# United States Department of the Interior

FISH AND WILDLIFE SERVICE
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IN REPLY REFER TO:
ES
Room 6307
1-2-81-F-211

SEP 02 1981

Colonel Alfred J. Thiede
U.S. Army Engineer District, Honolulu
Building 230
Fort Shafter, Hawaii 96858

Dear Colonel Thiede:

This responds to your August 12, 1981 request for consultation under Section 7 of the Endangered Species Act of 1973, as amended, on the proposed 25th Infantry Division Field Training Exercise (FTX) and its possible effect on species of plants and animals protected by that Act. The FTX is to be conducted in areas within and around Pohakuloa Training Area (PTA) on the Island of Hawaii during the months of September and October of this year. This letter represents the biological opinion of the U.S. Fish and Wildlife Service in accordance with Section 7, "Interagency Cooperation Regulations" (50 CFR 402, 43 FR 870) on the proposed activity.

On August 31, 1981, we completed our review of the information provided by you along with other related information in our files. We also contacted those familiar with the biology, management and recovery of the species involved. Copies of pertinent documents and documentation are contained in an administrative record maintained in this office.

As stated in your Environmental Assessment, the majority of the anticipated training area lies in the central portion of the island in and around the saddle formed between Mauna Loa and Mauna Kea. Much of this consists of vast expanses of barren lava fields and sparsely vegetated pasture lands. Some forested lands will be encountered also. A copy of your map showing the locations of the FTX is included (Figure 1).

Your "Environmental Assessment for 25th Infantry Division Field Training Exercise (FTX)" of August 13, 1981, identified seven species of birds, one mammal, and three plants as being listed as endangered and occurring in the proximity of the FTX. These species are:

Birds

| | |
|---|---|
| Hawaiian goose (nene) | Branta sandvicensis |
| Palila | Psittirostra Bailleui |
| Hawaiian hawk ('io) | Buteo solitarius |
| Hawaiian dark-rumped petrel | Pterodroma phaeopygia sandwichensis |
| Akiapolaau | Hemignathus wilsoni |
| Hawaii akepa | Loxops coccinea coccinea |
| Hawaiian crow ('alala) | Corvus tropicus |

Mammals
Hawaiian hoary bat — Lasiurus cinereus semotus

Plants
Stenogyne angustifolia var. angustifolia
Haplostachys haplostachya var. angustifolia
Lipochaeta venosa

SPECIES ACCOUNTS

Hawaiian goose (nene)

Living on the high mountain slopes and lava flows, this endemic bird was formerly found in large numbers on Maui, Hawaii, and possibly other islands of the state. Due to predation, destruction of habitat, and over-hunting, by 1900 the nene had decreased to a small population on Hawaii. In recent years, through a captive rearing program, nene have been released on the island to increase the wild breeding population. A new breeding population has also been established on Maui.

As you have stated in your Environmental Assessment, nene may migrate daily through the eastern section of the FTX range. The months of September and October are just prior to the main nesting season (November and December) and, as such, any action in that area may be crucial to nesting success. The fact that live ammunition and other explosives will only be used in the FTA and not in these eastern sections will help greatly to reduce harassment or other harm to the birds.

Palila

This member of the Hawaiian honeycreeper family (Drepanididae) received Federal recognition as an endangered species in 1966. The primary reasons for this status classification were that it no longer occupied a significant portion of its historical range, its present habitat was being adversely modified by the browsing of feral sheep, and its total population had decreased to the low hundreds. Originally occurring widely over the Island of Hawaii, its present range is believed to be limited to the mamane-naio ecosystem above approximately 6,000 feet on Mauna Kea. Although the details of this decline are not well known, feral sheep browsing on mamane trees is established as the major factor in the birds' decline. Because mamane provides most of the food, nest sites, and shelter for the palila, the implications of the trees' decline can be easily recognized. In response to the circumstances of the birds' decline, a critical habitat was designated for the palila on August 11, 1977. The nesting season for the palila usually starts in the late spring and lasts from five to six months.

Hawaiian hawk ('io)

The 'io is endemic to the Island of Hawaii and occurs on the slopes of Mauna Loa, on both the windward and Kona coasts, and less commonly on Mauna Kea. It

is likely to be found almost anywhere below about 8,500 feet where woody vegetation exists, but prefers the outer, more open forest rather than the dense rain forest. The present population of Hawaiian hawks on Hawaii is estimated to be in the low hundreds. The decline of this population is believed to be caused by shooting; however, pesticide pollution, predation on eggs and young, and general habitat destruction may have contributed to this decline. 'Io nest in the late spring and fledge by September or October.

