



Billing Code 4333-15

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS-R1-ES-2007-0024; FXES1113090000C6-189-FF09E42000]

RIN 1018-AU96

Endangered and Threatened Wildlife and Plants; Removing the Hawaiian Hawk from the Federal List of Endangered and Threatened Wildlife

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule; document availability and reopening of comment period.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce the reopening of the public comment period on the August 6, 2008, proposed rule to remove the Hawaiian hawk or io (*Buteo solitarius*) from the List of Endangered and Threatened Wildlife (List) under the Endangered Species Act of 1973, as amended (Act). Comments submitted during the 2008 comment period, 2009 reopened comment periods, and 2014 reopened comment period do not need to be resubmitted, and will be fully considered in preparation of our final rule. We are reopening the comment period once more to present information we have received since 2014 that is relevant to our consideration of the status of the Hawaiian hawk. We encourage those who may have commented previously to submit additional comments, if appropriate, in light of this new information. In addition, we are also seeking input on considerations for post-delisting monitoring of the Hawaiian

hawk. Our goal is to respond to comments and come to a final determination on the status of the Hawaiian hawk in the form of a final rule by the end of 2018.

DATES: The comment period for the proposed rule published August 6, 2008, at 73 FR 45680 is reopened. To ensure that we are able to consider your comments and information, they must be received or postmarked no later than **INSERT DATE 30**

DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER. Please note that, if you are using the Federal eRulemaking Portal (see **ADDRESSES**, below), the deadline for submitting an electronic comment is 11:59 p.m. Eastern Time on this date. We may not be able to address or incorporate information that we receive after the above requested date.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal:

<http://www.regulations.gov>. In the Search box, enter FWS-R1-ES-2007-0024, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the Search panel on the left side of the screen, under the Document Type heading, click on the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment Now!" Please ensure that you have found the correct rulemaking before submitting your comment.

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS-R1-ES-2007-0024, U.S. Fish and Wildlife Service, MS: BPHC, 5275 Leesburg Pike, Falls Church, VA 22041-3808.

We request that you send comments only by the methods described above. We

will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see **Public Comments**, below, for more information).

Document availability: The 2008 proposed delisting of the Hawaiian hawk, comments received during all the open comment periods, and the draft post-delisting monitoring plan (draft PDM plan) are available on <http://www.regulations.gov>. In addition, the supporting file for this proposed rule will be available for public inspection, by appointment, during normal business hours, at the Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3-122, Honolulu, HI 96850; telephone 808-792-9400.

FOR FURTHER INFORMATION CONTACT: Mary Abrams, Field Supervisor, telephone: 808-792-9400. Direct all questions or requests for additional information to: U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3-122, Honolulu, HI 96850. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Species Information and Previous Federal Actions

On August 6, 2008, we published a proposed rule to delist the Hawaiian hawk (io) (73 FR 45680). Please refer to that proposed rule and the recovery plan (which can be found at: http://ecos.fws.gov/docs/recovery_plan/840509.pdf) for information about the Hawaiian hawk, its status, its threats, and a summary of factors affecting the species. Please refer to our February 12, 2014, notice to reopen the comment period for a

summary of all previous Federal actions (79 FR 8413).

Since the 2008 proposed rule, we opened three additional comment periods. During these comment periods, we received new or updated information on projected urban growth rates and conversion of agriculture lands to unsuitable Hawaiian hawk habitat; and potential effects of climate change (*e.g.*, increased frequency or prolonged drought), rapid ohia death (ROD), and invasive plants (*e.g.*, *Psidium cattleianum* (strawberry guava)) on Hawaiian hawk habitat. The majority of relevant information that has become available since our 2008 proposal to delist the Hawaiian hawk comes from over 173 public comments, 4 independent peer reviews, comments from the State of Hawaii and county agencies and the National Park Service, recent publications, and further evaluation of existing information. Information pertaining to the status of the species that has become available to us since the 2014 notice is provided below.

New Information

Since the 2014 notice to reopen the comment period, we received updated information on trends in human population growth, urbanization, and land subdivision; biocontrol efforts for strawberry guava; impacts from ROD and climate change; and recent volcanic activity. We have also received some preliminary data from an in-house population viability assessment (PVA) (Vorsino and Nelson 2016, unpublished data). In addition, we are not aware of any changes in the status of the biofuel crop production or processing facility on the island since 2014 that would impact the status of the Hawaiian hawk.

