PROPOSAL FOR THE EXTENSION OF KĪPĀHOEHOE NATURAL AREA RESERVE

I EXECUTIVE SUMMARY

An approximately 169–acre parcel is proposed to be added to the Kīpāhoehoe Natural Area Reserve (NAR) on the southwestern slope of Mauna Loa. NAR designation will facilitate management access, restoration and protection of the native forest and shrubland.

II INTRODUCTION (General)

The Kīpāhoehoe NAR was designated to protect a rare lowland dry grassland, mesic forests, lava tubes, and montane wet and mesic forests. This proposed extension of the NAR is adjacent to Hawaii Volcanoes National Park, the Kona Hema Preserve, and Yee Hop Ranch. This unencumbered State land was logged in 2001 and is in the Agricultural State land use district.

III BACKGROUND AND HISTORY

Past and Present Land Use and Conservation History

A cultural study prepared for the NAR System in 2002 details land tenure and use of Kīpāhoehoe NAR and vicinity (Maly, 2002)[1]. In the mid 1800s large portions of the existing Kīpāhoehoe NAR and surrounding areas were leased for pasturage. In 1911, the Kīpāhoehoe section of the South Kona Forest Reserve was established adjacent to the proposed parcel. Ralph Hosmer, Superintendent of Forestry testified to the Board of Commissioners of Agriculture and Forestry that especially valuable koa timber grows in the Forest Reserve and commercial use, rather than protective use for watershed values should be pursued on this land. Koa was harvested in this region, especially in adjacent Yee Hop property where a mill was located. In 1982, the Kīpāhoehoe Section of the South Kona Forest Reserve was set aside as the Kīpāhoehoe Natural Area Reserve. Since the mid-1800s and into the present, cattle trespass into the then-Forest Reserve and the Natural Area Reserve and adjacent areas has been documented.

In 2001, contractors hired to log koa on adjacent then-Damon Estate property constructed haul roads and logged koa and other native trees from this property and the adjacent NAR. Subsequently, a team from the Division of Forestry and Wildlife (DOFAW) surveyed the parcel and assessed that approximately 200 trees were felled or harvested and half an acre was disturbed for landing construction and haul roads (DLNR, 2003).

Following an environmental assessment finding of no significant impact in 2002, NARS staff constructed ungulate-proof fences on the upper portion of the NAR above approximately the 3,200-ft elevation. The NAR fence to the north and a Kona Hema fence to the south delineate portions of the parcel's boundary. Access roads have been constructed which connect to the Kona Hema Preserve of The Nature Conservancy and follow the southwestern boundary of the

[1] The Cultural Study may be viewed online at http://hawaii.gov/dlnr/dofaw/nars/reserves/big-island/Kīpāhoehoecs.pdf or by requesting a paper copy of the 135-page document to the NARS Enhancement Coordinator at (808) 587-4170.

parcel. Non-native plant and animal control is ongoing in the adjacent properties designated for conservation.

In 2003, the Kahuku Ranch which forms the eastern boundary of the parcel was purchased from Damon Estate and included in the Hawaii Volcanoes National Park. These adjacent conservation areas are included in the Three Mountain Alliance watershed partnership. Due to the conservation efforts on surrounding lands, the area is believed to not contain game animals.

Cultural and Historical Significance
Historically, human habitation in the Kīpāhoehoe region concentrated along the coast and along the belt road (Highway 11), which is approximately 6 miles makai of the proposed parcel (Maly, 2002). The uplands where this parcel is located were used throughout the last 200 years for koa harvesting and cattle pastures (Maly, 2002).

IV JUSTIFICATION (Specifics)

Scientific Value and Natural Communities and their Status
This parcel contains `ōhi`a dry forest and montane shrubland, pioneer vegetation on lava (from the 1919 lava flow that covers approximately 1/3 of the parcel) and the koa-`ōhi`a montane mesic forest. The latter native community is the most diverse and likely to contain rare species.

Representativeness and Rarity
While portions of this parcel were logged a decade ago, with restoration this parcel can provide habitat for rare species. This area is above the range of mosquitoes and is within the range or recovery habitat of the endangered Hawaii creeper (*Oreomystis mana*), `akepa (*Loxops coccineus coccineus*), `io (*Buteo solitarius*), and `akiapōlā`au (*Hemignathus munroi*), and is within critical habitat for the `alalā (*Corvus hawaiiensis*) (Mitchell, *et.al.,* 2005).

Biological/Ecological Design
This small parcel lies between the Kīpāhoehoe NAR, Hawaii Volcanoes National Park, and the Kona Hema Preserve. The NARS Commission has indicated that it would be beneficial for Reserves to be adjacent to areas currently managed for conservation so that management activities could be leveraged. This parcel also contains roads that, if included in the NAR, would facilitate access to the adjacent conservation lands.

