14620; telephone number: (202) 554–1404; e-mail address: *TSCA-Hotline@epa.gov*.

SUPPLEMENTARY INFORMATION: This document extends the public comment period established in the **Federal Register** of April 7, 2010 (75 FR 17645) (FRL–8811–7). In that document, EPA seeks information about the use authorizations for PCBs. EPA is hereby extending the comment period, which was set to end on July 6, 2010, to August 20, 2010.

The additional meeting in New York, NY will be held in the evening at the request of New York City parents who would like to attend to comment on our request for comments on the excluded products provisions, e.g., caulk, of the current PCB regulations. The additional meeting in San Francisco, CA will be held to accommodate West Coast stakeholders. In San Francisco, the meeting attendees will need photo identification.

You may submit a request to participate in the public meeting as a speaker or observer either in person or as an observer only by teleconference. Do not submit any information in your request to participate that is considered Confidential Business Information (CBI).

To access the docket, please follow the detailed instructions as provided under **ADDRESSES** in the April 7, 2010 **Federal Register** document. If you have questions, consult the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

List of Subjects in 40 CFR Part 761

Environmental protection, Hazardous substances, Labeling, Polychlorinated biphenyls (PCBs), Reporting and recordkeeping requirements.

Dated: June 9, 2010.

Stephen A. Owens,

Assistant Administrator, Office of Chemical Safety and Pollution Prevention.

[FR Doc. 2010–14522 Filed 6–15–10; 8:45 am]

BILLING CODE 6560–50–S

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R1-ES-2010–0012]
[MO 92210-0-0008-B2]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on Five Petitions to List Seven Species of Hawaiian Yellow-faced Bees as Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 90–day petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90–day finding on five petitions to list seven species of Hawaiian yellow-faced bees (*Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*) as endangered and designate critical habitat under the Endangered Species Act of 1973, as amended (Act).

We find that the petitions present substantial scientific or commercial information indicating that listing these seven species of Hawaiian yellow-faced bees may be warranted. Therefore, with the publication of this notice we are initiating a status review of these species and will issue 12–month findings on our determination as to whether the petitioned actions are warranted. To ensure that the status reviews are comprehensive, we are soliciting scientific and commercial data and other information regarding these species. We will make a determination on critical habitat for these species if, and when, we initiate a listing action.

DATES: To allow us adequate time to conduct this review, we request that information you submit be received by us on or before August 16, 2010. Please note that if you are using the *Federal eRulemaking Portal* (see "**ADDRESSES**" section, below), the deadline for submitting an electronic comment is Eastern Standard Time on this date.

We will post all information received on *http://www.regulations.gov*. This generally means that we will post any personal information you provide us (see the Request for Information section below for more details).

After August 16, 2010, you must submit information directly to the Field Office (see **FOR FURTHER INFORMATION CONTACT** section below). Please note that we might not be able to address or incorporate information that we receive after the above requested date.

ADDRESSES: You may submit information by one of the following methods:

- Federal eRulemaking Portal: *http://www.regulations.gov*. In the box that reads "Enter Keyword or ID," enter the Docket number for this finding, which is FWS-R1-ES-2010-0012. Check the box that reads "Open for Comment/Submission," and then click the Search button. You should then see an icon that reads "Submit a Comment." Please ensure that you have found the correct rulemaking before submitting your comment.
- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: FWS-R1-ES-2010-0012; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203.

FOR FURTHER INFORMATION CONTACT: Loyal Mehrhoff, Field Supervisor, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3-122, Honolulu, HI 96850; by telephone (808–792–9400); or by facsimile (808–792–9581). Persons who use a telecommunications device for the deaf (TTD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Request for Information

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the seven species of Hawaiian yellow-faced bees (*H. anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*) from governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties. We seek information on:

(1) The species' biology, range, and population trends, including:

(a) Habitat requirements for feeding, breeding, and sheltering;

(b) Genetics and taxonomy;

(c) Historical and current range including distribution patterns;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for the species, its habitat or both.

(2) Information about the seven Hawaiian yellow-faced bees relevant to the factors that are the basis for making

a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 *et seq.*), which are:

(a) The present or threatened destruction, modification, or curtailment of the species' habitat or range;

(b) Overutilization for commercial, recreational, scientific, or educational purposes;

(c) Disease or predation;

(d) The inadequacy of existing regulatory mechanisms; or

(e) Other natural or manmade factors affecting its continued existence.

(3) Whether insect collecting presents a threat to any of the seven Hawaiian yellow-faced bee species.

(4) The potential cumulative effects of these factors that may threaten or endanger the seven Hawaiian yellow-faced bee species.

(5) Management programs for the conservation of the seven Hawaiian yellow-faced bee species.

(6) The potential effects of climate change on the seven Hawaiian yellow-faced bee species and their habitat.

If, after the status reviews, we determine that listing any of the seven Hawaiian yellow-faced bees is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act) under section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, with regard to areas within the geographical range currently occupied by these species, we also request data and information on what may constitute physical or biological features essential to the conservation of these species; where these features are currently found; and whether any of these features may require special management considerations or protection. In addition, we request data and information regarding whether there are areas outside the geographical area occupied by these species that are essential to the conservation of these seven species. Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if these species are proposed for listing, and why such habitat meets the requirements of section 4 of the Act. Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination, as section 4(b)(1)(A) of the Act (16 U.S.C. 1531 *et seq.*) directs that determinations as to whether any species is a threatened or endangered species must be made "solely on the basis of the best scientific and commercial data available."

You may submit your information concerning this status review by one of the methods listed in the **ADDRESSES** section. If you submit information via *http://www.regulations.gov*, your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on *http://www.regulations.gov*.

Information and materials we receive, as well as supporting documentation we used in preparing this finding, is available for you to review at *http://www.regulations.gov*, or you may make an appointment during normal business hours at the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

Section 4(b)(3)(A) of the Act (16 U.S.C. 1533(b)(3)(A)) requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information to indicate that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of this finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90–day petition finding is "that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted" (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly conduct a species status review, which we subsequently summarize in our 12–month finding.

We received five petitions dated March 23, 2009, from Scott Hoffman Black, Executive Director of the Xerces Society (hereafter, "the petitioner"). The petitioner requested that we list seven species of Hawaiian yellow-faced bees as endangered and that critical habitat be designated under the Act. The petitions were clearly identified as petitions and included the requisite identification of addresses and telephone numbers, but did not include the signature of the petitioner, as stipulated in 50 CFR 424.14(a). Nevertheless, we recognize the five documents as petitions. Each petition contained information regarding the species' taxonomy and ecology, historical and current distribution, present status, and potential causes of decline and current and potential imminent threats.

On May 8, 2009, we sent a letter to the petitioner acknowledging our receipt of the petitions and explaining that we reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the species under section 4(b)(7) of the Act was not warranted at that time. This notice constitutes our 90–day finding for the petitions to list seven species of Hawaiian yellow-faced bees (*Hylaeus anthracinus, H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*).

Species Information

Taxonomy and Description of Hylaeus

The seven species of bees described in the petitions belong to the genus *Hylaeus*. *Hylaeus* is a large, globally distributed genus comprised of over 500 species worldwide. In the Hawaiian Islands, the genus *Hylaeus* is widespread and very diverse, with 60 native species, including 20 that are endemic to single islands (Magnacca 2007, p. 174). All 60 Hawaiian species are in the subgenus *Nesoprosopis* (Magnacca and Danforth 2006, p. 393). The *Hylaeus* genus belongs to the Colletidae family of bees, also known as plasterer bees due to their habit of lining their nests with salival secretions.

The species of *Hylaeus* are commonly known as yellow-faced bees or masked bees for their yellow-to-white facial markings. All of the *Hylaeus* species roughly resemble small wasps in appearance, due to their slender bodies and their seeming lack of setae (sensory hairs). However, *Hylaeus* bees have plumose (branched) hairs on the body that are longest on the sides of the thorax. To a discerning eye, it is these plumose setae that readily distinguish them from wasps (Michener 2000, p. 55).

Life History of Hylaeus

Nests of *Hylaeus* species are usually constructed opportunistically within dead twigs or plant stems, or other similarly small natural cavities under bark or rocks. This is unlike the nests of many other bee species, which are purposefully excavated or constructed underground. Like other *Hylaeus*, Hawaiian *Hylaeus* also lack strong mandibles and other adaptations for digging and often use nest burrows abandoned by other insect species (Daly and Magnacca 2003, p. 9). The adult male and female bees feed upon flower nectar for nourishment. Many species, including the Hawaiian *Hylaeus*, lack an external structure for carrying pollen, called a scopa, and instead internally transport collected pollen, often mixed with nectar, within their crop (stomach). Hawaiian *Hylaeus* species are grouped within two categories: Ground-nesting species that require relatively dry conditions and wood-nesting species which are found within wetter areas (Zimmerman 1972, p. 533; Daly and Magnacca 2003, p. 11).