Although trends in urban and exurban growth, and land subdivision show upward movement, the rate of growth has slowed. Population growth for Hawaii County between 2010 and 2017 was 1.1 percent annually, 0.5 percent lower than the 1.6 projection in 2012 (Hawaii Department of Business, Economic Development and Tourism (HDBEDT) 2018, in litt.). The number of new homes built per year has also decreased (County of Hawaii 2015, p. 146). Most urban and exurban growth is occurring in or adjacent to already developed areas (County of Hawaii 2015, p. 77, 150). We expect residential and exurban construction for Hawaii County to continue at a similar pace in the foreseeable future as indicated by expected human population growth for Hawaii County and home construction for the island of Hawaii for the last three decades (County of Hawaii 2010, tables 16.1–16.13; County of Hawaii 2015, pp. 144–146, 149–150; HDBEDT 2018, in litt.). Urban and exurban growth and subdivisions in Puna may slow even more due to the recent volcanic activity of Kilauea, which began in May 2018. The north Kona region has one of the highest urban and exurban growth rates on the island (County of Hawaii 2015, p. 11), as well as one of the highest densities of Hawaiian hawk (Gorresen et al. 2008, p. 42).

Since the successful deployment in 2012 of a biocontrol agent for strawberry guava (the Brazilian scale insect, *Tectococcus ovatus*) during field trials, the State of Hawaii and other partners have been working to establish *Tectococcus* on strawberry guava invaded forests throughout the islands (Chaney and Johnson in HCC 2013, p. 74; Chaney and Johnson 2018, in litt.; Kerr 2018, pers. comm.). Currently, the insect is established and reproducing on strawberry guava at multiple forest sites on five islands

(Hawaii, Kauai, Lanai, Maui, and Oahu) (Chaney and Johnson 2018, in litt.). Under favorable conditions, *Tectococcus* populations have increased rapidly and spread 33 to 262 feet (10 to 80 meters) in a period of several months (Chaney and Johnson 2018, in litt.). The scale typically weakens the trees through its feeding, reducing the ability of the tree to fruit and set seed, thereby limiting its spread (U.S. Forest Service 2016, in litt.). The scale is not expected to kill already established trees (Hawaii Department of Agriculture 2011, in litt.). It is too early to know what effect this may have on guava tree vigor and rate of spread; however, infestations of *Tectococcus* are expected to spread gradually on the target plant, reaching damaging levels within a few years at each release site (Kerr 2018, pers. comm.). The Forest Service will continue to provide technical assistance and monitor the impacts of biocontrol. It is expected that a noticeable decrease in the spread of strawberry guava will be observed over a period of years (Kerr 2018, pers. comm.).

Hawaiian hawks frequently nest in native ohia (*Metrosideros polymorpha*), an evergreen tree in the myrtle family. In 2013, landowners in lower Puna District noticed an increased rate of what was thought to be ohia dieback (Friday and Friday 2013, entire), a phenomenon where trees affected show progressive dieback accompanied by browning of the leaves, reduction in leaf size, and death of all or part of the crown (Hodges *et al.* 1986, p. ii.). Although ohia dieback may have been the culprit of some of the observed dieback leading up to the 2013 report (Friday and Friday 2013, entire), we now believe that at least some of this dieback was actually caused by ROD. In addition

to the other information we request in **Public Comments**, below, we request new information on ROD and its potential or actual impact on Hawaiian hawk.

Although new information shows negative habitat trends due to urbanization, nonnative plant species invasion, and ROD, efforts at habitat restoration that benefit the Hawaiian hawk are being implemented and are achieving success.