Hawaiian dark-rumped petrel

Historically endemic to the main Hawaiian Islands, predation has eliminated this bird on all islands except Maui and Hawaii. There is a possibility that it may still occur on Kauai as the mongoose, a major predator, has not yet become established there. It nests in holes under the roots of trees and stones at elevations above 1,500 feet, laying in April and May, with young fledging in October. Very little is known about its occurrence, distribution, or habits on the Island of Hawaii.

Akiapolaau

Endemic to the Island of Hawaii, this bird was formerly found throughout the native forest from 400 meters upward. Presently, however, it is found primarily at the higher elevations of Mauna Loa and occasionally on Mauna Kea. Two other populations can be found in the Honaunau and Kau Forest reserves. Its diet consists largely of the larvae of beetles which it digs out of the bark of trees. A major reason for the decline of the akiapolaau population on Mauna Kea has been the destruction of the mamane-naio forests by browsing sheep.

Hawaii akepa

The Hawaii akepa was formerly widespread over the Island of Hawaii and was described as abundant in parts of Kona, Hilo, and on Kohala Mountain at the turn of the century. Its present distribution includes the upper slopes of the windward coast and the southwestern slopes of Hualalai. It feeds mainly on small insects, caterpillars and spiders. The present population is unknown, but the dramatic decrease in observed individuals during the past decades is probably due to avian diseases and general habitat destruction.

Hawaiian crow ('alala)

Endemic to the Island of Hawaii only, the 'alala has been reported from only the higher elevations in the Kona and Kau districts. They are omnivorous, eating a wide variety of berries and fruits as well as carrion. The population of the crow has dwindled to fewer than 100 individuals since the turn of the century. This dramatic decline has been attributed to shooting, habitat destruction, and introduced predators. Although a captive propagation program may be successful, a suitable habitat for reintroduction must be maintained.

Hawaiian hoary bat

Widely distributed on the Island of Hawaii, this bat is the only endemic land mammal in the State. Although its solitary nature and wide distribution have made it difficult to study, it is known to roost in almost any species of tree. Depletion of forested lands on the island may have contributed to the bats' decreasing population, but other factors contributing to its decline have not been established.

Stenogyne angustifolia var. angustifolia, Haplostachys haplostachya var. angustifolia, and Lipochaeta venosa

All three plants were determined to be endangered on October 30, 1979. They are known from populations within Kipuka Kalawamauna on the Island of Hawaii, although all were once more widely distributed on the island. A kipuka is a vegetated area surrounded by relatively recent lava flows. The extirpation of historic populations of these taxa has apparently been due to human disturbance, fires and the impact of feral animals and introduced weedy vegetation. The Federal Register publication determining these plants to be endangered cited trampling by military units using the Pohakuloa Training Area, accidental fires touched off by military ordnance, and the introduction of exotic weed seeds by hunters and military personnel and equipment as factors adding to their decline.

Analysis of Impacts

Of the eleven species previously mentioned, only five could reasonably be expected to be significantly affected by the proposed FTX. These are the Hawaiian goose, the palila, and the three species of plants. The other six species may occur occasionally as fly-overs, but would not be expected to be in or around the training area once the exercise commences. Additionally, one would not expect any of the species to be actively nesting in the FTX area during the training period.

As presented in your Environmental Assessment, the major factors to be considered in regards to impacts are increased noise, destruction of vegetation by vehicles and troops, modification of the land (minor constructions such as foxholes, barricades, roadways, latrines, encampments, etc.), inadvertent taking of animals or plants by explosives or pyrotechnics, and uncontrolled fires. During the late summer some Hawaiian geese migrate daily through the easternmost areas of the FTX lands from north of Saddle Road southward towards the Volcanoes National Park. As they are in flight and would be expected to avoid human concentrations, the immediate action of the exercise would not be expected to affect the birds. Since no live ammunition will be used in these areas, there is little chance of the birds being shot. The long range effects of the FTX, however, could be detrimental. The clearing of brush for encampments and camouflage and the possibility of fires destroying nene habitat and food sources exist. The population of nene found in these areas is of crucial importance to the recovery effort; they represent a sizable percentage of the wild breeding stock. During the FTX period, the

birds will be searching out nesting sites, and fires or widespread clearing of vegetation would be very undesirable.

A similar situation exists in the Palila Critical Habitat. Although the palila rarely occurs in that area north of Saddle Road within the FTX site, destruction of trees and other vegetation would further degrade the palila's habitat. An uncontrolled fire could burn well beyond the FTX border.

Trampling, cutting, and fires are the major threats created by the FTX in regards to the three listed plants. As live ordnance is to be used in the PTA, direct impact of explosives or resulting fires could pose serious problems. It must be emphasized that the PTA represents the total known plants' range, and as such makes any action in the area potentially threatening to the existence of the species.

