

State of Hawai'i
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Forestry and Wildlife
Honolulu, Hawaii 96813

April 12, 2013

Chairperson and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Land Board Members:

SUBJECT: ACCEPTANCE OF HEARING MASTER'S REPORT, WITHDRAWAL OF APPROXIMATELY 1,500 ACRES OF A PORTION OF GOVERNOR'S PROCLAMATION DATED MARCH 9, 1906 FROM THE EWA FOREST RESERVE AND RE-SET ASIDE AS THE POAMOHO NATURAL AREA RESERVE, TMK (1) 7-2-001:006 por, WAHIAWA, OAHU

BACKGROUND:

A portion of the Ewa Forest Reserve, Poamoho Section, (established by Governor's Proclamation dated March 9, 1906), on the leeward slopes of the Koolau Mountains, is proposed to become part of the State of Hawaii Natural Area Reserves System (NARS) as the Poamoho Natural Area Reserve (NAR). The Poamoho NAR would include an area of approximately 1,300 acres in the Protective Subzone of the Conservation District. A map and a description of the important and unique resources that led to the nomination of this area as a NAR is attached.

Approval to hold a public hearing on the proposed Poamoho Natural Area Reserve was granted by the Board of Land and Natural Resources (BLNR) on October 28, 2005. Notice of public hearing was published in newspapers statewide pursuant to Hawaii Revised Statutes (HRS) §183 and §195. A public hearing was held on April 30, 2008. A press release and notice of the hearing was sent to newspapers and interested parties listed in Section VI of the attached nomination, in addition to signs posted in the subject area. DLNR received 16 testimonies in support of the proposal, two opposed, and one commenting, which are attached along with the minutes of the hearing. A public hearing was held to withdraw the area from the Forest Reserve on May 26, 2009 pursuant to HRS §195, after receiving approval to hold a hearing from the BLNR on December 12, 2008. No testimony was received on that item. The BLNR accepted the hearing masters report on September 28, 2009.

The Poamoho Section of the Ewa Forest Reserve is encumbered by State General Lease S-3846 for military purposes by the United States of America. The lease expires on August 16, 2029, and includes the area proposed as a NAR. Hawaii Administrative Rules (HAR) § 13-209 prohibit activities in Natural Area Reserves that are inconsistent with Hawaii Revised

Statutes (HRS) § 195. To make the NAR designation consistent with the lease overlay, modifications to the lease are needed for uses in the proposed NAR. Approval to modify the lease has been secured from the Department of the Army, and will be presented to the Board in a separate agenda item from the Land Division.

DISCUSSION

Supporting testimony indicated that the NAR designation would increase protection for the native ecosystems and important populations of endangered species in Poamoho. Additionally, Poamoho was deemed by some to help fulfill the NAR statute to represent Hawaii's natural communities, as there are no Natural Area Reserves in the Koolau Mountains. Others testified that NAR designation would aid management of feral pigs and strawberry guava, benefiting the watershed.

Others highlighted the importance of the Poamoho, Schofield-Waikane, and Koolau Summit Trails, and recalled the large amount of trail maintenance work and effort to regain access to the Poamoho trail through a Memorandum of Agreement with Dole Foods, Inc.

Opposing testimonies were concerned that NAR designation would create barriers to accessing the area.

Public access has also been a priority for DOFAW through the efforts of the Na Ala Hele program and partner support in this area. NAR designation does not change access for hikers in small groups and will likely have little impact on this activity. NAR rules allow hiking, nature study in group sizes of ten or less, as well as hunting pursuant to Hawaii Administrative Rules § 13-209. Other activities are allowed for users who have obtained a permit.

A forest protection project is currently ongoing in the proposed Natural Area Reserve, which includes fence construction to exclude non-native pigs. The boundaries of the Natural Area Reserve have been modified to approximate the proposed fence.

The proposed Poamoho Natural Area Reserve is recommended for inclusion in the Natural Area Reserve System, for containing native forests on the leeward Koolau mountains and rare species that are not represented in the NARS. This includes 11 rare or endangered animal species and 13 rare or endangered plant species not known from the proposed Kaluanui NAR, which has been nominated to represent windward Koolau ecosystems.

CHAPTER 343 – ENVIRONMENTAL ASSESSMENT:

This action before the Board represents a transfer in management jurisdiction and does not constitute a use of State lands or funds, and therefore, this action is exempt from the provisions of Chapter 343, HRS, relating to environmental impact statements. The Division of Forestry and Wildlife shall be responsible for compliance with Chapter 343, HRS, as amended for NARS program activities on the land that are not otherwise included in existing environmental compliance documents for that parcel. Pursuant to HAR § 11-200-8, foreseeable uses of the State lands by the NARS program include:

Exemption Class: DLNR, Division of Forestry and Wildlife, Class 1, Item 8

Exempt Item Description: Weed, brush and noxious tree control using hand tools, small motorized equipment (chainsaws and weedeaters), and approved herbicides on DOFAW program areas, campsites, picnic grounds, viewpoints, baseyards, wildlife water units, trails, captive propagation facilities, arboreta, plant nurseries, checking stations, and public use facilities.

Exemption Class: DLNR, Division of Forestry and Wildlife, Class 1, Item 17

Exempt Item Description: Animal damage control actions, when needed to maintain resource values, in Division of Forestry and Wildlife (DOFAW) program areas, including application of approved rodenticides, and ungulate removal.

Exemption Class: Department of Land and Natural Resources Class 3, Item 1

Exempt Item Description: Fences around or to manage threatened or endangered plants; covered and open areas for endangered species, game birds and mammals; auxiliary buildings for food storage, equipment storage, incubators and brooders; open-top breeding and release pens, field aviaries and hacking boxes; and for watershed and native forest management and restoration. Fences shall contain step-overs or other features that permit pedestrian access for cultural and recreational use.

Exemption Class: Department of Land and Natural Resources Class 3, Item 2

Exempt Item Description: Cabins, resident workers' quarters, warehouse workshops, mobile camping structures, weather stations, checking stations for hunters, hikers, and campers; meat safes, viewing kiosks and platforms, wildlife viewing towers, sanitary facilities, trail shelters, equipment shelters, fire equipment caches, arboreta, and plant nurseries.

Exemption Class: Department of Land and Natural Resources Class 4, Item 1

Exempt Item Description: Establishment of helispots.

Exemption Class: Department of Land and Natural Resources Class 4, Item 7

Exempt Item Description: Establish temporary or permanent vegetative cover including trees, shrubs and grasses for landscaping, reforestation, soil stabilization, and wildlife habitat.

Exemption Class: Department of Land and Natural Resources Class 5, Item 2

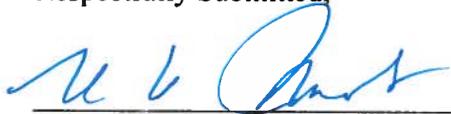
Exempt Item Description: Game and non-game wildlife surveys, inventory studies, new transect lines, photographing, recording, sampling, collection and captive propagation (involves walking, driving, and flying in the field, helicopters, light aircraft), use of nets and firearms, temporary traps including snares, mist nets, corral traps, drop door traps or leg hold traps.

Dates of Agency Exemption Lists: July 18, 2011, June 12, 2008

RECOMMENDATIONS: That the Board:

- 1) Accept the Hearing Master's Report (Attachment 2).
- 2) Approve of and recommend to the Governor the issuance of an executive order withdrawing approximately 1,500 acres from the Ewa Forest Reserve, TMK (1) 7-2-001:006 por, Wahiawa, Oahu and further subject to the following:
 - a. The standard terms and conditions of the most current executive order form, as may be amended from time to time;
 - b. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;
 - c. Review and approval by the Department of the Attorney General; and
 - d. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.
- 3) Approve of and recommend to the Governor the issuance of an executive order setting aside approximately 1,500 acres from the Ewa Forest Reserve, TMK (1) 7-2-001:006 por, Wahiawa, Oahu, to the State of Hawaii, Department of Land and Natural Resources, Division of Forestry and Wildlife, for the Poamoho Natural Area Reserve, under the terms and conditions cited above, which are by reference incorporated herein and subject further to the following:
 - a. The standard terms and conditions of the most current executive order form, as may be amended from time to time;
 - b. Disapproval by the Legislature by two-thirds vote of either the House of Representatives or the Senate or by a majority vote by both in any regular or special session next following the date of the setting aside;
 - c. Review and approval by the Department of the Attorney General; and
 - d. Such other terms and conditions as may be prescribed by the Chairperson to best serve the interests of the State.