Both State and private foresters report an increase in forest areas on the island of Hawaii, particularly in native forest areas (Koch and Walter 2018, in litt.). Starting at the turn of the century, several large landowners (private, Federal, and State) have ended their pastoral leases and are steadily promoting natural regeneration to take the place of old pastures (Koch and Walter 2018, in litt.). While we know this conversion is occurring, we do not have an exact number of acreage. Additionally, when economically feasible, many nonnative timber plantations in the State have begun planting native timber species, most often koa (*Acacia koa*), post-harvest (Koch and Walter 2018, in litt; Walter 2018, pers. comm.). We do not have an exact number regarding this conversion, but we know it is ongoing. The suitability of koa plantations for Hawaiian hawk foraging and nesting has not been studied, and hawk use of these areas may be variable, because koa plantations likely differ in their suitability as hawk habitat depending upon age of koa stands, stand density, and overstory characteristics related to harvest methods used. A new forest planting project between Waimea and Ahualoa will convert 565 acres (ac) (229 hectares (ha)) of grassland to koa and koa-ohia forests in the next 10 years (Koch and Walter 2018, in litt.).

There has also been a marked increase in protection of native forests-which combined with an increase in forest areas results in increased protection for the Hawaiian hawk by protecting potential nesting, breeding, and hunting habitat. Several large conservation efforts across the island are being implemented by Federal, State, and private landowners, often in collaborative efforts.

Fencing and ungulate removal at Puu Waawaa Forest Bird Sanctuary and parts of the State's Natural Area Reserve System contribute to Hawaiian hawk habitat restoration (Gorresen *et al.* 2008, p. 26) because it helps control the spread of invasive plants such as strawberry guava as well as contributes toward the natural regeneration of native or native exotic mixed habitat which in turn provides potential nesting, breeding, and foraging opportunities for the hawk. The Kohala Watershed Partnership, Mauna Kea Watershed Alliance, and TMA, which collectively encompass approximately 1,688,300 ac (675,137 ha) on Hawaii, have been fencing, outplanting native plants, and removing nonnative species since 2003, 2008, and 2009, respectively (<http://hawp.org/>). Currently, these entities conduct restoration actions on over 80,000 ac (32,374 ha) of forest area on Hawaii (TMA 2007, p. 41; Hawaii Department of Land and Natural Resources (DLNR) 2011, p. 16; State of Hawaii 2012, pp. 43–44; State of Hawaii 2017, pp. 1–6; Cole 2018, in litt.; Dwight 2018, in litt.; Perry 2018, in litt.; <http://hawp.org/>). This value is likely an underestimate as there are so many partners conducting restoration activities that it is difficult to know exactly how many acres are being managed by each entity. Additional activities implemented by the three watershed partnerships on the island of Hawaii include programs that implement fencing inspections and necessary replacements, native

species surveys, greenhouse and plant propagation, prevention of the spread of ROD, and outreach (TMA 2007, p. 41; DLNR 2011, p. 16; State of Hawaii 2012, pp. 43–44; State of Hawaii 2017, pp. 1–6; Cole 2018, in litt.; Dwight 2018, in litt.; Perry 2018, in litt.; <http://hawp.org/>).

In 2016, the Governor of Hawaii initiated the Sustainable Hawaii Initiative (Initiative) in response to the 2016 World Conservation Congress Legacy Commitment to protect 30 percent (253,000 ac (102,385 ha)) of Hawaii's highest priority watershed forests by 2030 (<http://governor.hawaii.gov/sustainable-hawaii-initiative/>). Through this Initiative, the amount of priority watershed areas under high level of protection has increased from 10 to approximately 15 percent (<http://governor.hawaii.gov/sustainable-hawaii-initiative/>; State of Hawaii 2017, in litt.; <https://dashboard.hawaii.gov/en/stat/goals/5xhf-begg/4s33-f5iv/wtjm-96jt>). The Initiative has outplanted 20,000 native trees, and increased invasive plant control by 130,000 ac (52,609 ha) (State of Hawaii 2017, in litt). In addition, the Hawaii Department of Land and Natural Resources (DLNR), with funding from the Initiative, constructed 22 miles (35 kilometers) of fencing in the Kau watershed, and fenced 24,000 ac (9,712 ha) in the Manuka NAR, to protect these areas from the negative impacts of pigs and other ungulates (Smith 2013, in litt.; State of Hawaii 2014, p. 1). These measures benefit the Hawaiian hawk by securing potential nesting, breeding, and hunting habitat.

