; 593539, 2371118; 593531, 2371121; 593534, 2371173; 593519, 2371375; 593533, 2371375; 593552, 2371390; 593628, 2371404; 593716, 2371426; 593794, 2371431; 593876, 2371437; 593974,

2371435; 594036, 2371431; 594138, 2371415; 594190, 2371399; 594232, 2371385; 594246, 2371359; 594239, 2371354; 594170, 2370879; 594172, 2370877; 594170, 2370855.

(ii) Note: Map of *Drosophila tarphytrichia*—Unit 3—Puu Kaua follows:



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Dated: November 14, 2008.

Lyle Laverty,
 Assistant Secretary for Fish and Wildlife and
 Parks.

[FR Doc. E8-27664 Filed 12-3-08; 8:45 am]

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