Respectfully Submitted,



ROGER H. IMOTO, Administrator
Division of Forestry and Wildlife

APPROVED FOR SUBMITTAL:



WILLIAM J. AILA, JR., Chairperson

Attachments

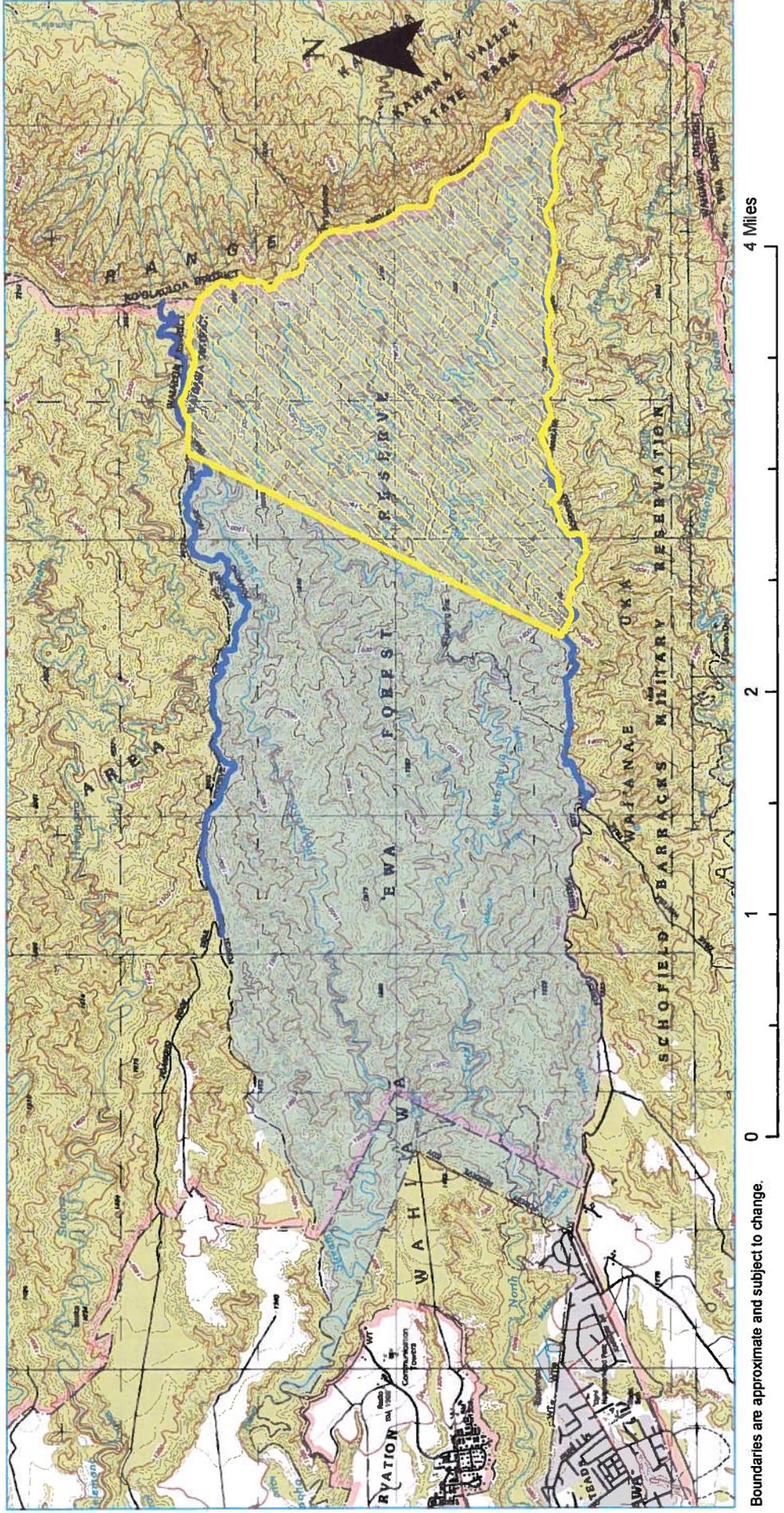


Proposed withdrawal from Ewa Forest Reserve for set-aside as the Poamoho NAR



Legend

-  Proposed Poamoho NAR
-  Ewa Forest Reserve
-  Trails



Boundaries are approximate and subject to change.

PROPOSAL FOR THE POAMOHO NATURAL AREA RESERVE 2013

I. EXECUTIVE SUMMARY

The Natural Area Reserve System Commission recommends a portion of the native forest located on the forested leeward slopes of the northern Koolau Mountains currently known as the Poamoho Public Hunting Area (PHA) become established as the Poamoho Natural Area Reserve (NAR). The proposed reserve would encompass approximately 1,500 acres of state-owned land that is currently part of the Ewa Forest Reserve (TMK (1) 7-2-001-006 por. The proposed NAR is bounded by the Poamoho Trail to the north, the Schofield-Waikane Trail to the south, the summit of the Koolau Mountains to the east. The western boundary approximates a proposed fence line.

II. INTRODUCTION

Scientific Value, Rarity, and Representativeness

The proposed NAR contains four native natural communities: Mixed Fern/Shrub Cliff; Ohia Shrubland; Ohia/Uluhe Forest; and Koa/ Ohia Forest. Twenty-five rare plant species and thirteen rare animals have been reported in the area (Table 1). The forest communities found in the wet summit crest zone of the Koolau Mountains are not well represented in the State of Hawaii Natural Area Reserve System.

Biological/Ecological Design

The designation of the Poamoho NAR would create a band of forest managed primarily to protect native species and ecosystems. This band of protection would consist of the U. S. Army Garrison-Hawaii managed Kawaihoa Training area in the north, the proposed Poamoho NAR in the center, and the U. S. Fish and Wildlife Service managed Oahu Forest National Wildlife Refuge to the south.

III. BACKGROUND/HISTORY

Past Land Use

The Koolau Mountains were used as grazing land from the mid 1800's to the turn of the century. Ungulate damage to the forest led many organizations, including the Hawaii Sugar Planters Association, to recognize the value of these forests as watersheds for urban Oahu and the agricultural ventures in central Oahu. These proponents called for a government system of protection for forested areas. Finally, in 1903, the Territorial Legislature passed Act 44, which established the Board of Commissioners of Agriculture and Forestry and the Department of Forestry in the Territorial Government. Act 44 also created the legal framework for the establishment of Forest Reserves that included public as well as private lands. On Oahu, Governors Proclamation No. 13 dated March 9, 1906, created the Ewa Forest Reserve.

Present Land Use

The State of Hawaii, Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) currently manages the area as a Forest Reserve and the area is designated as a Public Hunting Area (PHA). It is one of 12 designated Public Hunting Areas (totaling 24,443 acres) on the Island of Oahu. Hunting is allowed year-round on Saturdays, Sundays, and State Holidays.

To protect the native forests and watersheds of this area, a fence is proposed to exclude feral pigs from approximately 1,500 acres, in the most remote, inaccessible summit regions of Poamoho, in the Ewa Forest Reserve and approximating the boundaries of the proposed NAR. This project affects approximately 1/3 of the Public Hunting Area at Poamoho in the upper summit regions of the reserve - an area rarely visited by hunters due to its remoteness. This project does not affect hunting opportunities in the lower two thirds of the Ewa Forest Reserve, which is the primary hunting location in Poamoho. DOFAW continues to address and improve public access for hunters, hikers and other recreational groups through trails, service roads and permits. Walkovers and gates will be installed to allow public access to the protected areas. The public

will have the opportunity to participate in staff led hunts to remove feral pigs from fenced areas. Access to priority protected areas for traditional Hawaiian cultural practices is not restricted by this project. Protecting the native species of this area from damage and extinction will perpetuate traditional cultural practices associated with these upland forests.

The area is also served by three main hiking trails: the Poamoho Trail, the Schofield/Waikane Trail, and the Koolau Summit Trail. Public hikers use these trails on a regular basis. Permission to reach the trailheads must be obtained from the Division of Forestry and Wildlife for the Poamoho trail, and the Division of Forestry and Wildlife and U. S. Army Garrison – Hawaii for the Schofield/Waikane trail. These trails lead to the Koolau Summit Trail that joins these trails at the top. The Civilian Conservation Corp built the Koolau Summit trail in the mid-1930's.

The U. S. Army signed a Military Training Area lease overlay with the State of Hawaii in 1964. This lease incorporates the entire Poamoho portion of the Ewa Forest Reserve into the Kawailoa Training Area. The Kawailoa Training Area lease is State of Hawaii General Lease number S-3846 and U. S. Contract number DA-94-626-ENG-78. The lease is effective from August 17, 1964 to August 16, 2029.

IV. JUSTIFICATION

The proposed Poamoho Natural Area Reserve (NAR) supports a variety of native habitats, several very rare plants and animals, and a diversity of other more common native species. The native natural communities occur primarily in the mid and upper reaches of the current Poamoho Public Hunting Area from approximately 427 to 823 meters (1,400 feet to 2,700 feet). The habitat below this elevation is a band of alien dominated vegetation that extends to the agricultural fields and other human related development.

There are four native natural community types in the Poamoho area. These community classification descriptions are taken from a biological survey done for the Division of Forestry and Wildlife by the Hawaii Natural Heritage Program (HINHP) in 1994. None of the four native natural community types are considered rare. Above the band of alien-dominated vegetation, is a mosaic of Koa (*Acacia koa*)/Ohia (*Metrosideros polymorpha*) Lowland Mesic Forest and Ohia/Uluhe (*Dicranopteris linearis*) Lowland Wet Forest. Along the summit crest, on the cliffs and steeper slopes is a complex mosaic of Mixed Fern/Shrub Montane Wet Cliff and Ohia Montane Wet Shrubland.

Wet Summit Crest Zone

Above 670 meters (ca. 2,200 feet) elevation along the Koolau summit crest, prevailing conditions are cool, usually wet, windswept, and often cloud-shrouded. The topography ranges from cliffs to moderate slopes. On the cliffs and steeper slopes were a mosaic of Mixed Fern/Shrub Montane Wet Cliff and Ohia Montane Wet Shrubland. These two Wet Summit Crest communities are described below.

Mixed Fern/Shrub Montane Wet Cliff Community

At elevations generally above 905 meters (3,000 feet) on steep valley walls and cliff faces of the windward slopes of Kauai, Oahu, Maui, and the Kohala Mountains of Hawaii is a community dominated by a variable association of native ferns and shrubs. Rainfall is very high on these windward cliffs, generally exceeding 3,800 millimeters (150 inches) per year. Adjacent communities generally include Ohia Montane Wet Shrubland and Ohia Wet Forest, but may also include bogs, uluhe-dominated slopes, and (only in the Koolau Mountains of Oahu) stands of Loulu Hiwa Lowland Wet Forest. Although the Mixed Fern/Shrub Montane Wet Cliff community type is not considered rare, nearly all examples contain rare plants and, on Oahu, endangered tree snails (*Achatinella* spp.) are known from this community type.