The female *Hylaeus* bee lays eggs in brood cells that she constructs in the nest and lines with a self-secreted cellophane-like material. Prior to sealing the nest, the female provides her young with a mass of semiliquid nectar and pollen that is left alongside her eggs. Upon hatching, the grub-like larvae eat the provisions left for them, pupate, and eventually emerge as adults (Michener 2000, p. 24).

The role of bees as pollinators maintaining communities of native flora in a diversity of habitats is widely recognized (Cane and Tepedino 2001, p. 1; Kremen *et al.* 2007, pp. 302, 307; National Research Council 2007, p. 13). Recent studies of visitation records of Hawaiian *Hylaeus* bees to native flowers (Daly and Magnacca 2003, p. 11) and pollination studies of native plants (Sakai *et al.* 1995, pp. 2524–2528; Cox and Elmqvist 2000, p. 1,238; Sahli *et al.* 2008, p. 1) have demonstrated that Hawaiian *Hylaeus* species almost exclusively visit native plants to collect nectar and pollen and, in the process, pollinate these plants. *Hylaeus* bees are very rarely found visiting nonnative plants for nectar and pollen (Magnacca 2007, pp. 186, 188), and are almost completely absent from habitats dominated by nonnative plant species (Daly and Magnacca 2003, p. 11). Sahli *et al.* (2008, p. 1) quantified pollinator visitation rates to all of the flowering plant species in communities on a Hawaiian lava flow dating from 1855 to understand how pollination webs and the integration of native and alien species changes with elevation. In that study, eight flowering plants were observed at six sites, which ranged in elevation from 880 to 2400 meters (m) (2,887 to 7874 feet (ft)). The study also found that the proportion of native pollinators changed along the elevation gradient; at least 40 to 50 percent of visits were from alien pollinators at low elevation, as opposed to 4 to 20 percent of visits by alien pollinators at mid to high elevations. *Hylaeus* bees were less abundant at lower elevations, and there were lower visitation rates of any pollinators to native plants at lower elevations, which suggests that *Hylaeus* may not be easily replaceable by nonnative pollinators (Sahli *et al.*, 2008, p. 1). Because *Hylaeus* species are likely critical pollinators of one or more native Hawaiian plant species, it is believed that their decline or eventual extinction may negatively impact dependent native plant species (Hopper *et al.* 1996, p. 8; Cox and Elmqvist 2000, p. 1238).

Taxonomy and Description of Each Petitioned *Hylaeus* Species

Unless clearly stated that the information is from our files, all information, statements, and references cited regarding the taxonomy, descriptions, life history, and range and distribution are based on information submitted in the petitions.

Hylaeus anthracinus

Taxonomy

Hylaeus anthracinus was first described as *Prosopis anthracina* by Smith in 1873 (Daly and Magnacca 2003, p. 55), and transferred to *Nesoprosopis* 20 years later (Perkins 1899, pp. 75), and then *Nesoprosopis* was reduced to a subgenus of *Hylaeus* in 1923 (Meade-Waldo 1923, p. 1). Although the distinctness of this species is unquestioned, recent genetic evidence (Magnacca and Brown, submitted) suggests that *H. anthracinus* may be composed of three cryptic (not recognized) species which represent the populations on Hawaii; Maui and Kahoolawe; and Molokai and Oahu.

Description

Hylaeus anthracinus is a medium-sized black bee with clear to smoky wings and black legs. The male has a single large yellow spot on his face, while below the antennal sockets the face is yellow. The female is entirely black and can be distinguished by the black hairs on the end of the abdomen and an unusual mandible that has three teeth, a characteristic that is shared only with *H. flavifrons*, a closely related species on Kauai (Daly and Magnacca 2003, p. 53).

Life History

The diet of the larval stage of *Hylaeus anthracinus* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the adult female. Likewise, the nesting habits of *H. anthracinus* are not known, but the species is thought to nest within the stems of coastal shrubs (Magnacca 2005a, p. 2).

Hylaeus anthracinus adults have been observed visiting the flowers of *Sesbania tomentosa* (oahi), *Scaevola sericea* (naupaka kahakai), *Sida fallax* (ilima), *Argemone glauca* (pua kala), *Chamaesyce celastroides* (akoko), *Chamaesyce degeneri* (akoko), *Heliotropium anomalum* (hinahina), and *Myoporum sandwicense* (naio). This species has also been collected from inside the fruit capsule of *Kadua coriacea* (kioele) (Magnacca 2005a, p. 2). *Hylaeus anthracinus* has also been observed visiting *Tournefortia argentea* (tree heliotrope), a tree native to tropical Asia, Madagascar, tropical Australia, and Polynesia, for nectar and pollen (Wagner *et al.* 1999, p. 398; Daly and Magnacca 2003, p. 55; Magnacca 2007a, p. 181). The species was first collected on Oahu in 1864-1865, and is naturalized and documented from all of the main islands except Kahoolawe (Wagner *et al.* p. 398). It is described as introduced by Magnacca (2007, p. 181). *Hylaeus anthracinus* commonly occurs alongside other *Hylaeus* species, including *H. longiceps* and *H. flavipes*.

Range and Distribution

Hylaeus anthracinus was historically known from numerous coastal strand and lowland dry forest locations up to 2,000 feet (ft) (610 meters (m)) in elevation on the islands of Hawaii, Lanai, Maui, Molokai, and Oahu. According to the petition, between 1997 and 2008, surveys for Hawaiian *Hylaeus* were conducted at 43 sites throughout the Hawaiian Islands that were either historic collecting localities for *H. anthracinus,* or potentially suitable habitat for this species. *Hylaeus anthracinus* was observed at 14 of the 43 survey sites, but had disappeared from each of the 9 historically occupied sites that were surveyed (petition p. 7). Several of the historical collection sites, such as Honolulu and Waikiki on Oahu, and Kealakekua Bay on Hawaii, no longer contain *Hylaeus* habitat, which has been replaced by urban development or is dominated by nonnative vegetation (Liebherr and Polhemus 1997, pp. 346–347; Daly and

Magnacca 2003, p. 55; Magnacca 2007, pp. 186–188).

Hylaeus anthracinus is currently restricted to small populations in a few small patches of coastal and lowland dry habitat (Magnacca 2005a, p. 2); one location on Kahoolawe; five locations on the island of Hawaii, two locations on Maui, three locations on Molokai, and two locations on Oahu (Xerces 2009a, pp. 9-10). The petition does not define the context applied to the term "small," and we have no additional information in our files. Accordingly, we are presenting the population information as characterized by the petitioner. The 2004 *H. anthracinus* collection on the island of Hawaii occurred in montane dry forest (Magnacca 2005a, p. 2). Although it was previously unknown from the island of Kahoolawe, *H. anthracinus* was observed at one location on the island in 2002 (Daly and Magnacca 2003, p. 55). According to the petition, it is believed to be extirpated from Lanai (Daly and Magnacca 2003, p. 55).

Hylaeus assimulans

Taxonomy

Hylaeus assimulans was first described as *Nesoprosopis assimulans* (Perkins 1899, pp. 75, 101–102), and then *Nesoprosopis* was reduced to a subgenus of *Hylaeus* in 1923 (Meade-Waldo 1923, p. 1). The species was most recently described as *Hylaeus assimulans* by Daly and Magnacca in 2003 (pp. 55–56).

Description

Hylaeus assimulans is distinguished by its large size relative to other coastal *Hylaeus* species and slightly smoky to smoky-colored wings. The male is black with yellow face marks, with an almost entirely yellow clypeus (lower face region) with additional marks on the sides that narrow dorsally (towards the top). The male also has brown appressed (flattened) hairs on the tip of the abdomen. The female is entirely black, large-bodied, and has no distinct punctuation on the abdomen (Daly and Magnacca 2003, p. 56).

Life History

The diet of the larval stage of *Hylaeus assimulans* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the female adult (Xerces 2009b, p. 11). Likewise, the nesting habits of *H. assimulans* are not known, but the species is thought to nest underground, as do other closely related species (Magnacca 2005b, p. 2).

Hylaeus assimulans adults have been observed visiting the flowers of *Lipochaeta lobata* (nehe) and *Sida fallax* (ilima), this species' likely primary host plant (Xerces 2009b, p. 10). *Hylaeus assimulans* appears to be closely associated with plants in the genus *Sida*, and the petitioner suggests this yellow-faced bee species may be more common where this plant is abundant (Daly and Magnacca 2003, pp. 58, 217; Magnacca 2007, p. 183). The petition contains information indicating that in recent collections, *H. assimulans* seems to be more common in dry forest at relatively higher elevations, and is less often found in coastal strand habitat. The petition states that the frequency of *H. assimulans* observations in higher, dry forest may be related to the abundance of *Sida* in the understory (Magnacca 2005b, p. 2). The petitioner also states that it is likely that *H. assimulans* visits several other native plants, including *Acacia koa* (koa), *Metrosideros polymorpha* (ohia), *Styphelia tameiameiae* (pukiawe), and species of *Scaevola* (naupaka) and *Chamaesyce* (akoko), which are frequented by other *Hylaeus* species as well.

