

**REPORT TO THE TWENTY-EIGHTH LEGISLATURE
REGULAR SESSION OF 2015**

**RELATING TO THE NATURAL AREA RESERVES SYSTEM,
NATURAL AREA PARTNERSHIP PROGRAM,
AND
THE FINANCIAL CONDITION OF THE
NATURAL AREA RESERVE FUND**



PREPARED BY

**STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE**

IN RESPONSE TO SECTION 195-6.6, HAWAI'I REVISED STATUTES

**HONOLULU, HAWAI'I
DECEMBER 2014**



Natural Area Reserve Fund FY 14 Summary of Accomplishments

The Natural Area Reserve Fund (NARF) supports the Natural Area Partnerships Program, the Natural Area Reserves, the Watershed Partnerships Program, and the Youth Conservation Corps through the tax paid on conveyances of land. These programs protect Hawaii's native ecosystems and unique plants and wildlife - Hawaii's cultural and natural heritage. Forested watersheds provide Hawaii's fresh water, and reduce erosion and flooding. Protecting these resources is critical for our island's economy, as well as for the health of its people. Summaries and maps of the accomplishments funded by FY 14 NARF funding are listed below.



156
Jobs provided



107,544
Trees and shrubs planted



118
Youth interns trained



33,537
Acres of **invasive plant** control



16,629
Volunteer hours donated



30
Reserves and Preserves managed for current and future generations



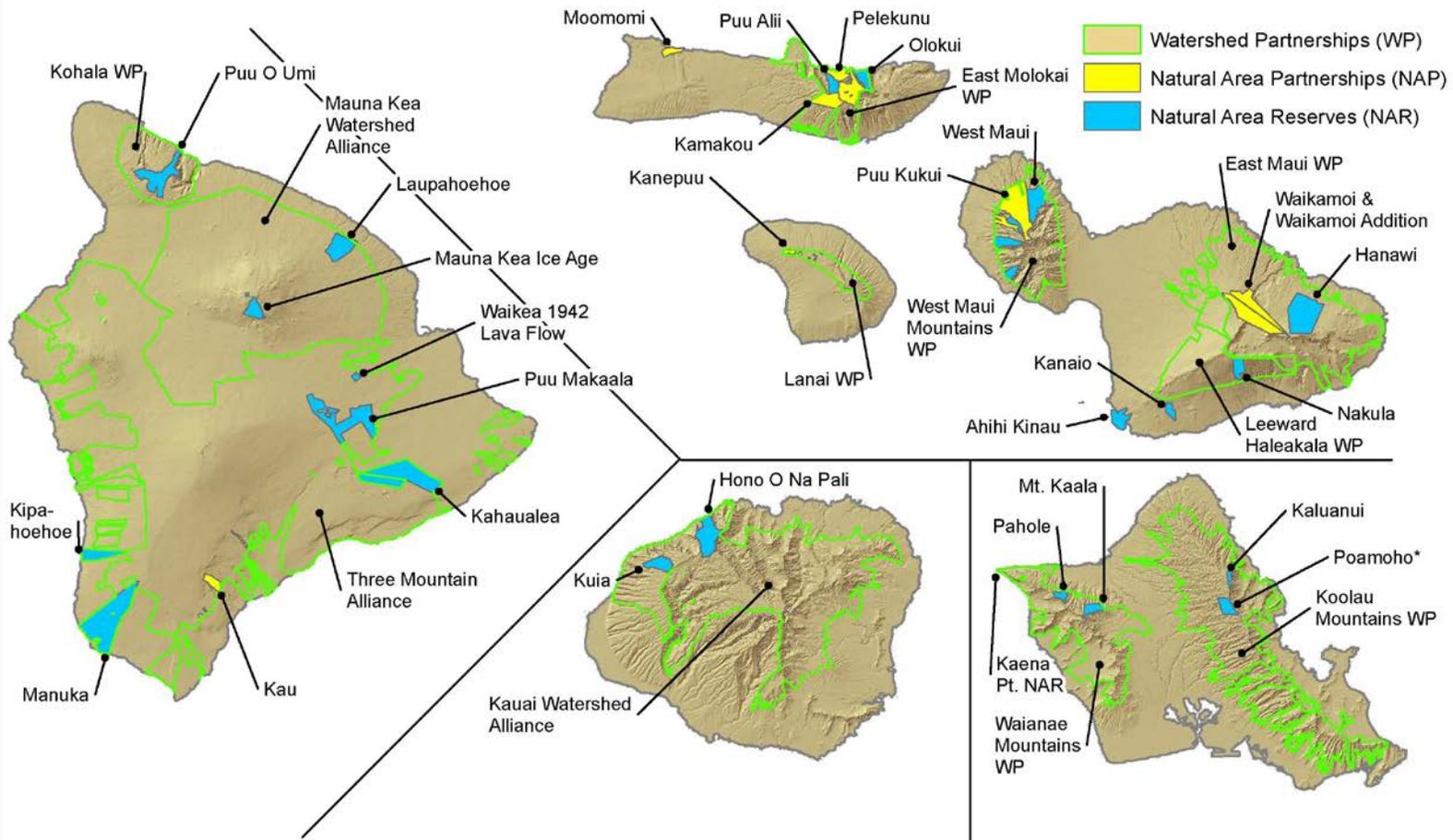
30-50%
More **fresh water** supplied by native forests than invaded forests



218
Miles of **trails and roads** maintained



Natural Area Reserves, Natural Area Partnerships, and Watershed Partnerships



*Poamoho NAR was approved by the Board of Land and Natural Resources, but is not yet designated.



Hawaii Island NARF Projects FY 14

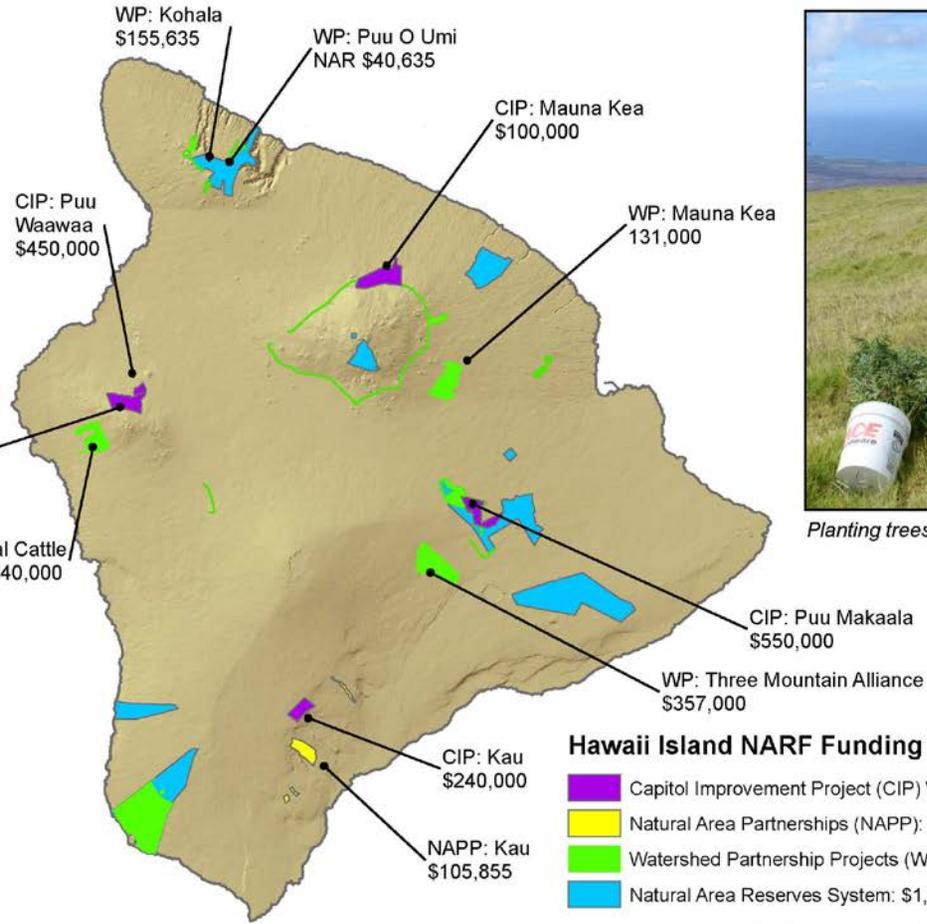
Map includes Watershed CIP projects



Iiwi, Puu Makaala NAR



Invasive weed control, Kohala



Planting trees, Puu O Umi NAR

Hawaii Island NARF Funding

- Capitol Improvement Project (CIP) Watershed: \$1,340,000
- Natural Area Partnerships (NAPP): \$105,855
- Watershed Partnership Projects (WP)*: \$643,635
- Natural Area Reserves System: \$1,238,839