Over the past 6 years, the Hawaiian Legacy Reforestation Initiative (HLRI) has converted 1,000 ac (405 ha) of denuded pastureland into an intact ecosystem with over 300,000 endemic trees (e.g., ohia, milo (*Thespesia populnea*), sandalwood (*Santalum*

species), and koa), outplanted and a plans to outplant approximately 700,000 more endemic trees over the coming years (HLRI 2018, in litt.; <https://legacytrees.org/>).

Additional ongoing conservation efforts (e.g., nonnative plant and animal removal, fencing, and outplanting native species) are implemented by, but not limited to, the Nahelehele Dryland Forest Restoration program (<http://www.drylandforest.org/>), partnerships working in the Puu Waawaa watershed (e.g., the multi-agency Hawaii Experimental Tropical Forest (<http://www.hetf.us/page/home/>)), The Nature Conservancy's Kona Hema Preserve (<https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/hawaii/placesweprotect/kona-hema.xml>), Hawaii Volcano's National Park, Hakalau National Wildlife Refuge, and the Statewide Sustainable Hawaii Initiative (<https://governor.hawaii.gov/sustainable-hawaii-initiative/>). Additionally, there are many State Natural Area Reserves and Forest Reserves, and several wildlife sanctuaries that provide additional forest areas for Hawaiian hawks and other native species; however because hunting is allowed on many of the Natural Area Reserves and Forest Reserves, they are not maintained solely as protected areas for native species (<https://dlnr.hawaii.gov/recreation/hunting/>). As previously mentioned, forested areas, particularly native forest areas, are increasing on the island of Hawaii (Koch and Walter, 2018, in litt.); however we do not have an exact number to quantify this increase.

At the onset of the most recent Kilauea volcano eruption (May 2018), primarily private lands were impacted; however, more recently the ongoing eruption has impacted native forest areas. In June 2018, the 1,514 ac (613 ha) Malama Ki Forest Reserve (FR)

and surrounding areas were either buried by acres of lava or scorched by fumes of sulphur dioxide (Bergfield 2018, in litt.; KHON2 2018, in litt.). This area previously provided habitat for endangered forest birds and plants, and other native species. We do not have an exact number of how much native forest has been, or will be, lost as the eruption is ongoing. The Kilauea eruption is so far concentrated to the East Rift Zone area (USGS 2018, in litt.).

The island of Hawaii, like the island chain, has fortunately evaded most hurricanes due to the surrounding cool water. An exception occurred in 2014 with Hurricane Iselle. Although Hurricane Iselle morphed into a tropical storm before making landfall on the island, it caused extensive canopy loss in some regions of the island (Federal Emergency Management Agency (FEMA) 2014, in litt.). Iselle was the strongest tropical storm to make landfall on the island of Hawaii in recorded history. In 2016, Hurricane Darby made landfall on the island of Hawaii but as a much weaker tropical storm. While both of these hurricanes caused canopy loss in some regions of the island, no analysis has been done to determine impacts to Hawaiian hawk habitat. Recent data indicate that Hawaii may experience an increase in hurricane frequency and intensity due to increases of both ocean surface temperatures and El Niño events associated with a warming global climate system (Cai *et al.* 2015, pp. 1, 4-5; Herring *et al.* 2015, p. Sii; Knutson *et al.* 2015, p. 7222; Murakami *et al.* 2015, p. S118; Wing *et al.* 2015, pp. 8673–8676; Fletcher 2016, p. 14).

A preliminary female specific stochastic PVA model for the Hawaiian hawk was developed (Vorsino and Nelson 2016, unpublished data) using the mean and variance

values of age-specific survival and fecundity (ability and willingness to produce offspring) in native, mixed native-exotic, and exotic habitat (Gorresen *et al.* 2008, p. 15; Klavitter *et al.* 2003, p. 170). Population viability was assessed for optimal and sub-optimal habitats, where population partitioning was based on Hawaiian hawk densities within the habitat types (optimal/sub-optimal) reported in Gorresen *et al.* (2008, p. 15). The effect of catastrophic weather events on the viability of Hawaiian hawk in these various habitat types was also projected and assessed. None of the projected PVAs showed a Hawaiian hawk population that declined to either zero, or below a quasi-extinction threshold of 50 individuals, when projected over 30 years across 500 model iterations.