Range and Distribution

Historically, *Hylaeus assimulans* was known from numerous coastal strand and lowland dry locations up to 2,000 ft (610 m) in elevation on the islands of Lanai, Maui, and Oahu. Although there are no collections from Molokai, the petition states that *H. assimulans* also occurred there because all other species of *Hylaeus* known from Maui, Lanai, and Oahu also occurred on Molokai (Xerces 2009b, p. 6). Between 1997 and 2008, surveys for Hawaiian *Hylaeus* were conducted in 25 sites on Oahu, Maui, Kahoolawe, Lanai, and Molokai. *Hylaeus assimulans* was absent from six of its historic localities on Oahu, Maui, and Lanai (Xerces 2009b, pp. 6-7). *Hylaeus assimulans* was not observed at 19 other sites with potentially suitable habitat on Oahu, Maui, Lanai, and Molokai, including several sites from which other native *Hylaeus* species have been recently collected (Daly and Magnacca 2003, p. 56; Xerces 2009b, p. 7).

Currently, *Hylaeus assimulans* is found in a few small patches of coastal and lowland dry habitat at two locations on Lanai, two locations on Maui, and one location on Kahoolawe (Daly and Magnacca 2003, p. 58; Magnacca 2005, p. 2). According to the petition, this species has likely been extirpated from Oahu since it was absent from the island's best extant coastal strand habitat at Kaena Point (Kaena Point Natural Area Reserve (NAR)) (Magnacca 2005, p. 2).

Hylaeus facilis

Taxonomy

According to the petitioner, *Hylaeus facilis* is a member of the *H. difficilis* species group, and is closely related to *H. chlorostictus* and *H. simplex*. *Hylaeus facilis* was first described as *Prosopis facilis* by Smith in 1879 (Daly and Magnacca, p. 80), based on a specimen erroneously reported from Maui. According to Blackburn and Cameron (1886 and 1887), the species' type locality was Pauoa Valley on Oahu (Daly and Magnacca 2003, p. 80). The species was later transferred to the genus *Nesoprosopis* (Perkins 1899, pp. 75, 77). *Nesoprosopis* was subsequently reduced to a subgenus of *Hylaeus* (Meade-Waldo 1923, p. 1). The species was most recently recognized by Daly and Magnacca (2003, p. 80) as *Hylaeus facilis*.

Description

Hylaeus facilis is a medium-sized bee with smoky colored wings. The male has an oval yellow mark on its face that covers the entire clypeus (lower face region), and a narrow stripe beside the eyes, but is otherwise unmarked. The large, externally visible gonoforceps (paired lateral outer parts of the male genitalia) distinguish *H. facilis* from the closely related *H. simplex* (Daly and Magnacca 2003, p. 83). The female is entirely black, and indistinguishable from females of *H. difficilis* and *H. simplex* (Daly and Magnacca 2003, pp. 81–82).

Life History

The diet of the larval stage of *Hylaeus facilis* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the adult female. The nesting habits of *H. facilis* have not been observed, but the species is thought to nest underground as do the closely related species *H. chlorostictus* and *H. simplex* (Daly and Magnacca 2003, p. 83; Magnacca 2005c, p. 2).

According to the petition, the native host plants of adult *Hylaeus facilis* are unknown, but it is likely that this species visits several plants that other *Hylaeus* species are known to frequent, including *Acacia koa* (koa), *Metrosideros polymorpha* (ohia), *Styphelia tameiameiae* (pukiawe), *Scaevola* spp. (naupaka), and *Chamaesyce* spp. (akoko). *Hylaeus facilis* has also been observed visiting the nonnative *Tourneforia argentea* (tree heliotrope) for nectar and pollen (Magnacca 2007, p. 181).

Range and Distribution

Hylaeus facilis was historically known from Lanai, Maui, Molokai, and Oahu, in dry shrubland to wet forest, from coastal to montane habitat up to 3,281 ft (1,000 m) in elevation (Gagne and Cuddihy 1999, p. 93; Daly and Magnacca 2003, pp. 81, 83). Perkins (1899, p. 77) remarked that *H. facilis* was among the most common and widespread *Hylaeus* species on Oahu and all of Maui Nui (Lanai, Molokai, and Maui) (Magnacca 2007, p. 183). The petitioner contends that although the species was widely collected within a diverse range of habitats, it probably prefers dry to mesic forest and shrubland (Magnacca 2005c, p. 2), which are increasingly rare and patchily distributed habitats (Smith 1985, pp. 227–233; Juvik and Juvik 1998, p. 124; Wagner *et al.* 1999, pp. 66-67, 75; Magnacca 2005c, p. 2).

The petition states that *Hylaeus facilis* has almost entirely disappeared from most of its historical range (Daly and Magnacca 2003, p. 7; Magnacca 2007, p. 183), and the abundance of specimens in the collections at the Bishop Museum in Honolulu demonstrates the historic prevalence of this species in a diverse array of habitats and elevations (Magnacca 2007, p. 183). Between 1998 and 2006, 39 sites on Oahu, Maui, Lanai, and Molokai were surveyed; *H. facilis* was absent from each of the 13 historical localities that were revisited (Magnacca 2007, p. 183). *Hylaeus facilis* was not observed at 26 other sites with potentially suitable habitat, including many sites from which other native *Hylaeus* species have been recently collected (Daly and Magnacca 2003, pp. 7, 81–82; Magnacca 2007, p. 183).

Currently, *Hylaeus facilis* is only known from three sites, one each on the islands of Maui, Molokai, and Oahu (Daly and Magnacca 2003, pp. 81–82; Magnacca 2005c, p. 2). According to the petitioner, this species is likely extirpated from Lanai (Xerces 2009c, p. 7).

Hylaeus hilaris

Taxonomy

Hylaeus hilaris was first described as *Prosopis hilaris* by Smith in 1879 (Daly and Magnacca 2003, pp. 103–104), transferred to the genus *Nesoprosopis* 20 years later (Perkins 1899, pp. 75), and then *Nesoprosopis* was reduced to a subgenus of *Hylaeus* in 1923 (Meade-Waldo 1923, p. 1). In 2003, Daly and Magnacca described the species as *Hylaeus hilaris* (Daly and Magnacca 2003, pp. 103–104).

Description

Hylaeus hilaris is distinguished by its large size (male wing length is 0.185 inches (in) (4.7 millimeters (mm)) relative to other coastal *Hylaeus* species. The wings of this species are slightly smoky to smoky colored, and it is the most colorful of the Hawaiian *Hyaleus* species. The face of the male is almost entirely yellow, with yellow markings on the legs and thorax, and the metasoma (middle portion of the abdomen) are usually predominantly red. Females are drably colored, with various brownish markings. As with other cleptoparasitic (see "Life History" below) species, *H. hilaris* lacks the specialized pollen-sweeping hairs of the front legs (Daly and Magnacca 2003, pp. 9, 106). It is also one of only two Hawaiian *Hyaleus* species to possess apical (at the end or tip of a structure) bands of fine white hairs on the segments of the metasoma.

Life History

Most adult Hawaiian *Hylaeus* species consume nectar for energy; however, *Hylaeus hilaris* has yet to be observed actually feeding from flowers. *Hylaeus hilaris* and the four species related to it (*H. hostilis, H. inquilina*, *H. sphecodoides*, and *H. volatilis*) are known as cleptoparasites or cuckoo bees. The mated female does not construct a nest or collect pollen, but instead enters the nest of another species and lays an egg in a partially provisioned cell. Upon emerging, the cleptoparasitic larva kills the host egg and consumes the provisions, pupates, and eventually emerges as an adult. As a result of this lifestyle shift, *H. hilaris* bees have lost the pollen-collecting hairs that other species possess on the front legs. Cleptoparasitism is actually quite common among bees: approximately 25 percent of known bee species have evolved to become cleptoparasites. Among the world's bees, other than the Hawaiian *Hylaeus* group, no cleptoparasites are known from the family Colletidae (Daly and Magnacca 2003, p. 9). The larvae of *H. hilaris* and their diet are unknown (Magnacca 2005d, p. 2); however, the species is known to lay its eggs within the nests of *H. anthracinus, H. assimulans*, and *H. longiceps* (Perkins 1913, p. lxxxi). Although the species has never been observed at flowers, *H. hilaris* adults presumably consume nectar as a food source (Xerces 2009 d, p. 9). *Hylaeus hilaris* depends on a number of related *Hylaeus* host species for its parasitic larvae, and its population size is inherently much smaller than its host species (Xerces 2009d, p. 9).

Range and Distribution

Hylaeus hilaris was historically known from coastal strand habitat on the islands of Lanai, Maui, and Molokai. The petitioner states that it is believed to have occurred along much of the coast of these islands since its primary hosts, *H. anthracinus, H. assimulans*, and *H. longiceps*, likely extended throughout this habitat. According to the petition, nearly all of the coastal strand habitat has been either developed or degraded, and is no longer suitable for *H. hilaris* (Liebherr and Polhemus 1997, pp. 346–347; Magnacca 2007, pp. 186–188). *Hylaeus hilaris* was absent from three of its historical population sites revisited by researchers between 1998 and 2006. It was also not observed at 10 additional sites with potentially suitable habitat where other native *Hylaeus* species have been recently collected (Daly and Magnacca 2003, pp. 103, 106).