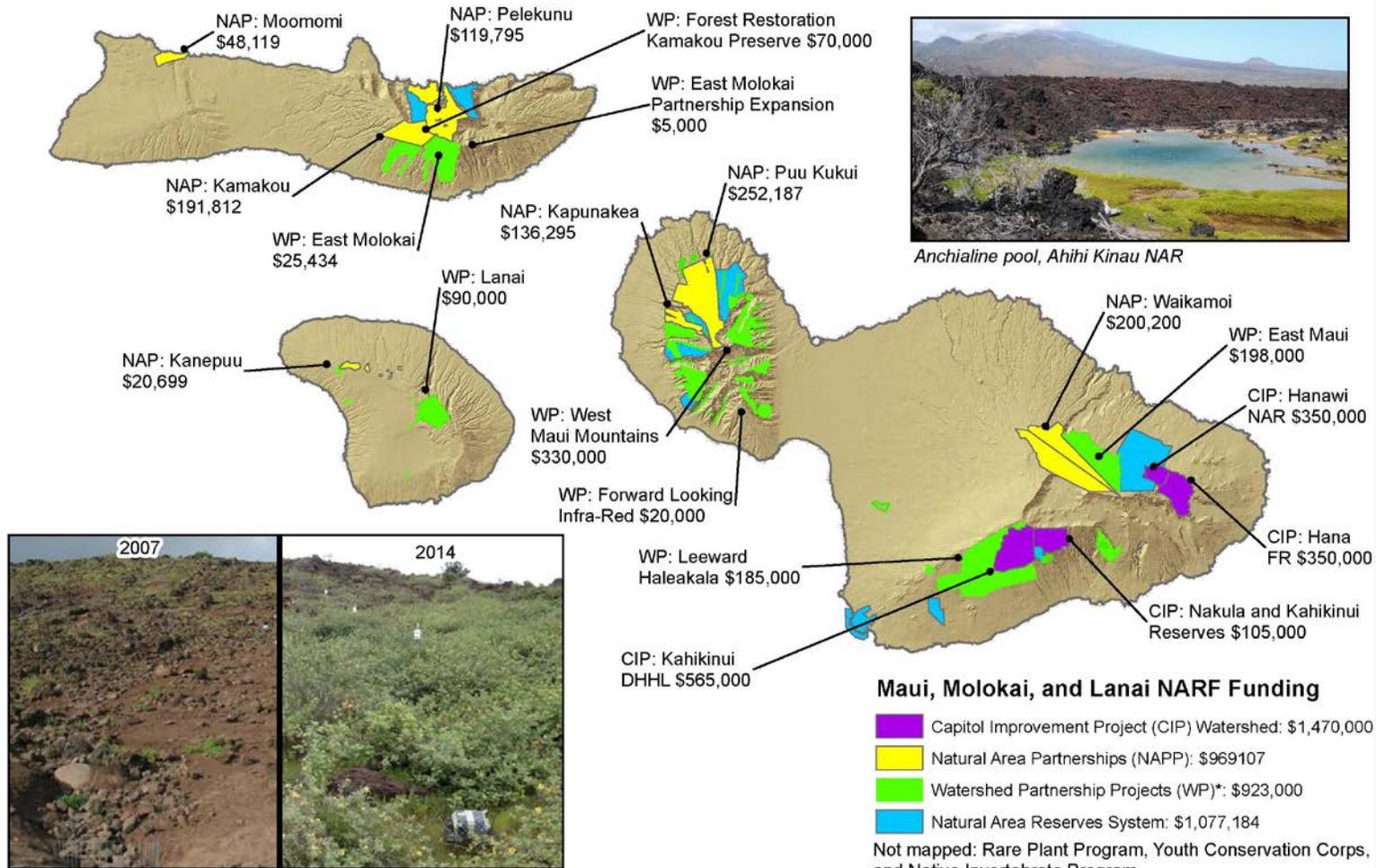
Not mapped: Rare Plant Program, Youth Conservation Corps, and Native Invertebrate Program

*Watershed Partnership projects accomplishments from FY13 funds. October 2014 (808) 587-4170.



Maui, Molokai, and Lanai NARF Projects FY 14

Map includes Watershed CIP projects



Before and after protection, East Molokai Watershed Partnership
(Photo: Jon Stock, USGS)

*Watershed Partnership projects accomplishments from FY13 funds. October 2014 (808) 587-4170.



Oahu NARF Projects FY 14

Map includes Watershed CIP projects

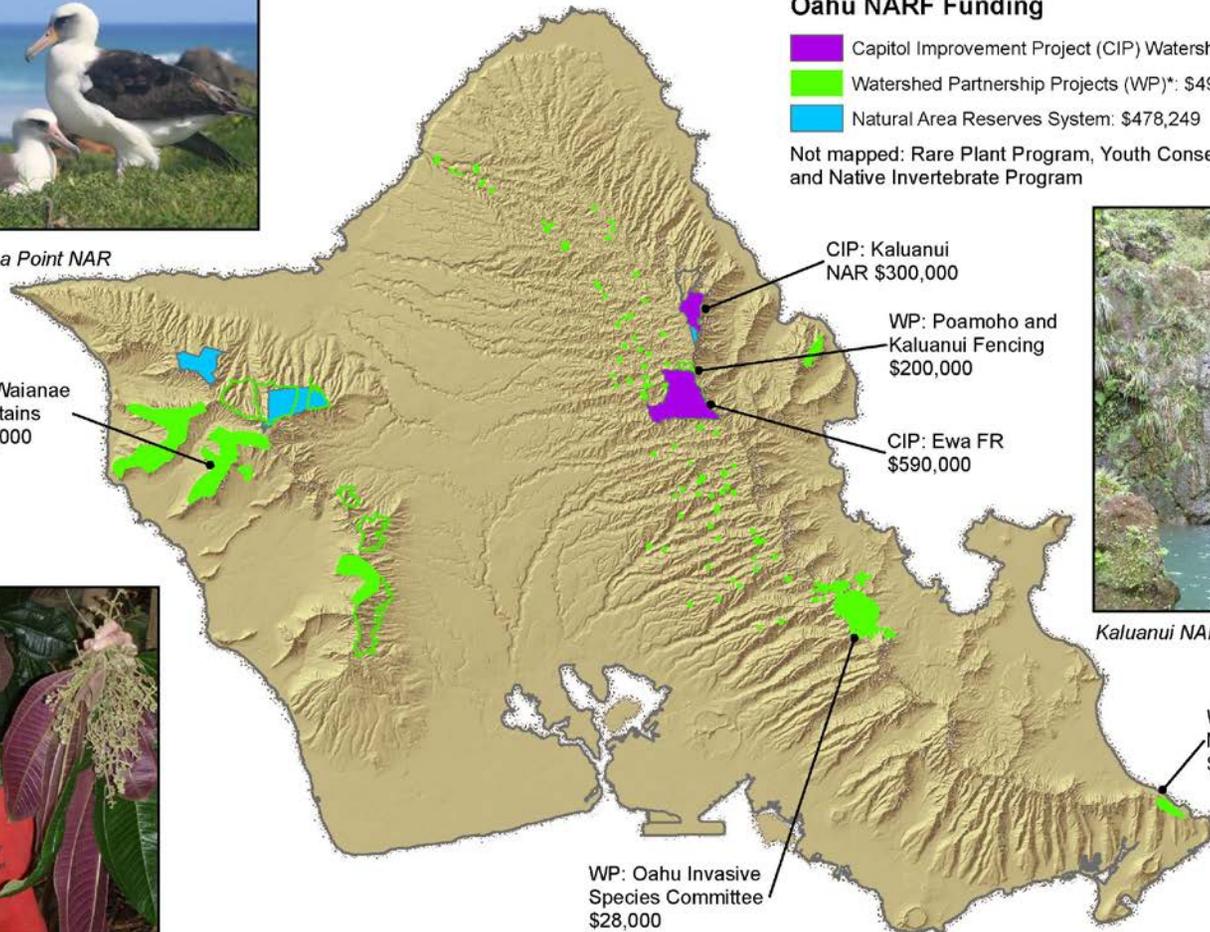


Albatross, Kaena Point NAR
Photo: Lindsay Young

WP: Waianae Mountains
\$160,000



Removing invasive *Miconia* in the Koolau mountains



Oahu NARF Funding

- Capitol Improvement Project (CIP) Watershed: \$890,000
- Watershed Partnership Projects (WP)*: \$498,000
- Natural Area Reserves System: \$478,249

Not mapped: Rare Plant Program, Youth Conservation Corps, and Native Invertebrate Program



Kaluanui NAR

WP: Koolau Mountains
\$125,000

WP: Oahu Invasive Species Committee
\$28,000

*Watershed Partnership projects accomplishments from FY13 funds. October 2014 (808) 587-4170.