Location and Size
The approximately 169-acre parcel is southeast of the Kīpāhoehoe NAR, identified by TMK (3) 8-8-01:08 in the South Kona district of Hawaii island. Elevation of this rectangular parcel ranges from 5,200-5,800 ft and it is approximately 1.6 miles long and 0.25 miles wide.

Threats (Human/Biological)

Non-native grasses such as rice grass (*Ehrharta stipoides*) and kikuyu (*Pennisetum clandestinum*) replace the native understory vegetation. Other grasses such as fountain grass (*Pennisetum setaceum*), beardgrass (*Schyzachrium condensatum*), and broomsedge (*Adropogon virginicus*) could become established in this area as well, creating a fire hazard. Fires could also be ignited by vehicles or people traversing the area. Rats (*Rattus* ssp.), dogs (*Canis familiarus),* cats (*Felis catus),* mice (*Mus musculus),* and mongoose (*Herpestes javanicus*) prey on endangered birds, native insects, and damage native plants.

This parcel is not protected by Conservation District rules so future uses of the area could include cattle grazing, timber harvest, and other agricultural uses.

Present Level of Protection and Long-term Ecological Viability
This area is currently within the Agricultural District. It is surrounded on three sides by lands designated for conservation, however threats from both human use and invasive species continue.

Environmental Consequences of No Action/Urgency
Designating this area a NAR would enhance the ability of the Division of Forestry and Wildlife to participate and contribute to conservation and restoration actions in this area.

V. MANAGEMENT NEEDS

Threats Requiring Management
Reducing and/or eliminating invasive species and illegal human activities are the highest management priorities for this parcel. Re-planting native vegetation in areas disturbed by logging could aid restoration.

VI. PUBLIC NOTIFICATION

Agencies, Organizations, and Individuals Contacted
The Natural Area Reserves System Commission recommended this extension during its public meeting on November 18, 2011. The Board of Land and Natural Resources approved a request to conduct a public hearing on January 13, 2012.

FEDERAL AGENCIES
US Fish & Wildlife Service
US Geological Survey
US National Park System - Hawaii Volcanoes National Park

STATE AGENCIES
Office of Hawaiian Affairs
Senator Gilbert Kahele
Senator Josh Green
Representative Richard Onishi

Representative Richard Creagan
Governor Neil Abercrombie
Department of Public Safety

COUNTY
Office of the Mayor
Councilmember J Yoshimoto
Councilmember Brenda Ford
Game Management Advisory Commission

ORGANIZATIONS
Three Mountains Alliance Watershed Partnership
Sierra Club
Conservation Council of Hawaii
The Nature Conservancy of Hawaii
Hawaii Audubon Society
Hawaii Conservation Alliance
Hawaiian Botanical Society
Association of Hawaiian Civic Clubs
Plant Extinction Prevention Program
Aha Kiole Council
Yee Hop Ltd.
Kamehameha Schools

VII. BIBLIOGRAPHY/REFERENCES

DLNR, 2002. Kīpāhoehoe Natural Area Reserve Management Plan. Department of Land and Natural Resources, Division of Forestry and Wildlife, Natural Area Reserves System. Available online at: http://hawaii.gov/dlnr/dofaw/nars/reserves/big-island/Kīpāhoehoemp1.pdf

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DLNR, 2003. Enforcement Action Involving Removal of Koa Timber on State Unencumbered Lands, Steve's Ag Services, Ltd. and Contract Milling, Alleged, South Kona, Hawai`i; Tax Map Key: (3) 8-8-01:08. Submittal from the Land Division for the June 26, 2003 meeting of the Board of Land and Natural Resources, Agenda Item D-16.

Maly, K., Maly, O. 2002. Kīpāhoehoe Ma Kapalilua – Kona Hema, Hawai`i: A Cultural Study of Kīpāhoehoe and Neighboring Lands in Kapaplilua, South Kona, Island of Hawaii (TMK 8-8-01:5,6,7,10,11,12,13). Prepared for the Natural Area Reserves System by Kumu Pono Associates, Hilo, HI. Available online at: http://hawaii.gov/dlnr/dofaw/nars/reserves/big-island/Kīpāhoehoecs.pdf