The petitioner states that this species has been collected only twice in the last 70 years, but acknowledges a gap of about 70 years between major collecting efforts (Xerces 2009d, p. 6). *Hylaeus hilaris* has recently been collected on two occasions; once in 1989 and again in 1999. The species was absent from each of its historical localities that were revisited between 1998 and 2006 (Xerces 2009d, p. 6). Currently, the only known population of *H. hilaris* is located on The Nature Conservancy's Moomomi Preserve on Molokai (Daly and Magnacca 2003, pp. 103, 106; Magnacca 2005d, p. 2). According to the petition, it is no longer extant on Lanai (Xerces 2009d, p. 6).

Hylaeus kuakea

Taxonomy and Description

Hylaeus kuakea was first described by Daly and Magnacca (2003, pp. 1, 125–127) from specimens collected in 1997 in the Waianae Mountains on Oahu. *Hylaeus kuakea* is a small, black bee with slightly smoky colored wings. This species does not fit into any of the well-defined *Hylaeus* species groups. Its facial marks are similar to those of the *H. difficilis* group and to *H. anthracinus*, but it can be distinguished by its unusual ivory facial marking covering the clypeus (the lower face region). *Hylaeus kuakea* also resembles *H. anthracinus,* but has a denser, more distinct arrangement of setae (sensory hairs) on the head and generally narrower marks next to the compound eyes (Daly and Magnacca 2003, p. 125; Magnacca 2005e, p. 2). Only two adult

male specimens have been collected; females have yet to be collected or observed.

Life History

The diet of the larval stage of *Hylaeus kuakea* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the adult female (Xerces 2009e, p. 7). The nesting habits of *H. kuakea* have not been observed, but the species is believed to be related to other wood-nesting Hawaiian *Hylaeus* species (Magnacca and Danforth 2006, p. 403).

According to information in the petition, the native host plants of the adult *Hylaeus kuakea* are unknown, but it is likely that this species visits several plants that other *Hylaeus* species are known to frequent, including *Acacia koa, Metrosideros polymorpha*, *Styphelia tameiameiae, Scaevola* spp., and *Chamaesyce* spp. (Magnacca 2005e, p. 2).

Range and Distribution

Hylaeus kuakea is only known from two collections made in Moho Gulch Ridge, at the northern end of Honouliuli Preserve, at an elevation of about 1,900 ft (579 m) in the Waianae Mountains on Oahu. *Hylaeus kuakea* is found in lowland mesic forest, which is increasingly rare and patchily distributed on Oahu (Smith 1985, pp. 227–233; Juvik and Juvik 1998, p. 124; Wagner *et al*. 1999, pp. 66–67, 75).

According to the petitioner, although there is potentially suitable lowland mesic habitat in Honouliuli Preserve, no other individuals of *Hylaeus kuakea* were found in surveys subsequent to the type collection in 1997 (Magnacca 2007, p. 184). In addition, Perkins did not collect this species in surveys in the Honouliuli Preserve vicinity or in nearby areas in 1899, 1910, and 1911 (Xerces 2009e, p. 6). The petitioner therefore concludes that the extreme rarity of this species, its absence from nearby sites, and the fact that it was not discovered until very recently suggest that very few populations remain (Magnacca 2005e, p. 2).

Hylaeus longiceps

Taxonomy

Hylaeus longiceps was first described in 1899 as *Nesoprosopis longiceps* (Perkins 1899, pp. 75, 98), and then *Nesoprosopis* was reduced to a subgenus of *Hylaeus* in 1923 (Meade-Waldo 1923, p. 1). Daly and Magnacca (2003, pp. 133–134) most recently described the species as *Hylaeus longiceps.*

Description

Hylaeus longiceps is a small to medium-sized, black bee with clear to slightly smoky colored wings. Its distinguishing characteristics are its long head and the facial marks of the male. The lower face of the male is marked with a yellow band that extends at the sides of the face in a broad stripe above the antennal sockets. The area above the clypeus (lower face region) is very long and narrow, and the scape (the first antennal segment) is noticeably twice as long as it is wide. The female is entirely black and unmarked (Daly and Magnacca 2003, p. 133).

Life History

The diet of the larval stage of *Hylaeus longiceps* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the female adult (Xerces 2009a, p. 15). The nesting habits of *H. longiceps* are unknown, but the species is thought to nest underground, as in other closely related species (Magnacca 2005f, p. 2).

Hylaeus longiceps adults have been observed visiting the flowers of a wide variety of plants, including *Scaevola coriacea* (dwarf naupaka)*, Sida fallax, Scaevola* spp. (naupaka kahakai), *Sesbania tomentosa* (ohai), *Myoposum sandwicense* (naio), *Santalum ellipticum* (iliahialoe, coast sandalwood)*, Chamaesyce degeneri (*akoko), and *Vitex rotundifolia* (pohinahina) (Xerces 2009a, p. 14). The petitioner reports that it is likely that *H. longiceps* visits several plant species that other *Hylaeus* species are known to frequently visit, including *Scaevola* spp., *Chamaesyce* spp., *Tournefortia argentea, Jacquemontia ovata* (pau o hiiaka), and *Sida fallax* (Magnacca 2005f, p. 2).

Range and Distribution

Hylaeus longiceps is historically known from numerous coastal strand and lowland dry shrubland locations up to 2,000 ft (610 m) in elevation on the islands of Lanai, Maui, Molokai, and Oahu. The species is primarily known from coastal habitat, but is infrequently collected in dry shrubland. *Hylaeus longiceps* is rarely observed in higher elevation dry forests. Perkins (1899, p. 98) noted that *H. longiceps* was locally abundant, and probably occurred historically throughout much of the leeward and lowland areas on Maui Nui (Maui, Molokai, Lanai, and Kahoolawe) and Oahu, since its host plants, *Sida fallax, Chamaesyce* spp., *Scaevola* spp., and *Jaquemontia ovata*, occurred throughout these areas (Magnacca 2005f, p. 2). The petitioner states that most of the habitat in these areas has been either developed or degraded and is no longer suitable for *H. longiceps* (Liebherr and Polhemus 1997, pp. 346–347; Magnacca 2007, pp. 186–188).

Hylaeus longiceps is now restricted to small populations in small patches of coastal and lowland habitat on Lanai, Maui, Molokai, and Oahu (Magnacca 2005f, p. 2). Twenty-five sites that were either historic collecting localities for *H. longiceps* or contained potentially suitable habitat for this species were surveyed between 1997 and 2008. *Hylaeus longiceps* was observed at only six of the surveyed sites: three sites on Lanai, one site on Maui, one site on Molokai, and one site on Oahu. Only one historic location, Waieu Dune on Maui, still supports a population of *H. longiceps* (Daly and Magnacca 2003, p. 135).

Hylaeus mana

Taxonomy and Description

Hylaeus mana was first described by Daly and Magnacca (2003, pp. 135–136) from four specimens collected in 2002 on the leeward side of the Koolau Mountains on Oahu. This species is an extremely small, gracile (gracefully slender) black bee with yellow markings on the face. The smallest of all Hawaiian *Hylaeus* species, *H. mana* is a member of the *dumetorum* species group. The face of the male is largely yellow below the antennae, extending dorsally in a narrowing stripe. The female's face has three yellow lines, one against each eye, and a transverse stripe at the apex of the clypeus (lower face region). The female's other markings are the same as the male's (Daly and Magnacca 2003, p. 135). *Hylaeus mana* can be distinguished from *H. mimicus* and *H. specularis*, with whom its range overlaps, by its extremely small size, the shape of the male's genitalia, the female's extensive facial marks, and a transverse rather than longitudinal clypeal marking (Daly and Magnacca 2003, p. 138).

Life History

The diet of the larval stage of *Hylaeus mana* is unknown, although the larvae are presumed to feed on stores of pollen and nectar collected and deposited in the nest by the adult female (Xerces 2009e, p. 7). The nesting habits of *H. mana* are not well known, but it is assumed the species is closely related to other wood-nesting Hawaiian *Hylaeus* species (Magnacca and Danforth 2006, p. 403).

Adult specimens of *Hylaeus mana* were collected while they visited

flowers of *Santalum freycinetianum* var. *freycinetianum* (iliahi, sandalwood), a native Hawaiian plant found only on Oahu and Molokai (Wagner *et al.* 1999, p. 1221). The petitioner asserts that it is likely that *H. mana* visits several other native plant species, including *Acacia koa, Metrosideros polymorpha, Styphelia tameiameiae, Scaevola* spp., and *Chamaesyce* spp. (Magnacca 2005g, p. 2).

Range and Distribution

Hylaeus mana is only known from lowland mesic forest located along the Manana Trail in the Koolau Mountains on Oahu, at an elevation of about 1,400 ft (427 m). Few *Hylaeus* bees have been found in this type of koa-dominated, lowland mesic forest on Oahu (Daly and Magnacca 2003, p. 138). This type of forest is increasingly rare and patchily distributed on Oahu (Smith 1985, pp. 227–233; Juvik and Juvik 1998, p. 124; Wagner *et al.* 1999, pp. 66–67, 75).