Kauai NARF Projects FY 14

Map includes Watershed CIP projects

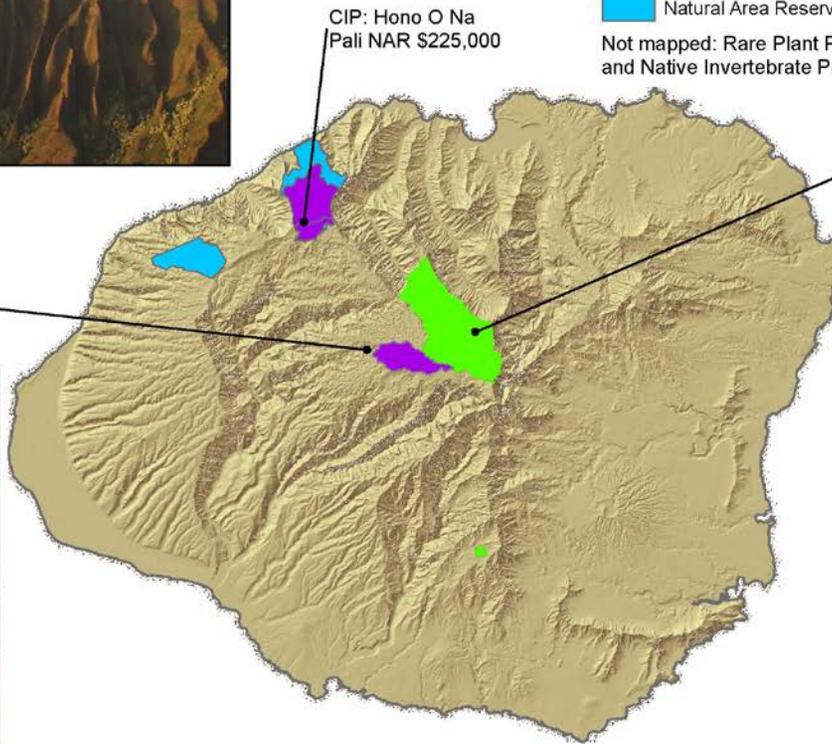


Hono O Na Pali NAR

CIP: Alakai Wilderness Preserve \$1,075,000



Ginger removal, Alakai



Kauai NARF Funding

- Capitol Improvement Project (CIP) Watershed: \$1,300,000
- Watershed Partnership Projects (WP)*: \$299,997
- Natural Area Reserves System: \$485,227

Not mapped: Rare Plant Program, Youth Conservation Corps, and Native Invertebrate Program

CIP: Hono O Na Pali NAR \$225,000

WP: Kauai Watershed Alliance \$299,997



Kauai Watershed Alliance
Photo: Malde

*Watershed Partnership projects accomplishments from FY13 funds. October 2014 (808) 587-4170.

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LIST OF ACRONYMS

BLNR Board of Land and Natural Resources
CIP Capital Improvement Project
DLNR Department of Land and Natural Resources
DOE Department of Education
DOFAW Division of Forestry and Wildlife
EMWP East Maui Watershed Partnership
EMoWP East Moloka‘i Watershed Partnership
FY Fiscal Year
GIS Geographic Information System
HAWP Hawai‘i Association of Watershed Partnerships
HDOA Hawai‘i Department of Agriculture
HEEA Hawai‘i Environmental Education Alliance
HISC Hawai‘i Invasive Species Committee
HRS Hawai‘i Revised Statutes
KISC Kaua‘i Invasive Species Committee
KWA Kaua‘i Watershed Alliance
KWP Kohala Watershed Partnership
KMWP Ko‘olau Mountains Watershed Partnership
LHWRP Leeward Haleakalā Watershed Restoration Partnership
MISC Maui Invasive Species Committee
MoMISC Moloka‘i Invasive Species Committee
NARF Natural Area Reserve Fund
NAR Natural Area Reserve
NARS Natural Area Reserves System
NAPP Natural Area Partnership Program
NIP Native Invertebrate Program
NPS National Park Service
OISC O‘ahu Invasive Species Committee
OANRP O‘ahu Army Natural Resources Program
PEP Plant Extinction Prevention
PLT Project Learning Tree
RC&D Resource Conservation and Development
RCUH-PCSU Research Corporation of UH -Pacific Cooperative Studies Unit
SEP Snail Extinction Prevention (SEP) Program
T&E Threatened and Endangered
TMA Three Mountain Alliance
TNC The Nature Conservancy
UH University of Hawai‘i
USDA - FS United States Department of Agriculture Forest Service
USFWS United States Fish and Wildlife Service
USGS United States Geological Survey
WMMWP West Maui Mountains Watershed Partnership
YCC Youth Conservation Corps

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NATURAL AREA PARTNERSHIP PROGRAM,
AND
THE FINANCIAL CONDITION OF THE
NATURAL AREA RESERVE FUND**

Section 195-6.6, Hawai‘i Revised Statutes (HRS), requires an annual comprehensive status report on the Natural Area Reserves System (NARS), the Natural Area Partnership Program (NAPP) and the financial condition of the Natural Area Reserve Fund (NARF). This report includes a description of activities and accomplishments, compliance with Chapter 42F HRS, an analysis of problems encountered, status of public hunting opportunities, plans and management objectives for the next fiscal year (FY), activities and goals for other programs funded through NARF, and a financial report for the NARF.

1. NATURAL AREA RESERVES SYSTEM ACTIVITIES AND ACCOMPLISHMENTS

1.1 WATERSHED INITIATIVE

NARS staff coordinated the watershed initiative, to protect Hawaii’s source of fresh water: forests. Protecting native forests is a critical tool for adapting to climate change’s drying effects, and will make Hawaii more resilient in extreme weather events by reducing landslides, flooding, and runoff. Because forest losses result in high costs for Hawaii’s economy, people, and unique plants and wildlife, the DLNR has elevated watershed protection as its top priority. The Department is nearly on track to meet its target to double the acreage of priority watershed forests protected by 2021. In FY 14, \$3.5 million in general funds and \$5 million in bond funding was appropriated (see Appendix B for summary of status of bond-funded projects). Continued funding is essential to maintain existing infrastructure and continue to expand protected areas to reach the 2021 target.

1.2 NATURAL AREA RESERVES SYSTEM MANAGEMENT

The NARS consists of 21 reserves comprised of 123,881 acres on five islands. NARS was established to protect the best remaining native ecosystems and geological sites in the State. For detailed information on the NARS, please go to <http://dlnr.hawaii.gov/ecosystems/nars/>

In FY 14, staff continued to implement the NARS Strategic Plan. The main management activities are: fencing and control of feral ungulates (wild, hoofed animals such as cattle, sheep, deer and pigs); control of other invasive species (weeds, non-native mammalian predators); reforestation; rare plant monitoring, propagation, and outplanting; fire prevention and control; monitoring; maintenance of infrastructure; and public outreach. While NARS is based on the concept of protecting native ecosystems, as opposed to single species, many threatened and endangered (T&E) plants and animals benefit from the protection efforts through NARS.

NARS staff continues to work with hunting organizations, the Division of Forestry and Wildlife (DOFAW) Wildlife Program, and others to accomplish control goals while minimizing conflict with the recreational hunting community.