Mixed Fern/Shrub Montane Wet Cliffs are represented in protected areas such as Haleakala National Park, Kipahulu District, and the Waikamoi Preserve of The Nature Conservancy of Hawaii. They are also found in several of the Hawaii State Natural Area Reserves: Puu O Umi NAR in Kohala, Hawaii; Hanawi NAR and West Maui NAR on Maui; and Mt. Kaala NAR on Oahu. None of the Koolau range examples are in the designated protected areas.

The proposed Poamoho NAR examples of Mixed Fern/Shrub Montane Wet Cliff are representative of this community in the Koolau Mountains. It occupies moderate to very steep, windward-facing slopes only in the vicinity of the summit crest. Ferns, such as 'ama'u (*Sadleria pallida*) and hapu'u (*Cibotium* spp.) and the native mat ferns, uluhe (*Dicranopteris linearis* and *Diplazium pinnatum*) were important components. Shrubs such as puahanui (*Broussaisia arguta*), manono (*Hedyotis* spp.), kookoolau (*Bidens macrocarpa*), Ohia, ohelo (*Vaccinium* spp.), kopiko (*Psychotria* spp.), and naenae (*Dubautia laxa*) were also an important component. The wet cliffs also included endemic lobelioids such as *Trematolobelia macrostachys*. Many species of small ferns such as *Elaphoglossum* spp. and *Adenophorus* spp., and mosses were found in the epiphyte and herb layer. This community has a restricted range and a global rank of G3 (HINHP 1994a).

Ohia Montane Wet Shrubland Community

On the windward faces of Kauai, Oahu, East Molokai, and the upper ridge crests and steep slopes of windward West Maui and the Kohala Mountains of Hawaii are very wet shrub communities composed of stunted Ohia and a number of other dwarfed endemic trees and shrubs. The elevation range of this community is from about 760 meters (2,500 feet) to more than 1,525 meters (5,000 feet). The climate of these summit communities is cool and extremely wet with an annual rainfall well over 2,500 millimeters (100 inches), and in some places approaching 5,000 millimeters (200 inches). Winds are typically strong as they sweep up the steep ridges from the windward slopes. Substrates are shallow soils over weathered rock or thin organic peat over clay and ironstone. Although not considered a rare natural community type, a variety of rare plants has been reported from examples of Ohia Montane Wet Shrubland on all islands, and endangered tree snails (*Achatinella* spp.) are known from Oahu examples.

In the proposed Poamoho NAR, Ohia Montane Wet Shrubland occupied exposed ridge crests and gulch slopes from about 730 to 850 meters (2,400 to 2,600 feet) elevation. Another adjacent community included Ohia/Uluhe Lowland Wet Forest in gulch bottoms and lower slopes. The shrubland components included manono (*Hedyotis* spp.), alani (*Melicope* spp.), kawau (*Ilex* sp.), puahanui (*Broussaisia arguta*), hapuu (*Cibotium* spp.), kolea (*Myrsine* spp.), 'ohelo (*Vaccinium* spp.), naupaka (*Scaevola* spp.), stunted 'olapa and lapalapa (*Cheirodendron* spp.), pilo (*Comprosmia longifolia*), uki (*Machaerina angustifolia*), amau (*Sadleria* spp.), and lobeliads such as *Trematolobelia macrostachys*. The groundcover was composed of a thick mat of mosses, herbs such as 'ala'alawainui (*Peperomia* spp.) and makole (*Nertera grandensis*), and a variety of native ferns. Epiphytic mosses, liverworts, ferns, and lichens were conspicuous on the gnarled trunks and branches of small trees and shrubs. Rare plant species found in this community type included *Viola oahuensis*, kolea (*Myrsine juddii*), *Cyanea koolauensis*, hea'e (*Zanthoxylum oahuensis*), and *Hesperomannia aborescens*. This community has a restricted range and a global rank of G3 (HINHP 1994a).

Lowland Forest Zone

Between approximately 180 and 670 meters (590 and 2,200 feet) elevation, conditions are warm, mesic to wet, and generally wind-sheltered. Rainfall diminishes away from the summit crest. In the Poamoho and Schofield-Waikane Trails survey area, there are two forest types within this zone. Ohia Lowland Wet Forest occurred in higher elevations and graded into Koa/Ohia Lowland Mesic Forest below approximately 580 meters (1,900 feet) elevation.

Ohia/Uluhe Lowland Wet Forest Community

Wet forests dominated by Ohia are widespread in the lowland zone of windward Kauai, Oahu, Molokai, Maui, and Hawaii. On Oahu, this is a common vegetation type of upper slopes in the Koolau Mountains and is found along wetter parts of the Waianae summit ridge as well. This community type is not considered rare, though a variety of rare plants have been reported from this and other Ohia Lowland Wet Forest communities.

Ohia is the dominant forest tree in this community, but other trees frequently seen are manono (*Hedyotis terminalis*), mehame (*nttdesma platyphyllum*), kolea (*Myrsine lessertiana*), and Ohia ha (*Syzygium*

sandwicensis). Uluhe and, in some places, uluhe lau nui (*Diploterygium pinnatum*) form a dense ground cover generally 0.5 to 1.5 meters (2 to 5 feet) deep below the Ohia canopy. Native trees and shrubs are scattered throughout this layer of matted ferns.

In the proposed Poamoho NAR, Ohia/Uluhe Lowland Wet Forest occurred in gulches and ridges immediately behind the summit crest, as high as 825 meters (2,700 feet) to about 580 meters (1,900 feet) elevation where mesic forest (Koa/Ohia Lowland Mesic Forest) becomes the dominant vegetation type. Rare plants observed in this community in the Poamoho and Schofield-Waikane Trails survey area included *Cyanea acuminata*, *Cyanea lanceolata* spp. *calycina*, nanu (*Gardenia manii*), *Hesperomannia aborescens*, and *Lindsaea repens* var. *macraeana*.

Koa/Ohia Lowland Mesic Forest Community

Lowland mesic forests dominated by koa and Ohia occur on the islands of Kauai, Oahu, Maui, Lanai, and Hawaii. Annual rainfall for this forest type ranges from less than 770 millimeters (30 inches) to more than 1,920 millimeters (75 inches), but substrates supporting Koa/Ohia Lowland Mesic Forest are generally well drained, and often leeward-facing, where dry season conditions may range from dry to mesic. Adjacent communities include mesic forest types dominated by lama (*Diospyros* spp.), Ohia, or, rarely, dominated by Ohia, or into uluhe-dominated slopes.

In the Poamoho and Schofield-Waikane Trails survey area Koa/Ohia Lowland Mesic Forest occupied ridge tops below Ohia-dominated mesic and wet forests of the upper ridges, generally below 580 meters (1,900 feet) elevation. The associated trees consisted of such species as Ohia ha (*Syzygium sandwicensis*) mehame (*Antidesma platyphyllum*), ahakea (*Bohea elatior*), iliahi (*Santalum freycinetianum*), kopiko (*Psychotria* spp), kalia (*Elaeocarpus bifidus*), and alani (*Melicope* spp.). Understory components included manono (*Hedyotis terminalis*), akia (*Wikstroemia oahuensis*), olomea (*Perrottetia sandwichensis*), puahanui (*Broussaisia arguta*), maile (*Alyxia oliviformis*), and ieie (*Freycinetia arborea*). Uluhe was often a dominant understory component. Although not considered a rare community type, several rare plants, including nanu (*Gardenia manii*) occur here. This community has a restricted range and a global rank of G3 (HINHP 1994a).

Present Level of Protection

The area is currently protected under the Conservation District classification of Preservation or “P-1”. The proposed NAR is also currently protected under the State Forest Reserve System (Administrative Rules 13-104).

Long-term Ecological Viability – Environmental Consequences of No Action

Designating this important core section of lowland wet forest as a NAR would enhance the ability of the System to participate and contribute to conservation and restoration actions across the entire watershed. As this area has already experienced native species extinctions, and contains many species that are in danger of extinction, it is projected that no management action would lead to eventual loss of additional species.

V. MANAGEMENT NEEDS

Threats Requiring Management

Management priorities include removing feral pigs, which trample and devour vegetation and spread the seeds of invasive weeds. Removal of invasive plant species is also a very high priority management action. Removing or reducing the amounts of predatory mammals and invertebrates, such as rats and the cannibal snail *Euglandia rosea*, is needed near the existing snail and rare plant populations. Outplanting may be needed to preserve populations of very rare and endangered species. Infrastructure to support management may also be required, including helicopter landing zones, weatherports/cabins, monitoring equipment, and trails.