According to the petition, because the first collection of *Hylaeus mana* was made in 2002, the historic range and current distribution, other than the collection on Manana Trail, are unknown at this time (Magnacca 2005g, p. 2). This species was not found in surveys of potentially suitable habitat in the same general area by Perkins in 1899, 1910, and 1911 (Xerces 2009e, p. 6). The petitioner therefore concludes that the extreme rarity of this species, its absence from nearby sites, and the fact that it was not discovered until very recently suggest that very few populations remain (Magnacca 2005g, p. 2).

We accept the characterization of the seven species of Hawaiian yellow-faced bees (*Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*) as described in the information provided by the petitioner.

Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533), and its implementing regulations at 50 CFR 424, set forth procedures for adding species to the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. In making this 90–day finding, we evaluated whether information on threats to the seven Hawaiian *Hylaeus* bee species presented in the petitions and available in our files at the time of the review of the petitions constitute substantial scientific or commercial information such that listing the species may be warranted. Our evaluation of this information is discussed below. Unless clearly stated that the information is from our files, all threats described below and their effects on the seven Hawaiian *Hylaeus* bee species are based on information submitted in the petitions. Any references provided in support of particular statements related to potential threats are the petitioner's references, unless specifically identified otherwise.

A. Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range

According to the petitions, degradation and loss of coastal and lowland habitat used by *Hylaeus* bees on all of the main Hawaiian Islands is the primary threat to these seven species (Cuddihy and Stone 1990, pp. 60–61; Daly and Magnacca 2003, pp. 55, 173). Coastal and lowland habitats have been severely altered and degraded, partly because of past and present land management practices, including agriculture, grazing, and urban development; the deliberate and accidental introductions of nonnative animals and plants; and recreational activities. In addition, the petitions present information indicating that fire is a potential threat to the habitat of these seven species in some locations.

Habitat Destruction and Modification by Urbanization and Land Use Conversion

Increased access to coastal areas, and resulting habitat disturbance, has been facilitated by coastal development and roadbuilding (Cuddihy and Stone 1990, pp. 94–95). As described in the petitions, five species (*Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, and *H. longiceps*) were once widespread and common in coastal strand habitat (Perkins 1912, p. 688). These five *Hylaeus* species are now absent from all of Perkins' coastal collection localities. *Hylaeus facilis* has recently been collected in coastal habitat at Kuololimu Point, and *H. hilaris* has recently been collected in coastal habitat at Moomomi Preserve, Molokai (Xerces 2009c, p. 9).

The petitioner states that lowland dry forests and shrublands have been heavily impacted by urbanization and conversion to agriculture or pasture throughout the Hawaiian Islands, with the estimated loss of more than 90 percent of dry forests and shrublands (Bruegmann 1996, p. 26; Juvik and Juvik 1998, p. 124). Four species (*Hylaeus anthracinus, H. assimulans, H. facilis,* and *H. longiceps*) were once widespread and found within lowland dry habitat on several islands, including Hawaii, Lanai, Maui, Molokai, and Oahu, but are largely absent from their historical population sites on these islands.

Mesic forest, once abundant and considered the most diverse of all Hawaiian forest types (Rock 1913, p. 9), is now very rare, with much of it converted to pasture, or military or agricultural use, or lost to urbanization (Cuddihy and Stone 1990, p. 61; Magnacca 2007, p. 187). Fire has also negatively impacted this habitat type, as is discussed below. *Hylaeus facilis* was historically the most wide ranging of the seven bee species in terms of the variety of habitats from which it was recorded, which included mesic forest on Lanai, Maui, Molokai, and Oahu. This species is now restricted to single locations on the islands of Molokai and Oahu.

The petitioner identified the loss of coastal, dry lowland, and montane wet forest habitat on Oahu, Lanai, Maui, and Molokai as a contributing factor to the decline of *H. facilis*, but acknowledges that "although recorded from several sites currently considered to be wet forest, it is possible that *H. facilis* would not normally inhabit this [habitat] in a natural state." The petitioner attributes the current observation of this species at sites now known to be wetter than they were during the early Perkins' collecting period to the more open understory vegetation (Perkins 1899, p. 76). It is conceivable that the loss of mesic forest habitat used by *H. kuakea* is due to urbanization and land use conversion, although the petitioner presents no information in this regard, nor do we have information in our files regarding the historical locations of these two species, both of which were only recently collected (*H. kuakea* in 1997; *H. mana* in 2002).

Habitat Destruction and Modification by Nonnative Plants

The petitioner states that the spread of nonnative plant species is one of the primary causes of decline, and a current threat to the existing populations of each of the seven *Hylaeus* bee species, because they depend closely on native vegetation for nectar and pollen, and the bees are almost entirely absent from habitat dominated by invasive, nonnative vegetation (Sakai *et al.* 2002, pp. 276, 291; Daly and Magnacca 2003, p. 11; Liebherr 2005, p. 186). According to information available in our files and

presented by the petitioner, the native flora within a majority of lowland habitat on the Hawaiian Islands below 1,969 ft (600 m) is being replaced by aggressive, nonnative plant species (Cuddihy and Stone 1990, pp. 73–74; Wagner *et al.* 1999, p. 52). The petitioner states that many native plant species that are replaced by nonnative plants were once foraging resources for numerous *Hylaeus* species (Cox and Elmqvist 2000, p. 1238; Daly and Magnacca 2003, p. 11; USFWS 1999, pp. 145, 163, 171, 180; USFWS 2008, pp. 7, 9). Six of the seven *Hylaeus* bee species (*Hylaeus anthracinus, H. assimulans, H. facilis, H. kuakea, H. longiceps*, and *H. mana*) are most often found in dry and mesic forest and shrubland habitat (Daly and Magnacca 2003, p. 11), and the greatest proportion of endangered or at-risk Hawaiian plant species are also limited to these same habitats; 25 percent of Hawaiian listed plant species are from dry forest and shrubland alone (Sakai *et al.* 2002, pp. 276, 291, 292). The petitioner asserts that lowland dry and mesic forests now support less-diverse *Hylaeus* communities because many native plants used for foraging are extirpated from these habitats (Magnacca 2007, pp. 186–187).

The petitioner states that besides *Scaevola sericea* (naupaka kahakai), native vegetation is lacking along most of the coastline of the major Hawaiian Islands, and that *Hylaeus* bees cannot survive on this plant alone (Magnacca 2007, p. 187). The petitioner also states that native coastal vegetation in many areas, such as Moomomi Preserve on Molokai, which currently is the only known location for *Hylaeus hilaris*, is threatened by *Prosopis pallida* (kiawe), an invasive, nonnative, deciduous thorny tree (Xerces 2009a, p. 25; 2009b, p. 17; 2009c, p. 21; 2009d, p. 11).

According to the petitions, many of the native plants that serve as foraging resources for the adults of the seven *Hylaeus* bee species are declining due to a lack of pollinators (Daly and Magnacca 2003, p. 11; USFWS 2008, pp. 7, 9) and are found only in very small populations (USFWS 1999, pp. 145, 163, 171, 180; Cox and Elmqvist 2000, p. 1238). The petitioner points out, for example, that *H. longiceps* and *H. anthracinus* are known to forage on the federally endangered plant *Sesbania tomentosa* (ohai). Both *H. longiceps* and *H. anthracinus* also visit *Chamaesyce celastroides* var. *kaenana* (akoko), a federally endangered plant endemic to coastal dry shrubland on Oahu (Daly and Magnacca 2003, pp. 55, 74). *Hylaeus longiceps* is also known to forage on the endangered *Scaevola coriacea* (dwarf naupaka) (USFWS 1999, p. 145; Daly and Magnacca 2003, pp. 55, 135). In addition, *H. anthracinus* has been collected from inside the fruit capsule of *Kadua coriacea* (kioele), a federally endangered dry forest plant, known from fewer than 300 individuals on the island of Hawaii (USFWS 2008, p. 5; Christian Torres, USFWS, pers. comm. 2009).

Habitat Destruction and Modification by Nonnative Ungulates

The petitioner claims that the decline of native plant communities has likely had a negative impact on Hawaii's *Hylaeus* bee species (Cuddihy and Stone 1990, pp. 59–66, 88–94, 73–76; USFWS 2006, p. 2684). The presence of nonnative mammals, such as feral pigs (*Sus scrofa*), cattle (*Bos taurus*), goats (*Capra hircus*), and axis deer (*Axis axis*), is considered one of the primary factors underlying the alteration and degradation of native vegetation and habitat in the Hawaiian Islands (Stone 1985, pp. 262–263; Cuddihy and Stone 1990, pp. 60–66; 73 FR 73801). Beyond the direct effects of trampling and consuming native plants, nonnative ungulates contribute significantly to increased erosion, and their behavior (i.e., rooting, moving across large expanses) facilitates the spread and establishment of competing, invasive, nonnative plant species (Xerces 2009a, p. 26; 2009b, p. 18; 2009c, pp. 21–22, 2009d, pp. 12–13, 2009e, p. 10). Several endangered coastal and lowland plant species that are threatened by the browsing, trampling, and digging activities of nonnative ungulates are confirmed foraging sources for *Hylaeus* species and, therefore, are likely foraging sources for these seven *Hylaeus* species (USFWS 1999, pp. 145, 163, 171, 180; Daly and Magnacca 2003, pp. 11, 13).