Approximately 133 miles of existing trails, and 85 miles of roads were maintained, primarily for management and hunter access. Existing helipads and over 15 management shelters were maintained to facilitate management and to provide access for emergencies.

Outreach and volunteer projects increased the public's appreciation of the NARS and Hawai'i's unique natural resources. Staff led volunteer trips, presentations, and guided hikes for numerous groups, including visiting dignitaries, cooperating agencies, school groups, and the University of Hawai'i (UH). NARS staff continued participation with the national Natural Areas Association, the Hawai'i Conservation Alliance, the Pacific Island Climate Change Co-operative, the Forest Stewardship Advisory Committee, and the Hawai'i Conservation Conference.



NARS Commission

The NARS Commission is an advisory body to the DLNR under §195-6, HRS.

- The NARS Commission met three times in FY 14.
- BLNR or its authorized representative, with the approval of the NARS Commission, recommended the issuance of 66 Special Use Permits for research, education, large group hikes, educational and commercial filming.
- Experimental Tropical Forest permits for Laupāhoehoe NAR are issued through the United States Forest Service, as authorized.

1.3 RESERVE ACTIVITIES AND ACCOMPLISHMENTS BY ISLAND

FY 14 Accomplishments for the NARS are summarized in the table and narrative below.

Natural Area Reserve System (NARS) FY 14 Accomplishments Summary						
	Invasive plants search & control	Protected from hooved animals	Planting (common and T&E species)	Volunteer Contributions	Fence (new constructed)	Fence (existing maintained)
Reserve	Acres	Acres	Number	Hours	miles	miles
Kaua'i						
Hono o Nā Pali	166				1.5	
Kuia	127.86	127.86	4,448	592	1.68	2.26
O'ahu						
Pahole	0.43	650	771	168		7
Ka'ala	0.6	50				0.3
Kaena Point	0.73	65	44	219		0.25
Poamoho (BLNR Approved NAR)	1				0.3	
Maui						
'Āhihi-Kīna'u	0.4			1,045.50		
Hanawi		4,500			2.3	12
Nakula	278	420	15,900		0.3	8.5
Kanaio	314	1,450	6,000	480		7.6
West Maui	6	5,461				3.5
Pu'u Ali'i	70	1,000				6.5
Oloku'i					0.062	
Hawai'i						
Mauna Kea Ice Age		3,894				0.81
Pu'u O 'Umi	22	2,568		85	4.65	9.4
Laupāhoehoe		27.14	13	170	0.875	1.9
Kahauale'a	12.1	152.1				0.81
Kīpāhoehoe	2	1,330	272			7.4
Pu'u Maka'ala	8	14,216	7,716	1,122	0.875	63.7
Manukā	14,000	1,094.20	136			10.6
Pu'u Wa'a Wa'a FR/Forest Bird Sanctuary	24	3,925	7,250		1.6	17.5
Koai'a Corridor Tree Sanctuary	2		790			2.8
TOTAL	15,035.12	40,830.30	43,340.00	3,881.50	14.14	162.83

Kaua‘i – Two reserves, 4,786 acres

- *Hono o Nā Pali* - 3,150 acres; mesic and wet forest with perennial streams
- *Kuia* - 1,636 acres; dry and mesic forest with perennial streams

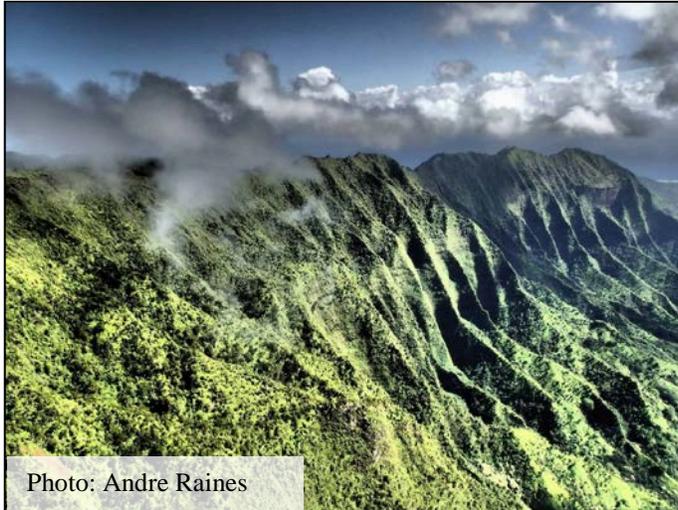


Photo: Andre Raines



Photo: Liz Kain

Management at Hono o Nā Pali includes protection of nesting endangered seabirds through non-native predator control across 473 acres in cooperation with the Kaua‘i Endangered Seabird Program.

O‘ahu

- *Pahole* - 658 acres - dry and mesic forest
- *Ka‘ala* - 1,100 acres - dryland to wet shrub forest
- *Ka‘ena Point* - 12 acres - coastal dune ecosystem
- *Kaluanui* - 450 acres - mesic to wet forest and cliff
- *Poamoho (BLNR Approved NAR)* - 1,500 acres; mesic to wet forest

Secured a \$1.1 million U.S. Fish and Wildlife Service (USFWS) grant to aid in the purchase of Dole land at Waimea Valley and a \$350,000 Legacy Lands grant toward the purchase of Dole land at Helemano. Both areas contain important resources to DLNR and would match a \$10 million dollar CIP request.

Pahole: Ran a volunteer “adopt a forest” program with intermediate and high schools that melds resource management with Department of Education (DOE) school standards. Students camp at Peacock Flats campground and help the NAR with weed control and native plantings while learning about native ecosystems, science, and math.

Ka‘ena Point: Committed significant resources to maintain a predator free fenced area at Kaena Point - the only place where seabirds such as Laysan Albatross, Wedge tailed Shearwater, and Black Noddies nest on O‘ahu.

Kaluanui: This NAR was established on Feb 14, 2014. In FY 14 staff determined a fence alignment and conducted biological surveys, established helicopter landing zones, established access agreements with private landowners, and prepared a site for a field shelter.

Maui and Moloka‘i - Seven reserves, 21,493 acres

- *‘Āhihi-Kīna‘u* - 2,045 acres; lava flows, anchialine ponds, nearshore marine ecosystems
- *Hanawi* - 7,500 acres; ‘ōhi‘a wet forest, alpine grassland, and perennial streams
- *Nakula* - 1,420 acres; leeward montane koa/‘ōhi‘a forest and alpine shrublands
- *Kanaio* - 876 acres; halapepe and lama dry forest
- *West Maui* - 6,702 acres; pili grassland, mesic/wet forest, bogs, and perennial streams
- *Pu‘u Ali‘i* - 1,330 acres; wet shrubland and forest with perennial streams
- *Oloku‘i* - 1,620 acres; mesic forest, wet shrubland and forest with perennial streams

‘Āhihi-Kīna‘u: Trained and coordinated volunteers to help educate the public about resources, historic sites and rules and to assist with coastal wetland restoration including removal of invasive plants and planting native plants. DOFAW received a USFWS grant for coastal wetland restoration. Two public Advisory Group meetings were held to discuss progress implementing the approved management plan. Staff coordinated the infrastructure improvements including a new gate and signage to control illegal parking; a pedestrian path; and a new interpretation shelter. Existing parking lots, trails and office-trailer area were maintained.



Nakula NAR Reforestation - Helicopter boom spraying invasive grasslands and native tree planting.

Oloku‘i: Protected this remote and near-pristine area by aerial shooting and surveying conducted along the north shore of Moloka‘i and removed feral ungulates during two days of missions.

Other areas: Assisted East Moloka‘i Watershed Partnership (EMoWP) in conducting aerial shooting missions that removed goats from the south slope of Moloka‘i.

Hawai‘i - eight reserves (94,953 acres)

- *Mauna Kea Ice Age* - 3,894 acres; *alpine community*
- *Pu‘u O ‘Umi* - 10,142 acres; *wet forest, montane bog, and perennial streams*

- *Laupāhoehoe* - 7,894 acres; wet forest with perennial streams
- *Kahauale‘a* - 22,521 acres; wet forest with volcanic activity
- *Kīpāhoehoe* - 5,583 acres; mesic to wet forest
- *Waiākea 1942 Flow* - 640 acres; developing wet forest
- *Pu‘u Maka‘ala* - 18,730 acres; wet forest
- *Manukā* - 25,550 acres; coastal to subalpine forest

Mauna Kea Ice Age: Worked with the Office of Mauna Kea Management on protection of the unique natural and cultural features. Staff hosted a site visit with stakeholders to discuss issues related to cultural practices, research permits, resource damage, and climate change impacts.