Biological Opinion

A review of the project data and other sources of information including the biological data and, most importantly, the magnitude of the potential threats to the Hawaiian goose, palila, Stenogyne angustifolia var. angustifolia, Haplostachys haplostachya var. angustifolia and Lipochaeta venosa indicates that the FTX might negatively affect these species and the Palila Critical Habitat. In consideration of the above, it is our biological opinion that the proposed FTX is likely to jeopardize the continued existence of the five species and result in the destruction or adverse modification of the Palila Critical Habitat.

This opinion was reached largely on the facts that cutting and otherwise destroying vegetation will occur without regard for endangered plants or major vegetation types vital to the existence of the palila and other listed birds and, more importantly, that as stated in Section 4.3.2.a. of your Environmental Assessment, units of the FTX have no major firefighting capabilities. We appreciate the measures to lessen negative impacts on the environment you have listed under Section 4.9, but believe that additional precautions must be taken.

The 1978 amendments to the Endangered Species Act of 1973 include a mandate that "reasonable and prudent alternatives" be suggested when a biological opinion indicates jeopardy to a listed species. "Reasonable and prudent alternatives" refer to alternate courses of action or project modifications open to the consulting Federal agency (the Army) with respect to an activity or program that are technically capable of being implemented and are consistent with the intended primary purpose of the activity or program.

To this end, we believe that jeopardy to the listed species and the destruction or adverse modification to the Palila Critical Habitat would be avoided if the following were incorporated in the FTX plan:

1. It is crucial that the firefighting capability of units involved in the FTX be increased to control wildfires should they start. In the event of any fire out of immediate control, the primary mission of the unit commanders in the practical and geographical area of the fire should shift from FTX objectives to one of fire control. The occurrence of any fire which is out of control should be reported immediately to the FTX command headquarters. Fire control must take immediate precedence over the other objectives.

2. All field personnel, and especially the inspection teams mentioned in Section 6.2.d of your assessment, should be briefed on the listed plants and animals present at the FTX site and the potential harm to these species which could be caused by trampling, cutting, burning, or otherwise affecting plant life. In February of 1978, Colonel Rodolph, then Director of Facilities Engineering of the Headquarters, U.S. Army Support Command, Hawaii, initiated Section 7 consultation with this Service on the possible effect of the Army's training activities at PTA on the palila and its critical habitat. On June 1 of that year, we responded by indicating that the training activities do negatively impact the palila and its critical habitat. A subsequent meeting between the Army and the Service developed two major practices to lessen those impacts:

First, the preparation and use of a 35mm slide program that was to be shown to all troops using PTA explaining the status of the palila and guidelines to be followed during field training and, second, the strict control of all open fires used or accidentally started in the area.

3. We would wish the Army to continue using this training and, simultaneously, to employ it as a platform for the briefing mentioned previously.

We appreciate the need to cut vegetation for camouflage purposes. However, the cutting of mamane, naio or koa trees of any size, the cutting of any vegetation on Kipuka Kalawamauna, or any tree within the Palila Critical Habitat must be avoided.

The importance of the procedures outlined must be stressed to troops involved in the FTX. Individual violations of measures designed to lessen the negative impacts of the FTX (such as field-stripping of cigarette butts, avoidance of cutting mature trees, and other precautions listed by you in your assessment) must be identified and any punitive measures necessary to stress the harmful effects of those actions should be implemented. Naturally, we realize this will be largely a self-policing effort, but a follow-up review of the FTX will influence our judgement of future exercises of this type.