Habitat Destruction and Modification by Fire

The petitions state that fire can dramatically alter the species composition of plant communities in coastal and lowland habitats (Hughes *et al.* 1991, p. 743; Blackmore and Vitousek 2000, p. 625), and thus potentially impact *Hylaeus* populations. The petitioner also suggests that ordnance-induced fires on the Army's Pohakuloa Training Area on the island of Hawaii may threaten the dry forest habitat of *Hylaeus anthracinus*. Fires were uncommon in the Hawaiian Islands until the arrival of humans about 2,000 years ago (Smith and Tunison 1992, pp. 394–395). Native habitat in the Hawaiian Islands has been increasingly colonized by fire-adapted invasive plant species that take the place of, and permanently replace, native plant species (Cuddihy and Stone, pp. 88–94; Smith and Tunison 1992, pp. 394–395; D'Antonio *et al.* 2000, pp. 73–74). This process has been facilitated by nonnative ungulates, which alter the floral composition of native habitats, making conditions more conducive to fire. This impact occurs because of the browsing and trampling of native vegetation, and the spreading of seeds of nonnative, fire-adapted plant species such as *Melinis minutiflora* (molasses grass) and *Schizachyrium condensatum* (tufted beardgrass) (D'Antonio *et al.* 2000, pp. 73–74).

Habitat Destruction and Modification by Recreational Activities

The petitions state that some of the best habitat areas for *Hylaeus* species are also popular recreational sites, particularly those areas located within coastal strand habitat (Xerces 2009a, p. 27; 2009c, p. 22). Human impacts at recreational sites may include removal or trampling of vegetation on or near trails and the compaction of vegetation by off-road vehicles (Xerces 2009a, p. 27; 2009c, p. 22). In particular, the petitioner claims that *Hylaeus facilis* habitat may be threatened by recreational activities, such as hunting and hiking on the Poamoho Trail on Oahu (Hawaii Department of Land and Natural Resources 2000, p. 15; Xerces 2009c, p. 22). According to the petitions, some of the best remaining habitat for *H. anthracinus* and *H. longiceps* includes Kaena Point (on Oahu), Kona Coast State Park, Makalawena, Mokuauia, and South Point (on the island of Hawaii), areas that are popular recreational sites with largely unregulated access (Xerces 2009a, p. 27).

Habitat Destruction and Modification by Climate Change

The petitioner asserts that a changing climate may cause shifts in the range of *Hylaeus* host plant species, which can be especially detrimental to dependent pollinators like these seven species when combined with habitat loss (National Research Council 2007, p. 102). Most bees have difficulty crossing large geographical barriers (Michener 2000, p. 103), and successive generations of solitary species like *Hylaeus* tend to nest in the same area year after year. The petitioner points out that the seven *Hylaeus* bee species are restricted to habitat patches where native host plant species are present, and argues that they are not likely to disperse far to find new habitat (Xerces 2009a, p. 30; 2009b, p. 21; 2009c, p. 25; 2009d, p. 14; 2009e, p. 13). Thus, the

ecology of these seven species, combined with the patchy distribution of their remaining habitat, may hinder their dispersal if relocation becomes necessary due to climate-influenced changes in distribution of host plant species (Magnacca 2007, pp. 173, 181–183, 188) and cause the extirpation of remaining populations of *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*.

The petitioner states that climate change may also have a deleterious effect upon the seven *Hylaeus* bee species due to climate-induced changes in rainfall patterns, since these species prefer relatively dry habitats, some of which lack groundwater sources. The petitioner presents a concern that a predicted rise in sea level in the Hawaiian Islands (Baker *et al.* 2006, p. 1) might threaten coastal strand populations of the seven *Hylaeus* bee species. The petitions cite one study that predicted that sea level rise in the Northwestern Hawaiian Islands will cause a median projected loss of land of 3 to 65 percent with a 19-in (48-cm) sea level rise, and a maximum projected loss of land of 5 to 75 percent with a 35-in (88-cm) sea level rise (Baker *et al.* 2006, p. 1). Although none of the seven *Hylaeus* bees occurs on the Northwestern Hawaiian Islands, the petitioner concludes that sea level rise will also impact the populations of the five species of Hawaiian yellow-faced bees (*Hylaeus anthracinus, H. assimulans, H. facilis, H. hilaris*, and *H. longiceps*) inhabiting coastal sites on the main Hawaiian Islands.

Summary of Factor A

In summary, we find that the information provided in the petitions presents substantial scientific or commercial information indicating that the petitioned actions may be warranted due to the present or threatened destruction, modification, or curtailment of the species' habitat or range. The petitioner has provided no information, and we have no information in our files to substantiate the claim that there will be climate-induced changes in rainfall patterns in the areas where the seven species occur, or that relatively dry habitats will be negatively impacted. The petitions did identify numerous potential factors that may be affecting *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*, including habitat loss and degradation due to urbanization and land conversion; replacement of native host plants by nonnative plants caused by the browsing, trampling, and rooting activities of nonnative ungulates, which facilitates the establishment of nonnative plants in disturbed areas; conversion by fire of native plant communities to plant communities dominated by nonnative, fire-adapted plants; and the removal or trampling of native vegetation by people and compaction of native vegetation by off-road vehicles in popular recreational areas, particularly in coastal strand habitat. Information in our files also indicates these factors may present a threat to the seven species of *Hylaeus*. We, therefore, conclude the petitions present substantial information to indicate that the present or threatened destruction or modification of habitat may present a threat to *H. anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana*.

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

According to the petitioner, *Hylaeus facilis, H. hilaris*, *H. kuakea*, and *H. mana*, each with two or fewer known populations, are especially vulnerable to overcollection because the collection of even a few individuals could significantly reduce the production of offspring (Xerces 2009c, p. 23; 2009d, p. 13; 2009e, p. 11). However, the petitions also acknowledge that because of the high fecundity of individual insects, the collection of insects does not pose a threat to their populations (Xerces 2009c, p. 23; 2009d, p. 11; 2009e, p. 11), which introduces an element of uncertainty concerning this claim.

Insect collecting is a valuable component of research, including taxonomic work, and is often necessary for documenting the existence of populations and population trends. The petitioner has not presented information with which we can evaluate whether the overcollection of *Hylaeus facilis, H. hilaris*, *H. kuakea*, or *H. mana* may present a threat to any of these species, or determine whether this activity has resulted in population declines. In this regard, neither the petitions, nor information available in our files, presents information that would indicate overcollection may present a significant threat to *H. anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, or *H. mana*.

C. Disease or predation

Neither the petitions nor information in our files presents information that would indicate disease is a current threat to *Hylaeus anthracinus, H. assimulans, H. facilis, H. hilaris, H. kuakea, H. longiceps*, or *H. mana*.

Predation by Nonnative Ants

Ants are known to prey upon *Hylaeus* species (Medeiros *et al.* 1986, pp. 45–46; Reimer 1994, p. 17), thereby directly eliminating them from specific areas. The petitions state that ants are not a natural component of Hawaii's arthropod fauna, and the native species of the islands evolved in the absence of predation pressure from ants. They also state that ants can be particularly destructive predators because of their high densities, recruitment behavior, aggressiveness, and broad range of diet (Reimer 1993, pp. 17–18). The petitions also state that the threat of ant predation on the seven *Hylaeus* bee species is amplified by the fact that most ant species have winged reproductive adults (Borror *et al.* 1989, p. 738) and can quickly establish new colonies in suitable habitats (Staples and Cowie 2001, p. 55). In addition, the petitions state that these attributes allow some ants to destroy otherwise geographically isolated populations of native arthropods (Nafus 1993, pp. 19, 22–23).

According to the petitions, at least 47 species of ants are known to be established in the Hawaiian Islands (Hawaii Ants 2008, pp. 1–11). Native insect fauna, likely including *Hylaeus* bees (Zimmerman 1948, p. 173; Reimer *et al.* 1990, pp. 40–43; HEAR database 2005, pp. 1–2), have been severely impacted by at least four particularly aggressive ant species: The big-headed ant (*Pheidole megacephala*), the long-legged ant (also known as the yellow crazy ant) (*Anoplolepis gracilipes*), *Solenopsis papuana* (no common name), and *Solenopsis geminata* (no common name). The petitions state that numerous other species of ants are recognized as threats to Hawaii's native invertebrates, and an unknown number of new species of ants are established every few years (Staples and Cowie 2001, p. 53). The petitions state that due to their preference for drier habitat sites, ants are more likely to occur in high densities in the dry and mesic habitat currently occupied by the seven bees (Xerces 2009a, p. 28; 2009b, p. 19; 2009c, p. 24; 2009d, pp. 13–14; 2009e, pp. 11–12).