VI. PUBLIC NOTIFICATION

The Nature Conservancy
 NARS Commission
 Division of Aquatic Resources
 Conservation Council of Hawai'i
 Sierra Club – O'ahu chapter
 Oahu Pig Hunters Association
 Environment Hawai'i, Inc.
 Hawai'i Trail and Mountain Club
 Hawai'i Audubon Society
 Hawaiian Botanical Society
 Hawai'i Nature Center
 National Oceanic and Atmospheric
 Administration
 Office of Hawaiian Affairs
 O'ahu Invasive Species Council
 UH Environmental Center
 Oahu NAH Trails and Access Advisory Council
 Representative Marcus Oshiro
 Senator Robert Bunda
 Councilperson Donovan Dela Cruz

North Shore Neighborhood Board
 Division of Conservation and Resources
 Enforcement

Ko'olau Mountains Watershed Partnership:
 Bishop Museum
 Board of Water Supply
 Department of Hawaiian Home Lands
 Tiana Partners
 Dole Foods Company, Inc.
 Oahu Country Club
 Hawai'i Reserves, Inc.
 Kualoa Ranch
 Department of Land & Natural Resources
 Kamehameha Schools
 U.S. Army
 Queen Emma Land Company
 Agribusiness Development Corporation
 U.S. Fish and Wildlife Service
 University of Hawaii / Lyon Arboretum

VII. BIBLIOGRAHIES/REFERENCES

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- 1991 Recovery Plan for the Oahu Tree Snails of the Genus *Achatinella*. U.S. Fish and Wildlife Service, Portland, OR. pp. 55+61 pages of appendices.
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 - 1994a Endangered and Threatened Wildlife and Plants. *Federal Register*. 50CFR 17.11 & 17.12 U.S. Government Printing Office, U.S. Fish and Wildlife Service, Washington, D.C.
 - 1994b [Pacific Islands Office] Plants. Hawaiian Islands. Listed, proposed or candidate species under the U.S. Endangered Species Act. Updated November 2, 1994. Unpublished.
 - 1994c Endangered and Threatened Wildlife and Plants. *Federal Register*. 50CFR. Part 17. (217):56333-56351.
 - 1994d [Pacific Islands Office] Animals. Hawaiian Islands. Listed, proposed or candidate species under the U.S. Endangered Species Act. Updated March 17, 1994. Unpublished.
- 2000 Final rule to list as endangered the O'ahu 'Elepaio from the Hawaiian Islands and determination of whether designation of critical habitat is prudent. *Federal Register*. 20760-20769.
- Van Riper, S.G. and C. van Riper III
 1982 *A Field Guide to Mammals in Hawaii*. Oriental Publishing Company, Honolulu, Hawaii.

Table 1: Rare Species of the Proposed Poamoho Natural Area Reserve

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	TYPE
<i>Asio flammeus sandwichensis</i>	Pueo, Short-eared Owl	C	Bird
<i>Chasiempis sandwichensis ibidis</i>	O'ahu 'Elepaio	E	Bird
<i>Paroreomyza maculata</i>	'Alauahio, O'ahu Creeper**	E	Bird
<i>Loxops coccineus wolstenholmi</i>	'Akepeu'ie, O'ahu 'Akepa**	None	Bird
<i>Vestiara coccinea</i>	'I'iwi	None	Bird
<i>Lasiurus cinereus semotus</i>	'Ope'ape'a, Hawaiian Hoary Bat	E	Bat
<i>Achatinella apexfulva</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Achatinella bulimoides</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Achatinella byronii</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Achatinella decipiens</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Achatinella lila</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Achatinella sowerbyana</i>	Pūpū kani'oe, tree snail	E	Snail
<i>Megalagrion nigrohamatum nigrolineatum</i>	Pinao, damselfly	C	Damselfly
<i>Chamaesyce rockii</i>	'Akoko, koko kokomalei	E	Plant
<i>Cyanea acuminata</i>	'Ōhā, hāhā, 'ōhāwai	E	Plant
<i>Cyanea humboldtiana</i>	'Ōhā, hāhā, 'ōhāwai	E	Plant
<i>Cyanea koolauensis</i>	'Ōhā, hāhā, 'ōhāwai	None	Plant
<i>Cyanea lanceolata ssp. calycina</i>	'Ōhā, hāhā, 'ōhāwai	None	Plant
<i>Cyanea st.-johnii</i>	'Ōhā, hāhā, 'ōhāwai	E	Plant
<i>Doodia lyonii</i>		None	Plant
<i>Exocarpos gaudichaudii</i>	Heau	None	Plant
<i>Gardenia manii</i>	Nānū, nā'ū	E	Plant
<i>Hesperomannia arborescens</i>		E	Plant
<i>Joinvillea ascendens ssp. ascendens</i>	'Ohe	C	Plant
<i>Lindsaea repens var. macraeana</i>		None	Plant
<i>Lobelia oahuensis</i>	'Oha, hāhā, 'ōhāwai	E	Plant
<i>Lycopodium nutans</i>	Wāwae'iole	E	Plant
<i>Melicope lydgatei</i>	Alani	E	Plant
<i>Myrsine fosbergii</i>	Kōlea	C	Plant
<i>Myrsine judii</i>	Kōlea	E	Plant
<i>Phyllostegia hirsuta</i>		E	Plant
<i>Phyllostegia parviflora var. parviflora</i>		E	Plant
<i>Plantago princeps var. longibracteata</i>	Ale	E	Plant
<i>Psychotria hexandra ssp. oahuensis</i>	Kōpiko, 'opiko	None	Plant
<i>Sanicula purpurea</i>		E	Plant
<i>Thelypteris boydiae</i>		C	Plant
<i>Viola oahuensis</i>		E	Plant
<i>Zanthoxylum oahuense</i>	Hea'e, a'e	None	Plant

*Federal Status: E = Endangered, C = Candidate, SOC = Species of concern, **Probably extinct.

LINDA LINGLE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL ST., ROOM 325
HONOLULU, HAWAII 96813
TEL (808) 587-0166 FAX (808) 587-0160

LAURA H. THIELEN
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI
FIRST DEPUTY

KEN C. KAWAHARA
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIKOLAHE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

October 16, 2008

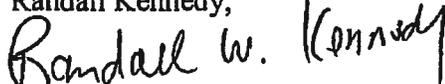
Chairperson and Members
Board of Land and Natural Resources
State of Hawai`i
Honolulu, Hawai`i

Land Board Members:

SUBJECT: MASTER'S REPORT ON PUBLIC HEARING

In accordance with the Notice of Public Hearing published in the Honolulu Star Bulletin, The Garden Island, The Hawai`i Tribune Herald, West Hawai`i Today, and The Maui News, on April 5, 2008, and as authorized by the Board of Land and Natural Resources on October 28, 2005, I have conducted a public hearing relative to the proposed designation of Forest Reserve land at Poamoho, Island of Oahu, TMK: 7-2-001-006 into the Natural Area Reserves System on April 30, 2008.

The Notice of Public Hearing and Minutes of the Public Hearing are attached.

Randall Kennedy,

Natural Area Reserves System Program Manager

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES

NOTICE OF PUBLIC HEARING
ON PROPOSED DESIGNATION OF
A PORTION OF TMK 7-2-01
INTO THE NATURAL AREA RESERVE SYSTEM

DATE: Wednesday, April 30, 2008

TIME: 6:00 p.m.

PLACE: Kalanimoku Building 1st Floor Board Room, 1151 Punchbowl St. Honolulu, HI 96813

The Department of Land and Natural Resources, State of Hawai'i, pursuant to Chapter 195, Hawai'i Revised Statutes, will hold a public hearing in O'ahu to receive testimony on the following:

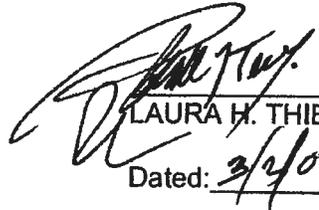
**Proposed Designation of a portion of TMK 7-2-01
into the Natural Area Reserve System**

Copies of the Draft Nomination and a map of the area are available for inspection at the DLNR Division of Forestry and Wildlife office in Honolulu at the Kalanimoku Building, Room 325, 1151 Punchbowl St. Honolulu, Hawai'i 96813.

The proposed Poamoho Natural Area Reserve (NAR) would encompass state-owned land that is currently part of the upper-most portion of the Ewa Forest Reserve (TMK 7-2-01) above the 1,800 foot elevation between the Poamoho and Schofield-Waikane Trails and bounded by the summit of the Ko'olau Mountains. The proposed area contains high-quality native ecosystems that would be unique to the NAR System.

Any person may testify or present information at the public hearing. If you desire to attend the above meeting and require auxiliary aids (taped materials or sign language interpreter) please request assistance 10 working days prior to hearing by writing or calling Emma Yuen, Planner, Room 325, 1151 Punchbowl St. Honolulu, Hawai'i 96813; (808) 587-4170.

BOARD OF LAND AND NATURAL RESOURCES



LAURA H. THIELEN, CHAIRPERSON

Dated: 3/2/08

PUBLICATION DATE: April 5, 2008
Honolulu Star-Bulletin
Maui News
Hawai'i Tribune Herald
West Hawai'i Today
Kauai Publishing dba The Garden Island

Public Hearing on Proposed Poamoho Natural Area Reserve

April 30, 2008

DLNR Board Room, 1151 Punchbowl St. Honolulu, HI 96813

Hearing Officer: Randy Kennedy,
DOFAW

DOFAW Staff:

Michael Constantinides
Sheri Mann
Curt Cottrell
Marigold Zoll
Betsy Gagne
Chris Miller
Talbert Takahama
Brent Liesemeyer
Christen Mitchell
Emma Yuen
Ryan Peralta
Paul Conry

Public Hearing Attendees:

Tom Mendes – Hawaiian Trail and
Mountain Club (HTMC)
Steve Braur
Tom Ranker
Marjorie Ziegler – Conservation Council
of Hawaii
Rachel Neville
Ron Walker – Hawai`i Audubon Society
Bill Standley
Keith Palmer
George Akau – Ko`olau Mountains
Watershed Partnership
Mike Algiers - HTMC
Grace Yu-Goa- HTMC
Laura Owens - HTMC
Ellyn Tong - HTMC
Mary Ikagawa - HTMC
Phyllis Ha
Jim Jacobi

Public Testimony Received

Marjorie Ziegler - Conservation Council of Hawai`i

We totally support this proposal. Conservation Council of Hawai`i and KAHEA put a report together about the NARS funding, before the Legacy Lands bill and other sources of funding came through. Looking through this report, and the history, shows that the last Reserve was designated in 1991- Kanaio, and I have a concern with why this is taking so long. I'm not trying to criticize, I'm very grateful that we are here and looking at Poamoho, but I am concerned when looking at the big picture, and would like to propose a few suggestions, and offer our help to the extent we can help you.