Laupāhoehoe: Participated in the management of the Hawai‘i Experimental Tropical Forest (<http://www.hetf.us/>) with the United States Department of Agriculture Forest Service (USDA-FS) including permit review and public meetings of the Laupāhoehoe Advisory Council to develop a management plan.

Kahauale‘a: Active volcanism is ongoing with lava flows currently threatening communities in the Puna District. The NAR remains closed to public use due to volcanic hazards. Staff monitored eruption by coordinating with the USGS Hawaiian Volcano Observatory and Hawai‘i Civil Defense. Staff added and maintained signs and issued animal control permits to hunters to access safe areas to assist with feral animal removal.

Pu‘u Maka‘ala: Completed a management plan and final environmental assessment. Replaced $\frac{3}{4}$ of a mile of vandalized fence and removal of ingress feral pigs due to fence damage at a cost of \$42,000. Staff coordinated with the Department of Public Safety for the re-activation of the Kūlani Correctional Facility.

Manukā: New boom spraying equipment co-developed with the helicopter contractor increased the effectiveness of invasive fountain grass control. Staff cleaned tons of trash from the coast and illegal dumping sites in partnership with the Hawai‘i Wildlife Fund.

Other Areas: Staff assisted with sheep control on Mauna Kea for Palila restoration and compliance with a court order as well as provided staff and resources to the Hawai‘i Island Axis Deer Working Group to ensure the successful control of this threat.

Outreach and education staff conducted volunteer trips and distributed outreach materials to hundreds of people during events such as Earth Day, Merrie Monarch Parade, Hawai‘i County Fair and Audubon Christmas Bird Count; hosted the Kauluwehi lei contests, Hawai‘i Nei Art native species art contest in cooperation with the Wailoa Art Center and the Three Mountain Alliance (TMA); and assisted with the annual Pu‘u Wa‘awa‘a “Run for the Dry Forest” event.

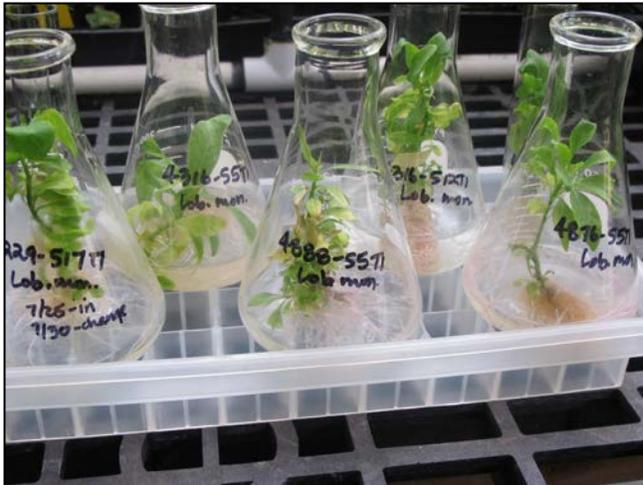
1.4 RARE PLANT PROGRAM

The NARF supports the Rare Plant Program by providing matching funds for projects listed below, which are supported by Section 6 of the Federal Endangered Species Act.

The Statewide Rare Plant Database unifies data collection statewide. Funding is being sought for a web-based data entry system.

The Hawaiian Mid-Elevation Rare Plant Facilities are propagation and storage facilities for rare native Hawaiian plant species which function as part of a statewide network. They work to prevent extinction by 1) propagating and increasing plant numbers for reintroduction into natural habitat, and 2) storing species for which there is no adequately protected habitat and to safeguard against extinction for those which have very few wild individuals remaining. These facilities work closely with other public and private cooperators across the state and collaborate with federal, state and private land managers to replant species into appropriate habitats.

- The four mid-elevation nurseries of Volcano (Hawai‘i), Pahole (O‘ahu), Olinda (Maui) and Kōke‘e (Kaua‘i) propagated 176 rare plant taxa for outplanting, with 5,254 individuals out-planted back into natural habitats.
- Lyon Arboretum Micropropagation Laboratory received 262 separate collections representing 78 species, of which 63 (81%) are from species federally listed as T&E. The total number of plants that the lab currently has in inventory is 26,918.
- Lyon Seed Conservation Laboratory accessioned 266 collections, representing 538 individual seed lots, and 159 species. Of these individual seed lots, 388 (72%) were from T&E species. 1,997,038 seeds were deposited into the seed bank.



Tissue cultured plants (*Lobelia monostachya*) that are being prepped for out-planting.

The Plant Extinction Prevention (PEP) Program (<http://www.pepphi.org>) leads the largest statewide T&E plant protection effort in Hawai‘i, and is supported with federal, state, and private funding. To address the extinction crisis and focus efforts on the most critically rare Hawaiian plants, the PEP Program implements recovery actions for species that number

fewer than 50 individuals remaining in their natural habitats. These are coined “PEP” species. The PEP Program focuses efforts on preventing the extinction of its 236 target species. PEP staffing is currently comprised of 13 employees.

PEP Program FY 14 Highlights

- Implemented actions to protect 170 T&E species and recover 137 PEP species.
- Monitored populations of 107 species, placing 77 of these into ex situ cultivation at a cooperating Rare Plant Facility.
- Surveys were conducted for 95 PEP species.
- Managed threats for 71 PEP species to protect wild plants. Threat management entailed alien plant control; activities associated with ungulate-excluding fencing (e.g., site selection and planning, construction, and maintenance); rat trapping; application of molluscicide, removing tree fall from imperiled plants; and bagging fruits to protect

- them from invertebrate and rodent pests or to prevent fruit from falling to the ground.
- Reintroduced 33 PEP species totaling 1,691 plants into protected habitat to establish new populations.
- Assisted Guam PEP Program through training. Guam PEP is supported through a 2012 USDA-FS State and Private Forestry Multi-state grant.

1.5 NATIVE INVERTEBRATE PROGRAM (NIP)

The objective of the Native Invertebrate Program (NIP) is to direct resource management, monitoring, research, conservation, and policy relating to federally listed T&E and otherwise rare native invertebrate species. The NARF support for this program provides matching funds for multiple federal funding sources including: USFWS, Dept. of Defense and USDA-FS grants. In FY 14 the NIP program leveraged State funds at a ratio 2.25:1. Hawaiian ecosystems are dependent upon the ecological services completed by a diverse assemblage of native invertebrate species, and NIP projects range from species-specific conservation to habitat-level restoration that broadly support invertebrate diversity. Addressing the ecological impacts of invasive pest species is also a high priority for the program.

Statewide Native Invertebrate Database: An ecological, specimen level database has been developed to house both historical and contemporary invertebrate data. The database will be made available to the public online, and will be integrated with a database platform which supports streamlined online permitting and reporting.

Native Invertebrate Facilities: In FY 14 the NIP program received USFWS funding to establish the first State Insectary Facility for captive propagation and research on native invertebrate species. The objective of establishing such a facility is to propagate rare invertebrates for reintroduction into natural habitats, and will be completed in FY 15.

NIP Projects conducted in collaboration with UH Manoa researchers in FY 14: 1) UH Insect Museum Specimen Databasing Project; 2) Pulelehua (Kamehameha Butterfly) Project; 3) Yellow-faced Bee Captive Propagation Project; 4) Yellow-faced Bee Nest Habitat Enhancement Project; 5) Assessing Non-target Impacts to Mt. Kaala Snail.

The Pulelehua or Kamehameha butterfly (*Vanessa tameamea*) is our State Insect. Like many of our native species, it has suffered from habitat destruction and alteration, and has been impacted by invasive predators. The Pulelehua project is aimed at assessing the conservation status of this notable species: determining the current distribution and quantifying the most significant threats to its future survival. (Photo: William Haines, UH Manoa -PEPS)



Snail Extinction Prevention Program (SEPP) was established to prevent the extinction of rare Hawaiian land snail species and preserve the ecosystems upon which these species depend. There are currently two SEPP staff.

Snail Extinction Prevention Program FY 14 Highlights

- Received \$100,000 from USFWS to construct a predator-proof snail enclosure in the

Southern Koolau Mountains.