Current analysis of biodiesel fuel development indicates that construction and testing of facilities on the island of Hawaii has plateaued at 2014 levels, with just one biodiesel facility on the island. In addition to the other information we request in **Public Comments** below, we request new information on the actual conversion of agricultural land to crops for biodiesel fuel production, including former and current crop type and acreage.

Post-Delisting Monitoring Plan

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a monitoring program for not less than 5 years for all species that have been delisted due to recovery. The purpose of this requirement is to develop a program that detects the failure of any delisted species to sustain itself without the protective measures provided by the Act. If, at any time during the monitoring period, data indicate that

protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing.

The Service has developed a draft post-delisting monitoring (PDM) plan for Hawaiian hawk in cooperation with the State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW); the National Park Service (NPS); and the U.S. Geological Survey, Ecosystem Mission Area (formerly the Biological Resources Division). The draft PDM plan includes monitoring the Hawaiian hawk population every 5 years for 20 years and is designed to verify that the Hawaiian hawk remains secure from risk of extinction after its removal from the Federal List of Endangered and Threatened Wildlife. While not required, with this notice, we are again soliciting public comments and peer review on the draft PDM plan, which can be found on <http://www.regulations.gov> at docket number FWS-R1-ES-2007-0024. We are particularly interested in monitoring information pertaining to Hawaiian hawk habitat in light of ROD and strawberry guava. All comments on the draft PDM plan from the public and peer reviewers will be considered and incorporated into the final PDM plan as appropriate.

Public Comments

We intend that any final action resulting from the proposal will be based on the best scientific and commercial data available and will be as accurate and effective as possible. To ensure our determination is based on the best available scientific and commercial information, we request information on the Hawaiian hawk from governmental agencies, native Hawaiian groups, the scientific community, industry, and

any other interested parties. We request comments or suggestions on our August 6, 2008 (73 FR 45680), proposal to delist the Hawaiian hawk; our draft PDM plan; new information presented in this *Federal Register* document; and any other information.

Specifically, we seek information on:

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

(a) Life history, ecology, and habitat use of the Hawaiian hawk, as well as the species' use of koa plantations and exurban areas;

(b) Range, distribution, population size, and population trends;

(c) Positive and negative effects of current and foreseeable land management practices on the Hawaiian hawk, including conservation efforts associated with watershed partnerships (*e.g.*, The Rain Follows the Forest initiative and the Governor's Sustainable Hawaii Initiative); patterns of land subdivision and development; effects on native forest of introduced plant species; conversion of land to biodiesel production, forestry, and diversified agriculture; and potential effects of biocontrol efforts on strawberry guava;

(d) Potential effects of temperature and rainfall change on fire frequency and intensity and forest type and distribution;

(e) Potential impacts of ROD and climate change (*e.g.*, increased frequency or prolonged drought); and

(f) Potential impacts of the recent Kilauea Volcano eruptions.

(2) The factors, as detailed in the August 6, 2008, proposed rule (73 FR 45680), that are the basis for making a listing/delisting/downlisting determination for a species under section 4(a) of the Act, which are:

(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.

(3) Input or considerations for post-delisting monitoring of the Hawaiian hawk.

You may submit your information by one of the methods listed in **ADDRESSES**.

If you submit information via <http://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the website. If you submit 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 supporting documentation that we receive and use in preparing the proposal will be available for you to review at <http://www.regulations.gov>, or you may make an appointment during normal business hours at the Service's Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

If you submitted comments or information previously on the August 6, 2008, proposed rule (73 FR 45680); the February 11, 2009, document that made available our draft PDM plan (74 FR 6853); the June 5, 2009, publication announcing public hearings

and reopening the proposal's and draft PDM plan's comment period (74 FR 27004); or the February 12, 2014, publication reopening the proposal's and draft PDM plan's comment period (79 FR 8413), please do not resubmit them. These comments have been incorporated into the public record and will be fully considered in the preparation of our final determination.

References Cited

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Service's Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this document are staff of the Service's 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: August 14, 2018.

James W. Kurth,
Deputy Director,
U.S. Fish and Wildlife Service,
Exercising the Authority of the Director,
U.S. Fish and Wildlife Service.

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