I think it is important for all agencies that have dual mandates – like the Land Board, NARS Commission, which have to do proactive, protective activities, like looking for new NARS lands, but also have to look at permits, like the Water Commission has to respond to well permits and stream diversion permits, but they also are mandated to protect native Hawaiian rights, in-stream flow standards, etc. It's important for an agency to roughly divide its time between the proactive and the reactive. If we can do that for the NARS, if the staff and Commission can commit a certain level of resources to nominating new NARS, even if it is one a year – but in 10 years that would be 10 new Reserves. Otherwise, the Commission is going to find itself always reacting to Special Use Permits. I look at the NARSC agendas and they are full of permits, and I am

concerned that they are caught up with use permits and not enough resources on the proactive part. I hope you have created a schedule, and will move forward with the many nominations. I used to attend the meetings on O`ahu, and I have been frustrated with how slowly things have been going, but I hear things are getting better. I don't mean this to be personal against staff or anything.

Also, we have heard that the military does not use Poamoho, and would support people approaching the military about withdrawing the overlay.

Also, in response to the comment made about why things are so slow – one person says that it is because they did not have the staff to manage the area. That is a vicious circle, because before the area is designated, there won't be the funding. A National Park isn't going to get the funding it needs to manage until it becomes a National Park. It's the same thing with the NARS – maybe we won't ever get the funding needed to manage every NARS – but until the area is nominated and showing the need, you aren't going to get the resources. I know it is a vicious cycle, because I know that you don't want to commit to the area before having the resources, but I think that you do need to keep nominating. That is the Commission's job – to nominate the NARS, not to worry about the politics or the funding of these areas, but to nominate the areas.

Also we want to offer our services, when the time is right, to nominate an area to be included in the NARS – the `Ewa Sinkholes. There are limestone dissolved holes with the bones of extinct birds that are sometimes known only from those holes. A couple of species of crow in addition to `Alala, a big moa nalu, palila bones, and it is an important geological site that has been recognized internationally – people from the Smithsonian have studied it – and we think when the time is right – which is not now – we think that the landowner, which is Campbell Estate, is willing to enter into an easement with the state or donate the land, and we can make that area a Natural Area Reserve.

Ron Walker- Hawai'i Audubon Society

I am on the Board of Directors of the Hawai'i Audubon Society, and am testifying on their behalf. I used to work for Division of Forestry and Wildlife, as well as the Fish and Wildlife Service and am now retired. I provided written testimony which will be part of the record, but will offer some important points:

First of all, the Audubon Society supports this proposal fully. The board of Directors met and discussed this. We have to emphasize that merely setting aside an area with the restrictive provisions of the Natural Area Reserves System doesn't assure restoration and preservation of the resources.

I know that the public hunting area will be reduced in size to accommodate the NAR. I know that may raise a red flag with the O`ahu Pig Hunters Association and other hunting groups, but the proposal states that public hunting will be allowed in that area. Feral pig activity is a major problem in most Forest Reserves in Hawai'i. I have always been an advocate of using public hunting as a control mechanism, because it is free for the state. But, hunters being hunters and being practical about hauling out carcasses, the areas need access in allowing public hunters. It is essential to have access from Dole, allow the public in there, and get the hunters in there, recreation, and bird study and researchers. Need to have fairly reasonable access. The best reason to improve the access is to get the management team to do the activity that Brent mentioned.

I also want to commend the staff for their hard work putting together the proposal.

Tom Mendes- Hawaiian Trail and Mountain Club

I am Tom Mendes, President of the Hawaiian Trail and Mountain Club, and we have presented some testimony early, but I would like to read this – you will find it informative, I promise.

We are here because we do support the proposal for the Poamoho NAR. Sometimes that is questioned, or hikers get concerned when there are changes of access, but we do support the proposed Poamoho NAR.

As a club, our objectives include the preservation and conservation of Hawai`i's forests and wild lands. We accomplish this by promoting among our members and others an interest in and a stewardship for the fragile environment over which we conduct our main activity, hiking. We believe we are partners with the Department of Land and Natural Resources in preserving the best of what Hawai`i has to offer, while maintaining access to some of the most beautiful places on earth.

Please be assured that our members are respectful of the land and see themselves as caretakers of the environment. Many of our members are avid students of native floral and fauna and fully understand the importance of protecting those populations. We also provide many trail clearing man-hours every week to keep O`ahu trails open for hikers, researchers, emergency personnel, and those who work to keep invasive species from our forests. Our hikes through the NARS are members-only hikes and our actions are cautious and deliberate, avoiding departure from the marked trail.

HTMC holds a high regard for the historic trails that border three sides of the proposed NAR and we strongly support that they remain Priority Trails as listed in the 1991 Na Ala Hele plan. Two of these trails that we hike each year, Poamoho and Schofield-Waikane form the north and south boundaries of the proposed NAR. Neither passes through the NAR, but both give researchers and scientists as well as hikers access without actually passing through or disturbing the interior of the NAR. HTMC supports the current access policy and would like to see it continued. We ask that we be included in any present and future reviews regarding NAR access.

Bill Standley

Thank you for having this hearing and allowing us to provide testimony. I want to go on record as being 100% in support of this proposal, and add my appreciation to the staff who worked on this proposal, as well as encourage the state to provide the support and staff to manage both this lands as well as existing NARS, from the Legacy Lands from the people who proposed it to the Legislature.

Patrick Conant

██████████
Volcano, HI 96785

April 12, 2008

Ms. Laura H. Thielen, Chair
Board of Land and Natural Resources
1151 Punchbowl St.
Honolulu, Hawaii 96813

Re: Proposed Designation of a portion of TMK 7-2-01 into the Natural Area Reserve System

Dear Chairperson, Thielen and Board Members,

I support the designation of this portion of TMK 7-2-01 as a NAR for several reasons. I am quite familiar with the area since I hiked the Poamoho Trail from the time I was a teenager. I can recall what a thrill it was to see iwi there on two occasions. The forest at Poamoho is still some of the best on Oahu and definitely needs protection from the threats of alien plants and animals. Other endangered birds that may still occur there include the elepalo, the alaahio and the pueo. Twenty five rare native Hawaiian plants still occur there and 15 of these are endangered. Addition of this parcel to the NARS would effectively help protect an even larger area since it lies between two parcels already managed for protection of native Hawaiian natural resources.

I have read the Draft Nomination of the proposed NAR, and I find the text on page 11, under the heading "Long Term Ecological Viability" portrays a potentially depressing (but clearly not intentionally so) future for the parcel as a new NAR. What is not mentioned (since it is not necessarily appropriate there) are some of the more recent encouraging developments regarding NARS funding. Due to an excellent NARS staff that knows how to attract "outside funds" (particularly federal), as well as the infusion of dedicated funds from the State conveyance tax, I am optimistic that the proposed Poamoho NAR can be effectively managed well above the minimal level of protection it now receives as a portion of the Forest Reserve. The proximity of the parcel to Honolulu, and the Waimano Home DOFAW office will make it a relatively accessible area for staff to work in and mitigate the various alien species threats. Any fencing efforts to exclude feral pigs from portions of or all of the parcel are always better than none.

I no longer live on Oahu, but I lived in the back of Manoa Valley for 40 years, across the street from the Forest Reserve. In the last 20 or so years, disturbance of the soil and herbs by feral pigs has increased dramatically, as has been reviewed in newspaper articles over the years. This phenomenon is not limited to Manoa. Numbers of pigs in forests have increased in many areas on Oahu and other islands as well. We cannot assume that the seemingly low numbers of pigs (based on hunter catch reports) at Poamoho will remain static. Fencing is needed to prevent the damage before it is too widespread. I suspect that once Poamoho becomes a NAR, incremental fencing by NARS will begin, at the minimum, to protect small areas of rare plant habitat. If a NAR is not created there, there remains only opportunities lost to feral pigs and weeds. Native forest badly degraded by these two threats is often not cost effective to restore, so in effect we lose it forever.

It is possible some pig hunters may complain about the loss of a hunting area. Sixteen pigs harvested per year suggests the area is not that popular, or pig numbers are presently not high. There are plenty of feral pigs on Oahu, the hunters just need access. Poamoho is too valuable as a native forest to allow sustained yield of feral pigs. Hunters may need better access in lower elevation alien-dominated forest, where control by hunting may benefit agriculture and home owners that experience damage.

In closing, I would like to add that the Proposed NAR is an integral part of the Koolau Mountain watershed, and protection of that watershed is the reason why the Ewa Forest Reserve was designated in 1906. If you have ever hiked through a forested Oahu watershed that resembles a giant pig wallow (I have) it is amazing that we can still drink the water that comes from there. A Natural Area Reserve designation is the highest form of natural resource protection that can be given to State land and one of the best ways to (indirectly) protect portions of our vital watersheds. More importantly, it protects native Hawaiian plants, animals and habitats that may be lost forever if we take "no action".

Aloha,

Patrick Conant



For the Protection of Hawaii's Native Wildlife
HAWAII AUDUBON SOCIETY

850 Richards Street, Suite 505, Honolulu, HI 96813-4709

Phone/Fax: (808) 528-1432; hiaudsoc@pixi.com

www.hawaiiaudubon.com

April 14, 2008

Memo:

To: Ms. Emma Yuen

From: Ron Walker *RW*

Subject: Testimony; proposed Poamoho NAR

Enclosed is the final version of the testimony from the Hawaii Audubon Society. I'll present it at the meeting of the Natural Area Reserve Commission on April 30.

Let me know if you have any questions.

Testimony- Proposed Poamoho Natural Area Reserve 4/14/2008

**Betsy Gagne, NARS Commission Executive Secretary
State of Hawaii
Department of Land and Natural Resources
Natural Area Reserves System Commission
1151 Punchbowl St. Rm. 325
Honolulu, HI 96813**

I'm Ron Walker, currently Vice President of the Hawaii Audubon Society. My familiarity with the Natural Area Reserves System in general and the Poamoho area in particular arises from my career with the Department of Land and Natural Resources until my retirement in 1994.