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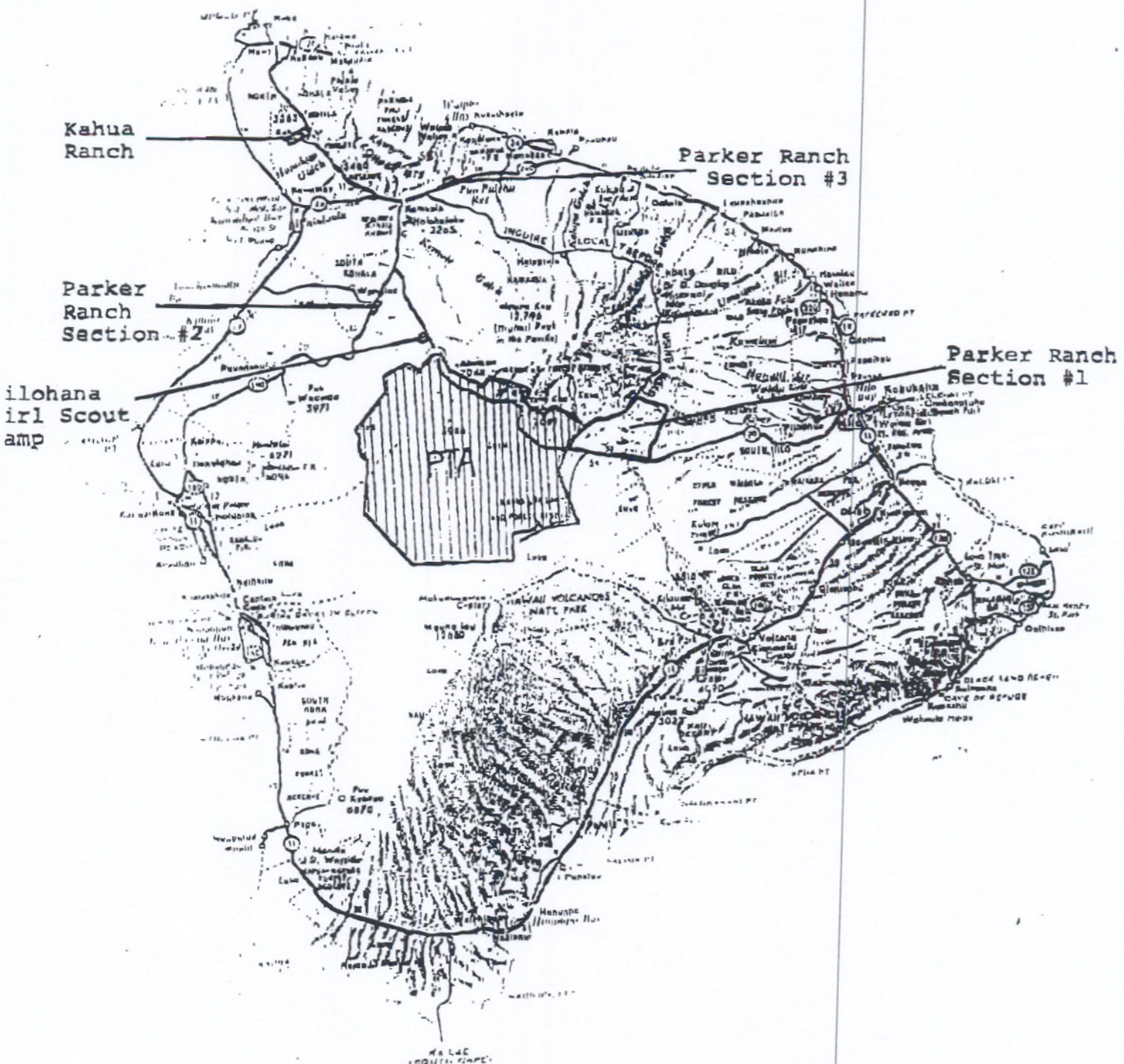
This concludes formal consultation for your action. Should any changes be made in the alternative courses of action or mitigation suggested, the project be modified beyond the scope of this letter, or new species be listed that may be affected by the project, you must reinitiate consultation with this Service.

Sincerely yours,

Pacific Islands Administrator

Enclosure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HAWAII VOLCANOES NATL PARK

Figure 1

## Literature Reviewed

Berger, A.J.. Hawaiian Birdlife 1972

Kear, J. and Berger, A.J. The Hawaiian Goose 1980

Munro, G.C. Birds of Hawaii 1960

Temple, S.A. Endangered Birds 1977

Tomich, P.Q. Mammals in Hawaii 1969

U.S. Army Corps of Engineers, Environmental Assessment for 25th Infantry Division Field Training Exercise FTX 1981

U.S. Fish and Wildlife Service, Federal Register, 1979, Vol. 44, No. 211, pgs. 62468-62471; Determination That Three Species of Hawaiian Plants are Endangered Species.

U.S. Fish and Wildlife Service, Palila Recovery Plan 1978

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NOV 2 3 1981

Major Harry Harrison
Public Affairs Office
Headquarters, WESTCOM
Fort Shafter, Hawaii 96858

Dear Major Harrison:

This is a follow up to our letter of September 23, 1981. At that time, we requested permission to monitor implementation by the Army of the alternatives listed in the Service's biological opinion of September 2, 1981, on Field Training Exercise impacts, and to determine the effectiveness of these recommendations.

Service personnel visited the Pohakuloa Training Area on October 7 and 28, 1981 and inspected the areas in and around Kipuka Kalawamauna and also that portion of the Palila Critical Habitat within Area 1. These are the areas which contain three endangered plants and an endangered bird.

No violations of the alternatives listed in the above mentioned biological opinion were noted during the two visits. We believe that our recommendations, and the Army's implementation of them, have precluded any negative impact by this particular training exercise on the endangered species found in the Pohakuloa Training Area.

Sincerely yours,

Pacific Islands Administrator

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