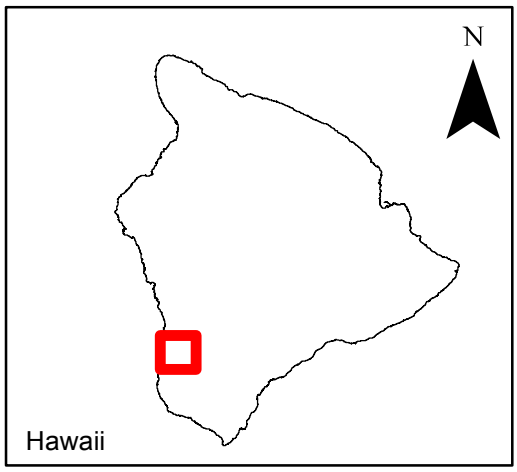
Mitchell, C., C. Ogura, D.W. Meadows, A. Kane, L. Strommer, S. Fretz, D. Leonard, and A. McClung. 2005. Hawaii's Comprehensive Wildlife Conservation Strategy. Department of Land and Natural Resources. Available online at: http://www.state.hi.us/dlnr/dofaw/cwcs/index.html

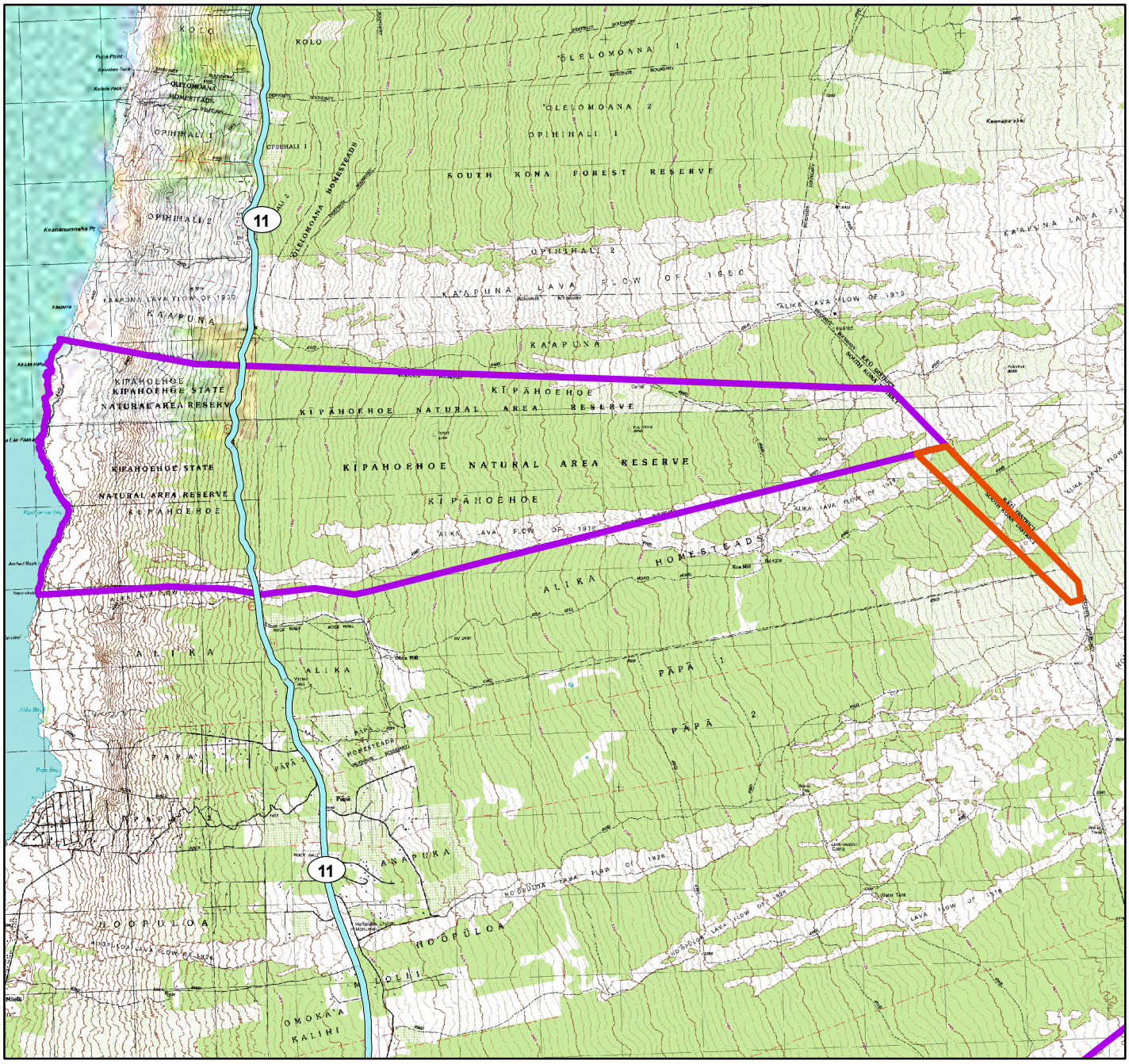
Proposed Kipahoehoe Natural Area Reserve Extension

Highway 11

Proposed NAR Extension

Kipahoehoe NAR





0 1.75 3.5 7 Miles

DOFAW (808) 587-4170. April 2014. Features approximate and subject to change.