The Hawaii Audubon Society supports the proposal to separate out a portion of the Ewa Forest Reserve and Public Hunting Area and declare it a Natural Area Reserve (NAR). The site is contiguous with the Oahu National Wildlife Refuge on the South and The Kamehameha Schools lands on the North. If the nomination for inclusion of the adjacent land in the Kaluanui Stream drainage on the Windward side is approved, this would create an even larger portion of the Ko'olau under protective status for native plants and wildlife.

We believe that merely setting aside an area under more restrictive provisions of the Natural Area Reserves system does not assure restoration and perpetuation of important plant and animal habitat, but that active stewardship is necessary over the long term. The remoteness of the area, difficulty of access, the rugged terrain and the limitations of program funding means that management and enforcement will be difficult. It is urged that additional resources in staff and funds be sought.

We note that the public hunting area will be reduced in size to accommodate the new NAR. The proposal indicates that public hunting will be allowed, although public access is presently restricted. Feral pig activity is a major problem for plant and animal life, as well as contributing to erosion and damage to the watershed. We urge that access be sought in order to facilitate public hunting which can play an important role in reducing feral ungulate populations.

The proposal points out that invasive plant species are and will continue to be a major concern for management within the proposed Poamoho NAR. We agree that the highest priority should be removing incipient new invasives with second priority being controlling non-native plants along trails and at helicopter landing sites. More aggressive, labor intensive removal of invasive plants will be dependent on increased staff and funding.

To the extent possible, we recommend that public access be provided for regularly scheduled hikes, service projects or research.

We commend your program staff for an extremely well documented proposal. Thank you for including the Hawaii Audubon Society on your "Interested Party" list.

To: Department of Land and Natural Resources
Division of Forestry and Wildlife - Natural Areas Reserves Program
Randall Kennedy, Program Manager

From: Oahu Na Ala Hele Trail and Access Advisory Council

Subject: Proposed NAR Designation of a Portion of the Ewa Forest Reserve and Public Hunting Area, inclusive of the Poamoho, Koolau Summit, and Schofield/Waikane Trails.

The Oahu Na Ala Hele Trails and Access Advisory Council (AC) has a vested interest in the Ewa Forest Reserve and the long term sustainability for both management and public access to the three trails listed above that constitute the boundary of the proposed new NAR.

The 1990 Oahu NAH AC members identified a series of trails constructed in the 1930's in the Koolau Mountains as Priority Trails for the BLNR approved 1991 NAH Program Plan, to direct new program efforts (See attached maps) The anticipated funding for program implementation never materialized. However, over the years ONAH staff has, with support from such groups as Oahu canoe clubs, Oahu Pig Hunters Association, the Boy Scouts of America, YCC and OCCO, improved several miles of the trail corridors for both the Poamoho and Schofield/Waikane trails. Sensitive resources nearer the summit, and inadequate funds and staffing, slowed restoration efforts, which stopped short of the goal of restoring the three trails. Staff has since refocused efforts on quality maintenance along the restored trail sections. The lack of knowledge by the general public volunteers on plant speciation and other rare species also was a reason to cease mauka trail restoration. The closure of access to the Poamoho entrance by Dole further reduced the justification for expansion of public use through trail improvements. However, as you know, access was resolved last year through an MOA with Dole for limited and regulated public vehicular access.

The Oahu AC understands that the NAR policy and rules are more restrictive than the current Forest Reserve designation on public access and camping due to the protection orientated mandate for enhanced resource protection. While the AC generally supports an increase in management capacity associated with the designation, and our assumption is that the designation would allow for that, the AC has concerns about a potential reduction in public access over time, or an inability for the NAH Program to continue future restoration efforts to enable improved public access along the trails, particularly the Summit Trail.

The Oahu NAH AC is requesting that upon NAR designation, any prospective change in the current access regime established by NAH for hiking and hunting be submitted to the Oahu AC for review and recommendations.

Mahalo,



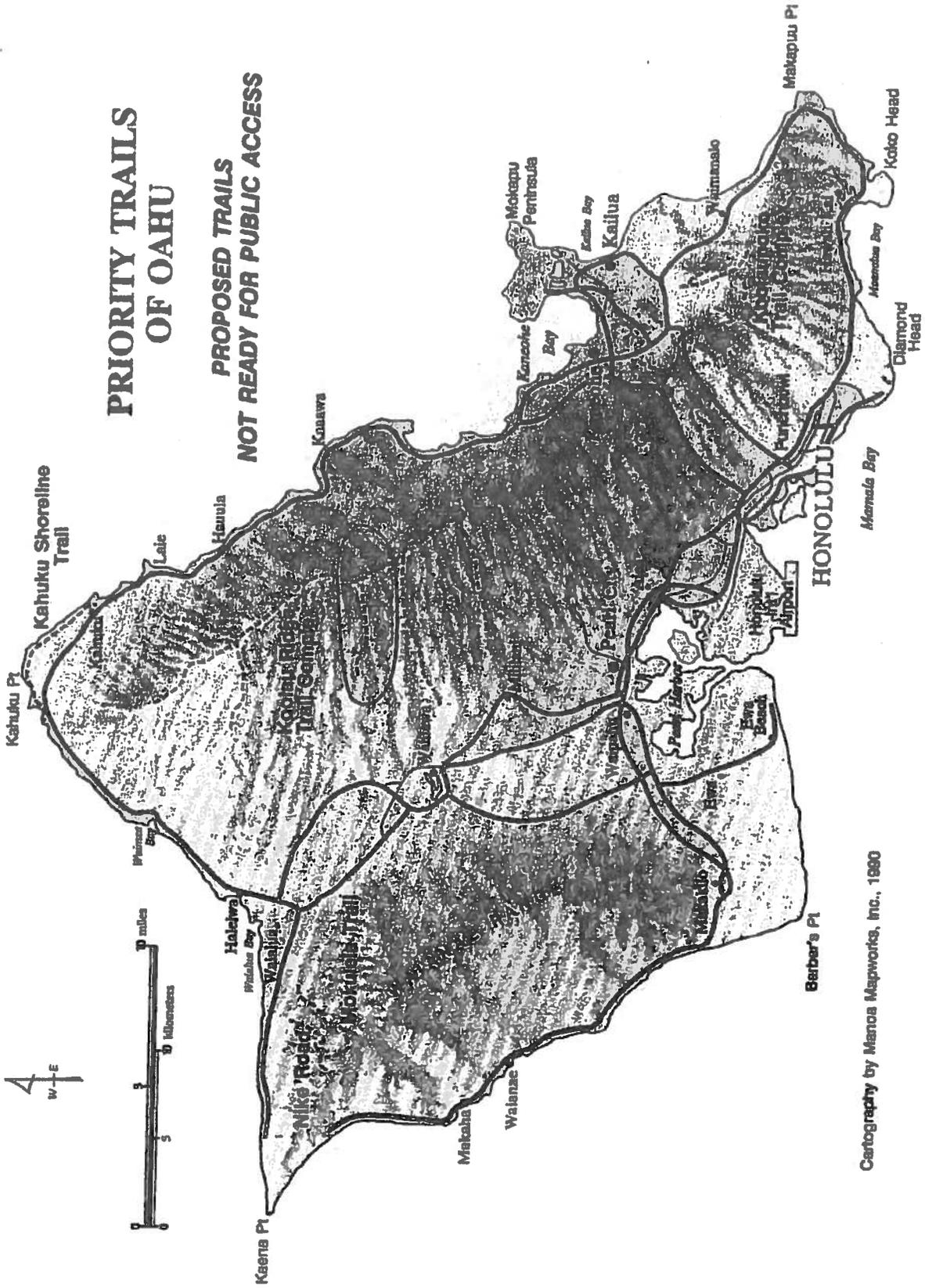
Pascual Dabis,
Chairperson, Oahu Na Ala Hele Advisory Council

Attachment: Map of NAH Oahu Priority Trails

CC: Aaron Lowe, NAH Specialist
Curt Cottrell, NAH Program Manager

PRIORITY TRAILS OF OAHU

PROPOSED TRAILS
NOT READY FOR PUBLIC ACCESS



Cartography by Manoa Mapworks, Inc., 1980

April 22, 2008

Ms. Laura H. Thielen, Chair
Board of Land and Natural Resources
1151 Punchbowl St.
Honolulu, Hawaii 96813

Dear Ms. Thielen,

I strongly support the creation of the Poamoho Natural Area Reserve on the Island of Oahu. The Department of Land and Natural Resources has proposed this addition to the state Natural Area Reserve System on state-owned land that is currently part of the 'Ewa Forest Reserve (TMK 7-2-01). The proposed Reserve would be a valuable addition to the current NARS system for Hawaii, as it contains more than 25 rare and endangered plants, and 17 rare or endangered animals. Many of these species are found only in the Ko'olau range, and due to the highly degraded state of the native ecosystems on this island as a result of invasive plants and animals they are perilously close to extinction. The Natural Area Reserves System seeks to protect the best remaining samples of our islands unique ecosystems, and I strongly believe that the proposed Poamoho NAR will be a valuable and much needed addition to this system of protected lands in Hawaii.

Feel free to contact me with any questions that you might have.

Aloha,

Creighton

Creighton M. Litton, Ph.D.
Assistant Professor, Forest Ecology

Department of Natural Resources and Environmental Management
University of Hawaii at Manoa
Sherman Lab 240
1910 East-West Rd.

Andrea I. Jepson

[REDACTED]
Kailua, HI 96734
[REDACTED]

April 22, 2008

Dear Ms. Thielen,

I am pleased to see that the most important land protection designation in Hawai'i, one that has not been utilized since 1990 is being proposed for Poamoho. I fully support this designation established by the state legislature and Governor Burns to protect native species, ecosystems, and geologic sites in perpetuity.