- Received \$249,900 from USFWS to conduct surveys and establish predator control around rare snail populations in the Koolau and Waianae Mountains.
- Authored a SEPP Strategic Plan outlining the first coordinated approach to preventing the extinction of rare Hawaiian snails across the islands.
- Performed two successful translocations of rare snail species into protected habitat in the Waianae Mountains.
- With our partners, discovered a population of an *Achatinella* species thought to be extinct since the 1980s.
- Conducted predator control and monitoring at over 10 populations of T&E snail species in the Koolau and Waianae Mountains.

Kahuli or Hawaiian tree snails have beautiful shells and are famous in Hawaiian lore for their presumed ability to sing. Unfortunately, Kahuli have been severely impacted by invasive predators, and now most species are threatened with extinction. The species featured (*Achatinella lila*) is critically imperiled and found only on summits of the Northern Koolau Mountains. Fortunately, in 2015 it will be the first kahuli from this region to be protected by a predator-proof fence. (Photo: David Sischo, DOFAW-SEPP)



1.6 FINANCIAL REPORT

NARS is financially supported partly through the General Fund under program LNR-407 (see Table A). In FY 14, general fund expenditures were \$725,756 in personnel costs and \$425,546 in operational costs, totaling \$1,151,302. This funding was supplemented by federal grants on a project-by-project basis, state special funding from NARF, which is reported in Section 8, and CIP funding.

1.7 PLANS AND MANAGEMENT OBJECTIVES FOR FY 15

Specific Plans and Objectives by Branch (FY 15):

Kaua'i:

- Complete Hono O Nā Pali fence construction and initiate feral ungulate control.

O'ahu:

- Construct fences at Poamoho and Kaluanui.
- Continue ungulate removal from fenced units within Pahole and Ka'ala NARs.
- Monitor and remove rodent predators within and adjacent to the Ka'ena Point Predator Proof Fence, and monitor seabird population recovery.
- Continue implementing new herbicide efficacy trials, programmatic weed control and weed seed viability trials.
- Complete addition of Poamoho to the NARS.
- Continue to work with OANRP in the Mākua and O'ahu training area mitigation process.
- Continue active participation in the DLNR Ka'ena Point Stewardship Group.

Maui:

- Protect Hanawi NAR through fence construction, maintenance, and cyclic replacement, ungulate and weed control, and rare species monitoring, with East Maui Watershed Partnership (EMWP) and Maui Forest Bird Recovery Project.
- Complete ungulate removal from Kanaio NAR and begin updating the management plan.
- Conduct boundary fence inspection and maintenance at Kahakuloa NAR and removal of animals, with the West Maui Mountains Watershed Partnership (WMMWP).
- Continue ungulate removal from inside the fenced mauka unit in Pu‘u Ali‘i NAR.
- Continue aerial shooting of large feral animals (particularly goat) populations on the north shore of Moloka‘i.
- Continue implementation of ‘Āhihi-Kīna‘u access restrictions, conduct monitoring surveys, and implement the management plan with the Advisory Group and TNC.

Hawai‘i:

- Construct the CIP-funded Manukā boundary fence.
- Continue cooperation with USGS Hawaiian Volcano Observatory to monitor the current lava flow within Kahauale‘a NAR.
- Implement the Pu‘u Maka‘ala NAR management plan and continue work with the TMA and other state departments to advance management goals including invasive species control, rare plant restoration, and protection of native habitat.
- Work with the Kohala Watershed Partnership to implement the management plan and the Lahomene CIP watershed protection project in the Pu‘u O Umi NAR.
- Continue participation in the Hawai‘i Experimental Tropical Forest, particularly as it overlaps with Laupāhoehoe NAR and continue developing a management plan with input from the Laupāhoehoe Advisory Council.
- Continue collaboration with the Office of Mauna Kea Management to address management needs.

2. NATURAL AREA PARTNERSHIP PROGRAM (NAPP)

2.1 DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

This innovative Program, established by the Legislature in 1991 through Act 326, provides state-matching funds on a 2:1 basis with private funds for the management of natural resources on 32,520 acres of private lands permanently dedicated to conservation. NAPP complements the existing NARS by providing long-term protection, financial support and management to protect, restore and enhance unique natural resources on private lands.

Natural Area Partnership Program (NAPP) FY 14 Accomplishments Summary

	Invasive non-native plant search and control	Areas protected from hooved animals	Plantings (trees, shrubs and T&E species)	Volunteer Contributions	Fence (new constructed)	Fence (existing maintained)
Preserve	Acres	Acres	Number	Hours	miles	miles
Moloka'i						
Kamakou	563.4	735		555.5	1.5	4.4
Mo'omomi	11.06			1,068.5		
Pelekunu				81		
Maui						
Pu'u Kukui	4,198	8,660	2,758	2,480	0.43	6.45
Waikamoi	1,210	5,230	30	301		10
Kapunakea	43.3	1,775			0.04	1.12
Lana'i						
Kanepu'u	4	111	15	887	0.62	7.2
Hawai'i						
Ka'u	59	1200		690	1.3	5.5
TOTAL	6,088.76	17,711	2,803	6,063	3.89	34.67

Waikamoi - The Preserve was expanded through the purchase of a conservation easement for an additional 3,721 acres of high quality native forest in a core watershed area. TNC staff or docents led guided trips for 1,095 hikers into the Preserve.

Kamakou – Completed plant understory monitoring which indicated an overall increase in the Preserve's forest health since 2008. Road improvements were completed on critical fire access roads. Over 900 Moloka'i residents attended TNC's Earth Day events.

Pelekunu - Staff and community members participated in monitoring 4 miles of the best remaining stream system in the state. TNC has continued with funding and logistical support of NARS aerial shooting of Molokai's north shore cliffs that includes Pelekunu.

Mo'omomi - TNC continues to successfully control predators and weeds to restore coastal habitat. Wedge tailed shearwaters continued to increase in the restored habitat as shown by monitoring completed in collaboration with DOFAW and Maui Nui Seabird Recovery Project. Over double the number of banded adult birds were captured this year and over 250 more active nests were found over the same time last year. Community outreach included preserve hikes and fishing pass key system.

2.2 FINANCIAL REPORT

NAPP is supported primarily through NARF. In FY 14, state expenditures were \$1,031,138. As NAPP provides matching funds on a 2:1 basis, these state funds were matched by at least

\$515,569 in private funds. NAPP participants typically provide additional matching dollars for conservation, through additional private or federal funds.

2.3 PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR

The NAPPs will continue existing conservation management, guided BLNR-approved management plans, available at <http://dlnr.hawaii.gov/ecosystems/napp>.

3. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS FOR GRANTS AND SUBSIDIES

Under NARS, no grants or subsidies were issued pursuant to Chapter 42F, HRS. Due to legislative amendments, Chapter 42F, HRS, is no longer applicable to the types of grants issued under NAPP. All grants awarded as part of NAPP are compliant with the State Procurement Code, Chapter 103D, HRS.

4. STATUS OF PUBLIC HUNTING OPPORTUNITIES

Under NARS Management Policies, strategies to reduce populations of non-native animals to the lowest possible level are to be employed. Public hunting continues to be a control option in many areas within NARS, with most NARS acreage now open to hunting every day with no bag limit. Hunting is not managed on a sustained-yield basis. Staff animal control (including fencing, trapping, staff hunting, snaring, and aerial shooting) are used as needed in specified areas where public hunting is not able to reduce population/activity to the lowest possible level.

In NAPP Preserves, the public hunting opportunities vary.

- Mo‘omomi Preserve does not have a public hunting program due to safety concerns and limited resources for administration and enforcement. If studies indicate that deer control is needed, TNC will pursue management in the best interest of the resources.
- Kamakou Preserve is open for public hunting when it is compatible with regulations of the adjoining Pu‘u Ali‘i NAR. At this time, the NAR and Preserve are open 365 days/year, with no bag limit. During extreme fire hazard, unsafe road conditions, or herbicide spraying in accessible areas, portions or all of the Preserve may be closed.
- Pu‘u Kukui Preserve is open to public hunters by permit 365 days/year, with no bag limit.
- Waikamoi Preserve’s conservation easement allows ranch employees to hunt. Public hunters are permitted to hunt in portions of the Preserve when it does not interfere with management, guided hikes, and ranch employee hunting. The management goal is to remove all ungulates; approximately 50,000 acres of public hunting lands are available below the Preserve to meet public hunting needs.
- Kapunakea Preserve’s conservation easement requires that there be no unaccompanied public hunting. The Preserve is closed to hunting with dogs due to snaring. However, TNC staff may accompany public hunters without dogs upon request when hunting does not interfere with management and can be done at the same time as scheduled work trips.
- In Kanepu‘u, TNC used volunteer hunts to remove deer from the fence units.
- TNC will continue to use volunteer hunters to reduce animal numbers in the Ka‘ū Preserve.