The petitions state that the long-legged ant appeared in Hawaii in 1952; now occurs on Kauai, Oahu, Maui, and Hawaii (Reimer *et al.* 1990, p. 42); and inhabits low-to-mid-elevation (less than 2,000-ft (600-m)) rocky areas of moderate rainfall (less than 100 in (250 cm) annually) (Reimer *et al.* 1990, p. 42). The petitioner also states that direct observations indicate that Hawaiian arthropods are susceptible to predation by this species; Gillespie and Reimer

(1993, p. 21) and Hardy (1979, p. 34) documented the impacts to native insects within the Kipahulu area on Maui after this area was invaded by the long-legged ant. The petitioner concludes that although only cursory observations exist, long-legged ants are thought to be a threat to populations of the seven *Hylaeus* bees within dry to mesic areas within their elevation range (Reimer *et al.* 1990, p. 42).

Solenopsis papuana is the only abundant, aggressive ant that has invaded intact mesic to wet forest from sea level to over 2,000 ft (600 m) on all of the main Hawaiian Islands, and is still expanding its range (Reimer 1993, p. 14). The petitions state that because of this species' expanding range, it may threaten populations of *Hylaeus facilis* in mesic areas up to 2,000 ft (600 m) in elevation (Reimer 1993, p. 14).

The petitions state that the presence of ants in nearly all of the low-elevation habitat sites historically and currently occupied by the seven *Hylaeus* bee species may increase the uncertainty of *Hylaeus* recovery within these areas. *Hylaeus* populations are known to be drastically reduced in ant-infested areas (Medeiros *et al.* 1986, pp. 45–46; Stone and Loope 1987, p. 251; Cole *et al.* 1992, pp. 1313, 1317, 1320; Reimer 1994, p. 17). Although ant species' primary impact on the native invertebrate fauna is via predation (Reimer 1994, p. 17), they also compete for nectar (Howarth 1985, p. 155; Hopper *et al.* 1996, p. 9; Holway *et al.* 2002, pp. 188, 209; Daly and Magnacca 2003, p. 9; Lach 2008, p. 155) and nest sites (Krushelnycky *et al.* 2005, pp. 6–7). Some ant species may impact *Hylaeus* species indirectly as well, by predating on seeds of native plants (Bond and Slingsby 1984, p. 1031). The petitioner suggests that the greatest ecosystem-level effect of invasive ants has been on pollination. Additionally, where ranges overlap, ants compete with native pollinators such as *Hylaeus* species and preclude them from pollinating native plants. For example, the big-headed ant is known to actively rob nectar from flowers without pollinating them (Howarth 1985, p. 157). Lach (2008, p. 155) found that *Hylaeus* species that regularly collect pollen from flowers of *Metrosideros polymorpha* were entirely absent from trees that had their flowers exposed to big-headed ant foraging.

The *Hylaeus* egg, larvae, and pupal stages are more vulnerable to attack by ants than the mobile adult bee (Daly and Magnacca 2003, p. 10). Invasive ants have severely impacted ground-nesting *Hylaeus* species in particular (Cole *et al.* 1992, pp. 1317, 1320; Medeiros *et al.* 1986, pp. 45–46), because their nests are easily accessible, and in or near the ground. Since *Hylaeus anthracinus, H. facilis, H. hilaris*, and *H. longiceps* are related to other ground-nesting *Hylaeus* species, they may also be susceptible to ant predation (Magnacca 2005g, p. 2).

The rarity or disappearance of native *Hylaeus* species, including the seven petitioned Hawaiian yellow-faced bee species, from historically documented localities over the past 100 years is likely due to a variety of factors. There is no information that conclusively correlates the decrease in *Hylaeus* observations with the establishment of nonnative ants in low-to-montane and dry-to-wet habitats on the Hawaiian Islands; however, their collective presence suggests that nonnative ants may have played a role in the decline of some populations of the seven *Hylaeus* bee species evaluated in this finding.

Predation by Nonnative Western Yellowjacket Wasps

The petitioner suggests that *Vespula pensylvanica* (the western yellowjacket wasp) is a potentially serious threat to the seven *Hylaeus* bees. This assertion is supported by literature available in our files (Gambino *et al.* 1987, p. 170; Wilson *et al.* 2009, pp. 1–5). The western yellowjacket wasp is a social wasp species native to the mainland of North America. It was first reported from Oahu in the 1930s (Sherley 2000, p. 121), and an aggressive race became established in 1977 (Gambino *et al.* 1987, p. 170). In temperate climates, the western yellowjacket wasp has an annual life cycle, but in Hawaii's tropical climate, colonies of this species persist through a second year, allowing them to have larger numbers of individuals (Gambino *et al.* 1987, p. 170) and thus a greater impact on prey populations. Most colonies are found between 1,969 and 3,445 ft (600 and 1,050 m) in elevation (Gambino *et al.* 1990, p. 1,088), although they can also occur at sea level. The western yellowjacket wasp is known to be an aggressive, generalist predator (Gambino *et al.* 1987, p. 170), and has been documented preying upon Hawaiian *Hylaeus* species (Wilson *et al.* 2009, p. 2). The petitioner argues that predation by the western yellowjacket wasp is a potentially significant threat to *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana* because of their small population sizes. This may present a particular threat to *H. facilis, H. hilaris*, *H. kuakea*, and *H. mana* because each species has two or fewer populations. The petitions also suggest that the western yellowjacket wasp may compete for nectar with *Hylaeus* species, but the petitions provide no information indicating that competition for nectar is a threat.

Predation by Nonnative Parasitoid Wasps

The petitions state that native and nonnative parasitoid wasps parasitize some Oahu *Hylaeus* species and may pose a threat to *H. kuakea* and *H. mana* (Xerces 2009e, p. 12). The petitions also state that *Hylaeus* larvae are known to be attacked by parasitoid wasps within the Encyrtidae and Eupelmidae families, although it is unconfirmed whether parasitoid wasps utilize *H. kuakea* and *H. mana* as nutritional hosts for their larvae (Xerces 2009e, p. 12). However, the petitions did not provide any evidence, and we have nothing in our files, to support these claims.

Summary of Factor C

Overall, the petitions provided substantial scientific or commercial information indicating that the petitioned actions may be warranted due to disease or predation. Neither the petitions, nor information available in our files, present data that would indicate that predation by parasitoid wasps presents a threat to any of the *Hylaeus* species addressed in this finding. Although the petitions suggest that the western yellowjacket wasp may compete for nectar with *Hylaeus* species, no information was presented that would allow us to evaluate whether this presents a significant threat to any of the petitioned species. However, observations and reports have documented that ants are particularly destructive predators because of their high densities, broad range of diet, and ability to establish new colonies in otherwise geographically isolated locations, because the reproductive adults are able to fly (Xerces 2009a, pp. 27–28; 2009b, pp. 19–20; 2009c, p. 23; 2009d, pp. 13–14, 2009e, p. 11). In addition, the western yellowjacket wasp has been documented to prey upon Hawaiian *Hylaeus* species (Xerces 2009a, p. 29; 2009b, p 20; 2009c, p. 24; 2009d, pp. 14–15, 2009e, pp. 12–13). Accordingly, we conclude the petitions present substantial information indicating that *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana* may be threatened because of predation by nonnative ants and the nonnative western yellowjacket wasp.

D. The Inadequacy of Existing Regulatory Mechanisms

The petitioner stated that there are no existing Federal, State, or local laws,

treaties, or regulations that specifically conserve or protect habitat for the seven *Hylaeus* bee species. The petitioner does acknowledge that some historic and current collection localities are protected from development by Federal or State agencies; one of two known populations of *H. facilis* occurs at Kalaupapa National Historical Park on Molokai, and three species (*H. anthracinus, H. hilaris,* and *H. longiceps*) occur at the State's Kaena Point Natural Area Reserve (NAR) on Oahu, Kanaio NAR on Maui, or The Nature Conservancy's Moomomi Preserve on Molokai. The petitioner asserts that conservation of the seven *Hylaeus* bees will likely require active management of their known population sites, involving exclusion and removal of feral ungulates, control and removal of nonnative plant and insect species, and the restoration of native vegetation (Magnacca 2007, p. 185). The petitions state that existing regulatory mechanisms are inadequate to provide the necessary active management needed to protect the seven *Hylaeus* species (Xerces 2000a, p. 29; 2000b, p. 20; 2000c, p 24; 2000d, p. 15, 2000e, p. 13). However, there was no specific information provided in the petitions about existing regulatory mechanisms that could protect these species. We are also not aware of any regulatory mechanisms that address the seven *Hylaeus* species.

The petitioners claim that there are no protections provided by existing State or Federal regulations to effectively address potential threats to the seven species of Hawaiian yellow-faced bees (Xerces 2000a, p. 29; 2000b, p. 20; 2000c, p 24; 2000d, p. 15; 2000e, p. 13). However, the petitioners did not provide any additional information about existing regulatory mechanisms that could protect these species, and we have nothing in our files that describes any regulatory mechanisms that address the seven *Hylaeus* species. While information presented by the petitioner indicates that threats to the petitioned species may be posed by habitat destruction and degradation by nonnative ungulates and nonnative plants and through predation by nonnative insects, none of these threats are posed by an inadequacy of regulatory mechanisms. We, therefore, find that the petitions do not present substantial information indicating that the inadequacy of existing regulatory mechanisms may present a threat to *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, or *H. mana*. However, we will further evaluate the adequacy of existing regulatory mechanisms for protecting the seven species of Hawaiian yellow-faced bees and their habitats during our status review.