Our Ko'olau range is a treasure of rare animals and plants many of which are endangered as a result of invasive plants and animals. Naming Poamoho a Natural Area Reserves System should put it in a priority position of protection and assistance which will help to maintain and recover this threatened ecosystem.

Mahalo for your consideration of my letter.

Sincerely,

Andrea I. Jepson

Dear Ms Laura H. Thielen, Chair, Board of DLNR,

Aloha.

I am writing as a concerned citizen in support of the proposed Poamoho NAR. I have read the proposal and supporting documentation supplied by your department. I fully agree with the statements made in the proposal to include Poamoho in the NAR system. With truly Hawaiian places at constant risk of declining and disappearing, we need more protections; not less. Placing Poamoho within the protective blanket of a NAR, will be an important first step.

I have been an amateur naturalist on Oahu since the 1960's. My mentor in appreciating the wonders of our endemic and indigenous flora and fauna was the late Commander William Christensen. His son, Carl, became the head malacologist at Bishop Museum, studying our endemic snail fauna. I eventually became friends with the late Dr. Yoshio Kondo, one of the legendary figures in Hawaiian malacology, specializing in terrestrial mollusca.

Specific to Poamoho, I have been hiking in the area since the 1960's and I have witnessed wonderful examples of our indigenous and endemic plants and animals that inhabit the proposed NAR. I have seen the iiwi and I have seen many of the land snails. Unfortunately, I have also witnessed the declines and degradation that have occurred over the years. I remember the countless *Auriculella pulchra*, an arboreal snail species so common that it looked like someone threw rice on the bushes after a wedding. In the late 1970's this species disappeared. I remember many of the listed endangered tree snails of the genus, *Achatinella*, being much lower on the trail and in easily seen numbers. Today, they continue to decline and their populations have retreated to depauperate numbers. I have many such tales to relate.

The factors that have caused these declines and disappearances are still at work and are accelerating.

Please consider the inclusion of Poamoho into the NARS, so that future generations can witness a small part of Oahu I have been privileged to see.

Respectfully submitted,

Leland Miyano

Kaneohe, Hawaii 96744

April 22, 2008

April 25, 2008

Ms. Laura H. Thielen, Chair
Board of Land and Natural Resources
1151 Punchbowl St.
Honolulu, Hawaii 96813

Aloha Ms. Thielen:

I am writing to encourage the DLNR to create the Poamoho Natural Area Reserve on state-owned land, which is currently part of the uppermost portion of the 'Ewa Forest Reserve (TMK 7-2-01), above the 1,800-foot elevation between the Poamoho and Schofield-Waikane trails, bounded by the summit of the Ko'olau Mountains.

The proposed Poamoho Natural Area Reserve contains more than twenty-five rare or endangered plants and seventeen rare or endangered animals. Many of these are only found in the Ko'olau range and are perilously close to extinction as a result of invasive plants and animals. The biological wealth of Hawai'i is being depleted rapidly. Please protect the best remaining samples of our unique ecosystems! Creating the Poamoho Natural Area Reserve would be a significant step in that direction.

Having grown up in 'Ewa Beach in the 1950s and 1960s (we never used the 'okina, in those days), I have fond memories of the uncrowded, wide-open spaces of the central plain. After moving to Volcano, on Hawai'i Island in 1983, to get away from the increasing crowding of Honolulu (thereby adding to this island's population by one), I have only returned to O'ahu once in about twenty years, and then only for half a day; I frankly do not want to see what has been done to O'ahu Nani. Since those whose business it is to control growth on its 567 square miles are not doing so but rather are accommodating more and more growth, it is very encouraging to hear that at least one pristine area of the island may be preserved for future generations to appreciate and continue supporting.

Mahalo for kindly reading my testimony.

Stephanie K. Grout
[REDACTED]
Volcano, HI 96785-0159
[REDACTED]
[REDACTED]



April 28, 2008

Laura H. Thielen
Chairperson
Department of Land and Natural Resources
1151 Punchbowl Street, Room 130
Honolulu, Hawai'i 96813

Re: Testimony in Favor of the Proposed Poamoho Natural Area Reserve
For the NARS Commission Hearing on April 30, 2008

Dear Ms. Thielen:

The Hawaiian Trail and Mountain Club (HTMC) wishes to voice its support for the proposed Poamoho Natural Area Reserve (NAR). As a club, our objectives include the preservation and conservation of Hawaii's forests and wild lands. We accomplish this by promoting among our members and others an interest in and a stewardship for the fragile environment over which we conduct our main activity, hiking. We believe we are partners with the Department of Land and Natural Resources in preserving the best of what Hawaii has to offer, while maintaining access to some of the most beautiful places on earth.

Please be assured that our members are respectful of the land and see themselves as caretakers of the environment. Many of our members are avid students of native flora and fauna and fully understand the importance of protecting those populations. We also provide many trail clearing manhours every week to keep Oahu trails open for hikers, researchers, emergency personnel, and those who work to keep invasive species from our forests. Our hikes through the NARs are members-only hikes and our actions are cautious and deliberate, avoiding departure from the marked trail.

HTMC holds a high regard for the historic trails that border three sides of the proposed NAR and we strongly support that they remain Priority Trails as listed in the 1991 Na Ala Hele plan. Two of these trails that we hike each year, Poamoho and Schofield-Waikane form the north and south boundaries of the proposed NAR. Neither passes through the NAR, but both give researchers and scientists as well as hikers access without actually passing through or disturbing the interior of the NAR. HTMC supports the current access policy and would like to see it continued. We ask that we be included in any present and future reviews regarding NAR access.

Respectfully submitted,

Tom Mendes, President
Hawaiian Trail and Mountain Club

PO Box 2238 Honolulu, Hawaii 96804
Clubhouse: 41-023 Puuone Street Waimanalo, Hawaii 96795
(808) 259-5443
Web: <http://htmcclub.org/>

Ms. Thielen

Page 2

Wildlife Refuge and would also help to ensure the significant natural resources found in the northern leeward Koolau mountains are conserved into the future.

During the site visits to Poamoho, I and my colleagues were able to learn about the various natural community areas that are in the lower, middle and upper elevations. Although you are no doubt aware of these natural resource values at Poamoho, I wanted to include an overview of the plant and animal resources of Poamoho that justify its inclusion in the State of Hawaii Natural Area Reserve System.

Thanks largely to past and continuing management by the State and the military (as well as associated conservation, education, and research entities), Poamoho hosts some of the most outstanding examples of native Oahu native plant communities. These include remnant stands of native dryland forest, large areas of mesic koa forest; koa and ohia; and ohia-wet forest. Near the summit, stunted native wet cloud-forest and bog communities occur. These natural community types support an array of other trees, shrubs, ferns, and other native plants. These plant communities, in turn, support a diversity of native fauna that includes native arthropods, land snails, and birds. Several critically endangered Oahu tree snail species of the genus, *Achatinella*, occur there. The forests of Poamoho also support a variety of native Hawaiian birds including the endangered Oahu Elepaio, and two Hawaiian honeycreepers: the Oahu Amakihi and the Apapane. The native Hawaiian Owl (Pueo) was seen in the Koolau Mountains at nearby Waipio and could reside in Poamoho. It is very likely the native forests support endangered Hawaiian bats that still reside in the Koolau mountains. Although it is considered extinct by many, if the endangered Oahu Creeper still survives, it would occur in the forests of Poamoho. Poamoho could also serve as a release site in the future for native Iiwi, if it were deemed appropriate to release them into their former range.

Poamoho is one of the jewels of the State forest areas. A significant portion of Oahu's native forests are gone. This native forest area is deserving of being included in this extremely select group of lands whose natural values are recognized and protected in perpetuity. Active management is needed to ensure control of invasive weeds, and control of nonnative predators such as rats, mongoose, and to minimize impacts of feral pigs.

I support the NARS be established at as low an elevation as possible to allow for conservation and restoration of native dry and native mesic forests and include land up through the Koolau Summit.

With the NARS designation, I would like the board members to see to it that members of the public would be able to visit the area, within limits of permitted use and use levels that would ensure the use is consistent with the purpose of the conservation purpose of the NARS. This could be accomplished by setting acceptable limits of use, and offering opportunities to see the area based on lottery, if demand were to exceed openings. Public

Ms. Thielen

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use will allow visitors to learn about, see, enjoy and increase their appreciation for the native resources of the Koolau mountains. Educational programs, including guided hikes, participation in research and conservation work in the field, would have positive direct impacts on Poamoho and would help ensure protection and restoration of the larger ecosystem of which it is a part. NAR access permits would help ensure that visitor use continues to be carefully managed. It's important to keep public access limited in order to prevent over use of this fragile area. At the same time, opportunities to see the area and participate in restoration are essential to educating the public and fostering support for conservation programs on Oahu and in Hawaii. It should be kept in mind that the Oahu Forest Refuge and other areas will also have the capability to support public visitation and education in the future, so Poamoho would not be the only place that would accommodate public access to the Koolau mountains.

Partnerships with the Bishop Museum, schools and universities would help to provide personnel to help with conservation work.

Designation of a NAR at Poamoho would not only recognize and protect this significant area, it would ensure the forest and the native wildlife it supports will be there for future generations to treasure and enjoy.

Thank you for allowing me to comment on the proposed designation.

/original signed 4-20-08/

Phyllis Ha

Aloha Emma,

I very much support the establishment of a new area of Poamoho NAR. There are several rare and endangered species, as well as a good mixture of more common natives and native habitat. It is important to preserve these remaining areas, so much of Oahu's native habitat has already been destroyed.

As a botanist and one concerned with the future of native species it is very important to have sites in which we can study native plants in a near natural environment so that we can preserve them long term. At UHM Botany we have a number of students interested in plant ecology, breeding systems, physiology, systematics and other fields that can directly contribute to the long-term health and welfare of our native plants. They want to work with Hawaiian plants in concert with state agencies. This new area offers increased opportunities for mutually beneficial work.