5. OTHER PROJECTS FUNDED BY THE NARF PURSUANT TO § 247-7, HRS: WATERSHED PARTNERSHIPS & HAWAI‘I YOUTH CONSERVATION CORPS

5.1 WATERSHED PARTNERSHIP PROGRAM

Overview

In FY 13 and FY 14, projects awarded state funds through the Watershed Partnerships Program achieved more than a 2:1 ratio of non-State to State funding. State funds are crucial to the ability to leverage federal, county, and private monies. In FY 13, \$2.5 million was awarded from the NARF. In FY 14, \$3.5 million was allocated in general funds which the legislature directed to DLNR’s Watershed Initiative. Due to the time required for contracting, this report summarizes activities that were carried out using FY 13 funds, which largely occurred during FY 14. Projects awarded FY 14 funds will be covered in next year’s report. A Request for Proposals has been completed for \$2.4 million in NARF allocated for FY 15. Contracting is currently underway for those projects.

Watershed Partnerships are successful public-private ventures responsible for protecting over 2 million acres of the most important watershed lands on all 6 main Hawaiian Islands. These forests form the living sponge that allows billions of gallons of fresh water to soak into the ground aquifers instead of running off directly into the ocean, which would carry sediment and pollutants onto our beaches and reefs. These forests provide fresh water upon which all residents, tourists, agriculture and industry depends. There are eleven partnerships involving over 70 private landowners and 24 public agencies. All partnerships have management plans approved by their members which guide their actions, providing clear objectives and measurable outcomes. Information about the Watershed Partners Program can be found at the following link: <http://dlnr.hawaii.gov/ecosystems/wpp/>

In 2001, the Hawaii State Legislature authorized the use of the NARF to support projects undertaken in accordance with watershed management plans negotiated with private landowners. FY 14 marked the first year that general funds were allocated.

The benefits of managing our most mauka lands as partnerships are many:

- Threats are addressed more economically across ownership boundaries
- Limited State funds are leveraged to obtain federal, county and private funds
- Resources and expertise are pooled to reduce redundancy
- Private landowners increase their capacity and desire to protect their forests
- Protection of cultural resources
- Native species preservation
- Rural employment opportunities

The main threats to watershed health are:

Destructive Animals: Non-native feral ungulates like pigs, goats, sheep, mouflon, cattle and deer trample and kill plants, tear up the ground with their hooves, and increase erosion.

Destructive Weeds: Habitat-modifying invasive species replace native species and contribute to erosion.

The most important management actions include:

- Fencing priority watershed areas
- Removing non-native feral hooved animals (ungulates)
- Controlling invasive species
- Monitoring forest health
- Outplanting, restoration and rare species management
- Education and community outreach

Summary of Accomplishments:

Over 133,000 acres were protected by actions taken by watershed partnerships to control invasive feral animals. This took 2,153 hours of staff time resulting in the removal of 1,619 destructive animals from our most important watershed forests. Methods included conducting 33 staff hunts, 11 aerial control missions, and checking 6,444 traps.

Control of invasive weeds on over 12,000 acres took 10,453 hours of staff and volunteer time. Aerial surveys covered 2,774 acres while ground surveys covered 171 acres. Aerial control took place on 3,022 acres. Ground control was accomplished on 3,908 acres. Over 2,500 acres of high resolution aerial imagery was completed.

Monitoring of transects for ungulates and weeds informs the partnerships about the success of their methods and where more control should be focused. Over 1,100 hours were spent monitoring approximately 80 miles of transects.

More than 60 outreach events reached approximately 1,400 people including students. Close to 60,000 plants were planted on 66 acres.

Watershed Partnerships Program FY 14 Accomplishments Summary*

The table includes only actions funded by the Watershed Partnerships Program; additional work is funded by federal, county and private funds.

	Invasive plants search & control	Protected from hooved animals	Planting (common and T&E species)	Volunteer Contributions	Fence (new constructed)**	Fence (existing maintained)
Partnership	Acres	Acres	Number	Hours	Miles	miles
Kaua'i						
Kaua'i Watershed Alliance	2,691	5,579	-	-	-	6
O'ahu						
Waianae Mountains WP	24	-	35,591	4,478	-	-
Ko'olau Mountains WP	483	376	-	167	1	-
O'ahu Invasive Species Committee	2,489	-	-	25	-	-
Maui						
West Maui Mountains WP	344	4,547	-	52		6
Leeward Haleakalā WRP	2,449	4,511	16,682	1,718	6	20
East Maui Watershed Partnership	3	6,003	-	-	1	7
East Moloka'i WP		10,730	-	127	-	6
Lana'i Forest and WP	732	-	-	30	-	7
Hawai'i						
Three Mountain Alliance	369	1,507	7,437	88	6	31
Kohala Watershed Partnership	-	-	-	-	-	10
Mauna Kea Watershed Alliance	2,830	515	-	-	-	14
TOTAL	12,414	33,768	59,710	6,685	14	106

Partnership Highlights

Kaua'i

Kaua'i Watershed Alliance: Developed a large pig trap that utilizes a remotely controlled door and is monitored with motion-activated game cameras.

Weed control included use of a new aerial control method for Australian tree fern, treating 6,654 plants throughout Wainiha Preserve using only 0.31 ounces of herbicide per plant.

O'ahu

Ko'olau Mountains Watershed Partnership: *Tibouchina herbacea*, an invasive weed that has taken over large areas of West Maui, was found to have spread at the Ko'olau summit in the Poamoho area. Partnership staff provided rapid response, removing plants and surveying the range in hopes that this weed can be eliminated before it spreads.

A field practitioners' weed workshop was held for all organizations engaged in invasive species control on O'ahu resulting in a control methods worksheet for 196 invasive weeds.

Invasive animal control efforts focused on the goal of eliminating small incipient populations of feral goats and mouflon sheep before they spread further into the Ko'olau Mountains.

Waianae Mountains Watershed Partnership: The Weed Management Plan Draft has been completed to provide guidelines for current and future weed management. Aerial imagery of over 8,400 acres was analyzed, which included the creation of weed identification methodology and weed distribution maps.

A Service Learning Program for students and volunteers was created to encourage voluntary stewardship of resources. Projects include seed collection, native plant propagation in school based nurseries, invasive species removal, vegetative firebreak expansion and restoration involving over 700 students and volunteers annually from surrounding schools (Mililani Middle School, Kapolei High School, Mililani High School, Nanakuli High School, Waianae High School, Island Pacific Academy) and other interested groups and organizations.

Maui

East Maui Watershed Partnership: The partnership maintained near zero ungulate activity across approximately 6,000 acres and began controlling the only known high-elevation population of Himalayan ginger east of Ko'olau gap.

West Maui Mountains Watershed Partnership: Controlled ungulates and weeds across 23,000 acres. Baseline water quality monitoring of the watershed continues to document the impact of feral animals on stream water.

Leeward Haleakala Watershed Restoration Partnership: The second phase of the Department of Hawaiian Homelands-Kahikinui fence was completed (2.7 miles) and purchasing of materials and contracting for the final phase of fencing has begun. Development of a multi-agency and partner committee and a plan for ungulate removal is on-going.

East Molokai Watershed Partnership: Forward-Looking Infra-Red technology greatly enhanced the effectiveness of aerial ungulate control efforts of the south slope.

Hawai'i Island

Mauna Kea Watershed Alliance: Completed initial restoration actions for the Kanakaleonui Bird Corridor, with 64% initial plant survival at this high elevation site and conducted ecosystem surveys across 18,300 meters in eastern Mauna Kea.