E. Other Natural or Manmade Factors Affecting the Species' Continued Existence

Small Number of Populations and Individuals

Species that are endemic to single islands or known from few, widely dispersed locations are inherently more vulnerable to extinction than widespread species because of the higher risks from genetic bottlenecks, random demographic fluctuations, climate change, and localized catastrophes such as hurricanes, landslides, and drought (Lande 1988, p. 1455; Mangel and Tier 1994, p. 607; Pimm *et al.* 1988, p. 757). These problems can be further magnified when populations are few and restricted to a limited geographic area, and the number of individuals is very small. Populations with these characteristics face an increased likelihood of stochastic extinction due to changes in demography, the environment, genetics, or other factors, in a process described as an extinction vortex (Gilpin and Soulé 1986, pp. 24–25). Small, isolated populations often exhibit a reduced level of genetic variability or genetic depression due to inbreeding, which diminishes the species' capacity to adapt and respond to environmental changes, thereby lessening the probability of long-term persistence (Frankham 2003, pp. S22–S29; Soulé 1986, pp. 31–34). The negative impacts associated with small population size and vulnerability to random demographic fluctuations or natural catastrophes can be further magnified by synergistic interactions with other threats.

The petitioner states that all of the petitioned *Hylaeus* bee species are rare, have very small populations, and are likely more vulnerable to habitat change and stochastic events due to low genetic variability (Daly and Magnacca 2003, p. 3; Magnacca 2007, p. 173, Petition p. 13). Literature cited by the petitioner states that about three-quarters of the species described from the Hawaiian Islands by Perkins (1899, 1910, 1911) have been collected recently. Some are still as rare or as abundant as he observed, yet others, formerly abundant, have not been collected recently (Daly and Magnacca 2003, p. 3). Five species have not been collected recently from one or more islands from which they are historically known, 7 are restricted to endangered habitat, 10 are considered to be very rare and potentially endangered, and 10 have not been collected recently and could be extinct (Magnacca 2007, p. 3). The petitioner asserts that *Hylaeus facilis, H. hilaris*, *H. kuakea*, and *H. mana* have not been recently observed at some historical collection sites, and that each of these species now has two or fewer known populations, which could increase the risk of extinction due to stochastic events such as hurricanes, landslides, large wildfires, or prolonged drought (Jones *et al.* 1984, p. 209; Smith and Tunison 1992, p. 398; Petition p. 13). Since *H. hilaris* is cleptoparasitic and restricted to one known remaining population, it is at particularly high risk of extinction because of the rarity of its hosts and the fact that it is the most habitat-specific of all Hawaiian bees (Daly and Magnacca 2003). The recurrence intervals for stochastic events of this nature have not been explicitly defined, which introduces some uncertainty regarding potential effects to the petitioned species. The fact that a species is potentially vulnerable to stochastic processes does not necessarily mean that it is reasonably likely to experience, or have its status affected by, a given stochastic process within timescales that are meaningful under the Act.

While we recognize the inherent species risks of small population size and small numbers of individuals, we currently lack information needed to assess this potential threat to the status of the petitioned species. We will investigate issues related to *Hylaeus* population size and species susceptibility to catastrophic stochastic events during the status review in order to better address this concern in the 12–month finding.

Competition with Nonnative Insects

There are 15 known species of nonnative bees in Hawaii (Snelling 2003, p. 342), including two nonnative *Hylaeus* species (Magnacca 2007, p. 188). According to the petitioner, most nonnative bees inhabit areas dominated by nonnative vegetation and do not compete with native Hawaiian bees (Daly and Magnacca 2003, p. 13). The European honey bee (*Apis mellifera*) is an exception; this social species is often very abundant in areas with native vegetation and aggressively competes with *Hylaeus* for nectar and pollen (Hopper *et al.* 1996, p. 9; Daly and Magnacca 2003, p. 13; Snelling 2003, p. 345). The European honey bee was first introduced to the Hawaiian Islands in 1875, and currently inhabits areas from sea level to tree line (Howarth 1985, p. 156). The petitioner reports that European honey bees have been

observed foraging on *Hylaeus* host plants such as *Scaevola* spp. and *Sesbania tomentosa.* However, the petitioner does not present information indicating that Hawaiian *Hylaeus* populations have declined because of competition with European honey bees for nectar and pollen (Magnacca 2007, p. 188). The petitioner asserts that populations of the European honey bee are not as vulnerable to predation by nonnative ant species as are *Hylaeus* bees (see Factor C above). The petitioner refers to a study by Lach (2008, p. 155), who observed that although *Hylaeus* bees that regularly collect pollen from the flowers of *Metrosideros polymorpha* trees were entirely absent from trees whose flowers had been visited by the big-headed ant, visits by the European honey bee were not affected by big-headed ant presence.

As described by the petitioner, other nonnative bees found in areas of native vegetation include *Ceratina* species (carpenter bees), *Hylaeus albonitens* (Australian colletid bees), and *Lasioglossum impavidum* (no common name) (Magnacca 2007, p. 188). The petitioner suggests that these nonnative bees may impact native *Hylaeus* bees such as *H. facilis* through competition for pollen, based on their similar size and flower preferences. However, the petitioner acknowledges that the impact of these species on native *Hylaeus* bees has not been studied (Magnacca 2007, p. 188). The petitioner also suggests that parasitoid wasps may compete for nectar with native *Hylaeus* species (Daly and Magnacca 2003, p. 10), but did not present supporting information in this regard. No information on the potential threat to the species from parasitoid wasps is available in our files.

Summary of Factor E

In summary, the petitions provided substantial scientific or commercial information indicating that the petitioned actions may be warranted due to other factors affecting the species' continued existence. The petitioner did not present information, nor is information available in our files, indicating that competition from parasitoid wasps or other nonnative bees, such as *Ceratina* species, *Hylaeus albonitens*, and *Lasioglossum impavidum*, presents a threat to the petitioned species. However, the petitions do present information indicating that *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana* may be threatened because of their very small populations and low genetic variability, which may make them vulnerable to habitat change and stochastic events such as droughts. Each of the petitions characterizes the population status of the petitioned species as "small and isolated" or "extremely rare, very small populations," and we do not have any contrary information in our files. The petitioner also presents information indicating that competition with the European honey bee may present a threat to the seven *Hylaeus* bee species. We, therefore, conclude that the petition presents substantial scientific information indicating that other natural or manmade factors affecting the species' continued existence may threaten *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana.* These factors include the species' small numbers of populations and individuals and competition with nonnative European honey bees.

Finding

We have reviewed the petitions, supporting information provided by the petitioner, and information in our files, and we evaluated that information to determine whether the sources cited support the claims made in the petitions. On the basis of our evaluation of the petition under section 4(b)(3)(A) of the Act, we have determined that the petition presents substantial scientific or commercial information indicating that listing the seven *Hylaeus* bees as threatened or endangered may be warranted. This finding is based on information that indicates these species' continued existence may be affected by destruction or modification of their coastal strand and lowland forest and shrubland habitat from urbanization and land conversion, nonnative plants, nonnative ungulates, fire, recreational activities (Factor A); predation by nonnative ants and the western yellowjacket wasp (Factor C); inadequate protection from threats by existing regulatory mechanisms (Factor D); and other natural or manmade factors such as small population size, and competition with the European honey bee (Factor E). The petitioner does not present substantial information that these seven *Hylaeus* bees are threatened by overcollection (Factor B) currently or in the future.

Because we have found that the petition presents substantial information indicating that listing the seven *Hylaeus* bee species may be warranted, we are initiating status reviews to determine whether listing these seven species under the Act is warranted. At the conclusion of the status reviews we will issue 12–month findings, in accordance with section 4(b)(3)(B) of the Act, as to whether or not the Service believes a proposal to list *Hylaeus anthracinus*, *H. assimulans*, *H. facilis*, *H. hilaris*, *H. kuakea*, *H. longiceps*, and *H. mana* is warranted.

The "substantial information" standard for a 90–day finding differs from the Act's "best scientific and commercial data" standard that applies to a status review to determine whether a petitioned action is warranted. A 90–day finding does not constitute a status review under the Act. In a 12–month finding, we will determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a substantial 90–day finding. Because the Act's standards for 90–day and 12–month findings are different, as described above, a substantial 90–day finding does not mean that the 12–month finding will determine that listing is warranted.

References Cited

A complete list of all references cited herein is available on the Internet at *http://www.regulations.govand* upon request from the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Author

The primary authors of this notice are the staff of the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authority

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

Dated: June 3, 2010.

Daniel M. Ashe,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 665

[Docket No. 0907211157–0224–02]

RIN 0648–AX76

Fisheries in the Western Pacific; Community Development Program Process

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.