I hope this testimony is not too late-we just received the email about it.

Sincerely,
Sterling C. Keeley
Professor of Botany
UHM

Hi Emma Yuen,

I am writing to you in support of establishing the proposed Poamoho Natural Area Reserve. I am hopeful that designating the Poamoho NAR will highlight the need for more native habitat management on Oahu. too often we forget that Oahu still has important natural areas with endangered species needing protection from alien invasive plants and animals.

Respectfully,
Mashuri Waite
Graduate Student
Botany Department
University of Hawaii at Manoa



Conservation Council for Hawai'i

President

Julie Leialoha

Vice-President

Nelson Ho

Secretary/Treasurer

Kim Ramos

Directors

Fred Kraus, Ph.D.

Douglas Lamerson

George Robertson

Claire Shimabukuro

Helene Takemoto

Mashuri Waite

Executive Director

Marjorie Ziegler

April 30, 2008

Laura H. Thielen, Chair
Board of Land and Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813

Via Email Transmittal: dlnr@hawaii.gov

Re: Support for the proposed Poamoho Natural Area Reserve
on O'ahu

Dear Ms. Thielen and Members of the Board of Land and
Natural Resources,

Aloha. The Conservation Council for Hawai'i supports the
proposed designation of Poamoho on O'ahu as a Natural
Area Reserve. It has been far too long since we last
designated a Natural Area Reserve (1991, Kanaio on Maui).

The Natural Area Reserves System (NARS) is one of the
highest levels of protection for state land supporting
native Hawaiian species, ecosystems, and geologic
features.

The primary duty of the Natural Area Reserves System
Commission is to nominate areas to be added to the NARS.
More than a dozen areas were being considered for
inclusion in the NARS around 8 years ago, and none of
them has moved forward. In the future, we hope the
Commission will move more quickly in nominating areas
that qualify for inclusion in the NARS.

Thank you for the opportunity to testify.

Sincerely,

Marjorie Ziegler

Marjorie Ziegler



Working Today for the Nature of Tomorrow!

Telephone/Fax 808.593.0255 • email: info@conservehi.org • web: www.conservehi.org
P.O. Box 2923 • Honolulu, HI 96802 • Office: 250 Ward Ave., Suite 212 • Honolulu, HI 96814

Hawai'i Affiliate of the National Wildlife Federation

Hi Emma,

This is an excellent proposal, very thoroughly researched, well written, and professionally done. Congratulations.

Following Table 2 at top of next page, end of paragraph, there is an incomplete sentence where you need to enter the additional acreage. Otherwise, all seems fine.

I am delighted to see this go forward. The area abuts the Kahana Ahupua`a on the lee of the Ko`olau Mt Ridge, an added asset in my view. I am delighted to witness your good work that Lynn Gressitt and I started under Governor Burns in 1972.

Aloha,

Dieter Mueller-Dombois, PhD, Dr. h.c.
Emeritus Professor of Botany & Ecology
UH Manoa
Home Tel. ~~XXXXXXXXXX~~



UNIVERSITY OF HAWAII

DEPARTMENT OF BOTANY
OFFICE OF THE CHAIRPERSON

2 May 2008

Emma Yuen
Division of Forestry and Wildlife Planner
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, HI 96809

RE: Poamoho Natural Area Reserve Proposal

Dear Ms. Yuen,

I enthusiastically support the proposal to create a new Poamoho Natural Area Reserve. I have been conducting research on Hawaiian plants, mostly Hawaiian ferns for about 20 years. Some of that research has been conducted on NARs and, thus, I am familiar with the NAR system and with the plant diversity of the Hawaiian Islands.

The Poamoho NAR will be particularly significant as the only NAR in the Ko'olau Range of O'ahu. In addition to the plant diversity mentioned in the proposal, I want to call your attention to two species of the endemic fern genus *Adenophorus*. *Adenophorus haalilioanus* is only found at 600-820 m in wet forests on the islands of Kaua'i and O'ahu. *Adenophorus oahuensis* is only found at 300-550 m in wet forests on O'ahu. These endemic ferns of such limited distribution and specialized habitat are particularly significant to the Hawaiian Island flora because fern species here are generally of much wider distribution. Although about 80% of native species of flowering plants are single-island endemics, only about 6% of the ca. 160 species of native ferns and lycophytes are single-island endemics. Thus, establishment of the Poamoho NAR will be especially important for protecting critical habitat for these special fern taxa.

Thank you for considering my comments and good luck with the establishment of the Poamoho NAR.

Sincerely,

Tom A. Ranker, Professor & Chair

— Forwarded by DLNR.CO.PublicDLNR/DLNR/StateHIUS on 05/12/2008 11:03 AM —

Mashuri Waite

<[REDACTED]>

>

05/09/2008 04:26 PM

To dlnr@hawaii.gov

cc Emma.Yuen@hawaii.gov

Subject Poamoho Proposed NAR

To: Laura Thielen, Chair BLNR

I am writing to you in support of establishing the proposed Poamoho Natural Area Reserve. I am hopeful that designating the Poamoho NAR will highlight the need for more native habitat management on Oahu. too often we forget that Oahu still has important natural areas with endangered species needing protection from alien invasive plants and animals.

Respectfully,
Mashuri Waite
Graduate Student
Botany Department
University of Hawaii at Manoa

----- Forwarded by DLNR.CO.PublicDLNR/DLNR/StateHIUS on 05/12/2008 09:59 AM -----

"Bill Nelson"

~~stan.nelson@hawaii.gov~~
~~stan.nelson@hawaii.gov~~

To <dlnr@hawaii.gov>

cc

05/10/2008 06:42 AM

Subject Poamoho Natural Area

Dear Chairperson Thielen,

I am contacting you to voice opposition to the designation of the Eastern end of the Ewa Forest Reserve as a Natural Area. History has repeatedly demonstrated that once an area receives this designation, barriers to public access immediately follow. DLNR always prefaces these designations by saying that public access won't be affected but it isn't long before the barriers go up.

As a sometime hunter in the Ewa Forest Reserve and sometimes hiker of the Poamoho Trail I can assure you that the areas remoteness by it's very nature provides plenty of protection. Anyone who expends the effort required to get to the area isn't a person that DLNR needs to worry about damaging the area. There are plenty of hoops to be jumped through to even access the Ewa Forest Reserve before reaching the trailhead. And don't forget, one must have a 4-wheel drive vehicle to use the access road to the reserve. One more hoop.

I suggest that you and those who will vote on this designation go through the procedures to access the area that the general public needs to go through. And then visit the area yourself using your private vehicle (not a state supplied vehicle) to get a first hand feeling of the effort it takes to visit it. As the director, you can easily access the area but I suggest you follow the procedures that the public has to use. You will then get a good idea of the protections that the area already enjoys.

Stan Nelson
Haleiwa, HI
637-6179

----- Forwarded by DLNR.CO.PublicDLNR/DLNR/StateHIUS on 05/12/2008 09:59 AM -----

dan mcguire

<[REDACTED]>

To dinr@hawaii.gov

05/10/2008 10:28 AM

cc

Subject Poamoho addition to state Reserve

I strongly urge the DLNR to include Poamoho as part of the state Reserve system. I worked at Honolulu Botanic Gardens for eight years and was aware of the variety of native endemic and other native plant species in Poamoho. The area is invaluable from a conservation point of view. I strongly urge that the state of Hawaii encompass this area in its conservation reserve. Please inform me of the result of the current process.

I also strongly urge access for hiking clubs and qualified botanists into the area.

Can you please send me a map of the area under consideration? Thank you. Dan McGuire [REDACTED], Nelson, New Zealand phone [REDACTED].

----- Forwarded by DLNR.CO.PublicDLNR/DLNR/StateHIUS on 05/14/2008 09:17 AM -----

Fred R Boll

To dlnr@hawaii.gov

05/13/2008 05:50 PM

cc

Subject Poamoho NAR

Laura H. Thielen
Chairperson
Department of Land and Natural Resources
1151 Punchbowl Street, Room 130
Honolulu, Hawai'i 96813

Re: Testimony opposing Poamoho NAR

I am opposed to making Poamoho a NAR

Adding another layer of rules is not necessary. DOFAW and NAH are doing a fine job of protecting the Poamoho area.

I support the current access policy in the area commonly called Poamoho.

NAH had a very difficult time with Dole Foods getting an access agreement for the Poamoho Trail and I know NAH staff was not well pleased but felt that it was as good as it would ever get. Any attempt to revisit this process with Dole could backfire and leave us where we were a year and half ago. The access on the South is controlled by the Army and the permit process is onerous or impossible

for an individual hiker. The consequence of these access policies in effect now adequately protect the area. In addition to this the three trails in the area approximately conform to the perimeter boundary of said area and do not pass through or intrude into the interior of the area being discussed. I fail to see where hikers on these trails negatively affect the proposed NAR.

The representatives giving the presentation in support of NAR tell us they will not close Poamoho access but they are not really the ones in control. The real power is the NAR Commission. This group is not notoriously friendly toward hikers.

Here are the rules regarding the NAR commission:

"There shall be a natural area reserves system commission, hereinafter

----- Forwarded by DLNR.CO.PublicDLNR/DLNR/StateHIUS on 05/21/2008 09:47 AM -----

Karen Luke

<[REDACTED]>

To dlnr@hawaii.gov

05/16/2008 09:42 AM

cc

Subject Poamoho Natural Area Reserve

Yes, we need to actively protect this area. The pigs and strawberry guava are some of the invasive species destroying this land. Please let me know how I can help.

Aloha,
Karen Luke (formerly from Wahiawa)
91-429 Ewa Beach Road
Ewa Beach, HI 96786
Phone: 689-3798