MKWA worked with partners and collaborators to provide environmental education for local communities including watershed days at schools, field and service learning trips, teacher workshops, booths and hands on activities at educational events, and native plants workshops, providing environmental education for over 400 people, and mentoring five interns.

Three Mountain Alliance: Completed construction of a fenced 6,000-acre management unit for montane dry forest on Kamehameha Schools land in Lupea, North Kona. This project was first planned over a decade ago when it was identified as priority recovery habitat for Palila. 270 volunteers were engaged in planting trees across the TMA.

Kohala Watershed Partnership: Removed all feral cattle from 500-acres on Kahua and Ponoholo Ranches.

KWP coordinated the first Pilina - Hawaii Island Conservation Forum, bringing together 200 people involved in conservation. More than 300 student and adult volunteers planted trees, controlled weeds, and maintained trails.

5.2 INFORMATION AND EDUCATION PROGRAM



Staff uses a variety of methods to connect with communities across demographics and islands including: websites, social media, press releases and other media support, public outreach events and coordination, educator workshops, field trips, classroom visits, and the youth programs. The DOFAW website underwent a major transition, empowering staff to share success stories and increase transparency.

The education and information section was managed by one full time, permanent staff person, two part-time interns, and one full-time contracted RCUH-PCSU staff. Additional federal and special funds were secured to hire an Education Specialist for Kaua'i in FY 15. Dedicated funding for staff would greatly assist in the development of a robust and consistent program that

meets the needs of all program sections and allow the program to focus on meeting the education, communication, and information needs of the community rather than searching for funding sources. Despite funding challenges, DOFAW continues to improve outreach efforts through innovative partnerships, grants and implementing programs that have demonstrated success nationally and resonate with local needs contributing to a more environmentally conscious and sustainable island community.

Youth Conservation Corps (YCC) Program

The State of Hawai‘i YCC Program enables young adults to gain entry-level experience as they work with natural resource professionals. Internships often lead to future jobs or advanced degrees in natural resource management.

The majority of the state’s YCC programs are funded by the NARF and supported by federal and community grants awarded to the contractor, Kupu. Through a competitive RFP, DLNR secured 30 year-round AmeriCorps members through Kupu in addition to 15 teams of summer program members and 5 summer interns. These individuals dedicated over 52,500 hours of service.

The National Civilian Community Corps is a program new to DLNR. Through a successful grant, the O‘ahu NAR program secured a crew of 9 youth from across America dedicated to service and engaged them in natural resource management for 7 weeks on state land. The team controlled weeds and improved infrastructure and trails. The NCCC crew and staff had such a great time learning and working with DOFAW that they nominated us as the “site of the round”. Learn more and see the crew in action by watching our video here: <http://vimeo.com/98990154>

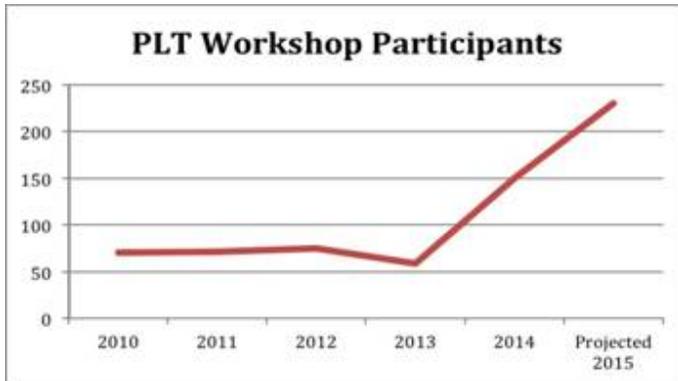


Project Learning Tree (PLT) Program

The Information and Education Coordinator serves as the state coordinator for PLT, a national program that aims to “teach students how to think not what to think about complex environmental issues”. Workshops provide Hawaii’s educators with locally and nationally relevant resources that connect to state standards. This allows the environment to be a part of everyday classroom learning. These resources help educators more effectively incorporate environmental education across disciplines. DOFAW uses PLT’s standards-based, field tested materials, which are consistently updated to meet national and locally developed curricula. Tri-Isle RC&D serves as the fiscal sponsor. In 2014, Hawai‘i was awarded a grant of \$10,000 to build program capacity by participating in national PLT professional development and developing Hawai‘i activities to compliment the national curricula focus on place and culture.

In FY14 the PLT program led 11 workshops and certified an estimated 151 Hawai‘i educators. The program continues to develop a volunteer network of facilitators totaling 20 individuals statewide. The program is working to integrate PLT in university education programs by training pre-service educators in environmental education and supplying them with a support network of

experts in natural resource management. Additionally, DOFAW staff was invited by the State Department of Education to support the Zones of School Innovation Conference in 2014 because of the success of our partnerships at the local level.



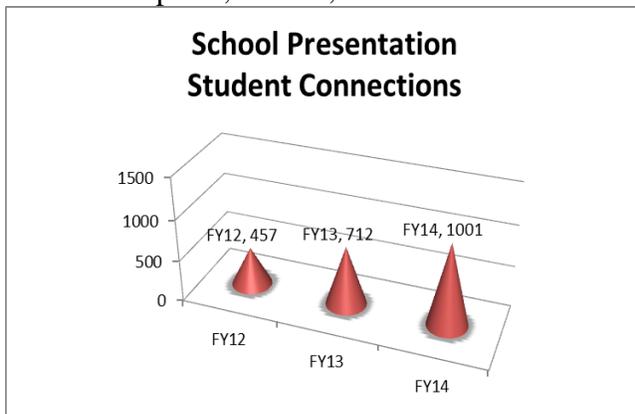
Graph shows data and projections by State of HI fiscal years

The DOFAW Information and Education Coordinator received the annual “Gold Star Award” from the award-winning American Forest Foundation program in 2014 for dedication to the local and national PLT programs, capacity for growing a new state program from the ground up, integration of national and internal partners, and ability to improve diversity within local, national, and international networks.

Outreach events, school visits, interpretive site visits, and community meetings

DOFAW Information and Education staff participated in ~20 community outreach events reaching over 8,000 community members; reached over 1,000 students through classroom presentations; participated in and/or coordinated 4 conferences that reached nearly 3,000 people; supported partners by providing staff on interpretive trips reaching students; and supported the community at meetings and informational sessions.

The Oahu Education Specialist coordinated site visits and teacher workshops in Moanalua Valley through a partnership with the Moanalua Gardens Foundation providing professional development to nearly 50 teachers. She also led 506 students on site visits to Moanalua Valley to learn about place, culture, and natural resource management.



of students reached in classroom presentations

6. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED

The dedicated funding provided by the NARF has been critical for the sustained and continuous management needed to protect natural areas, maintaining the significant progress since enactment of the Legacy Land Conservation Act (2005). The NARF's impact is multiplied because it is a source of matching funds for large amounts of non-State grants.

NARF programs partner with the RCUH-PCSU, to supplement important NARS and watershed work, provide learning opportunities to young professionals in the biological sciences, and give the State much-needed assistance with on-the-ground conservation.

At the landscape level, control of feral animals is possible using a combination of public hunting, exclusion by fences, and staff control. Some members of the public do not understand the connection between feral ungulates and damage to native forest and watershed – raising objections to both fencing and animal control as unnecessary.

New invasive weeds are continuously being introduced to Hawai'i, and existing species require constant effort to combat effectively. Dedicated funding provided by NARF addresses many of these needs on a consistent, ongoing basis.

Natural resource protection and management are long-term efforts. Restoration projects often take years before results are discernible. It is important to note that management and protection of natural areas, watersheds and native ecosystems need to continue for the long term.

Partnership and community-based management programs have proven to be an effective tool for leveraging funds and securing stakeholder participation and commitment. Such initiatives also require a concerted effort and often take a long time to establish and implement. NAPP-funded Preserves typically form the core of conservation partnerships, in part due to the dedicated state funding. To help with organization, facilitation, and implementation, partnership steering committees, community advisory councils, and facilitated working groups have been established to help management partners address local concerns now and in the coming years.

7. CONCLUSION

Detailed project plans and accomplishment reports for NARS, NAPP, Watershed Partnership Program, Rare Plant Program, NIP and YCC are available through links from DOFAW website <http://dlnr.hawaii.gov/ecosystems/> or from the:

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8. FINANCIAL CONDITION OF THE NATURAL AREA RESERVE FUND

NARF received revenues from the Conveyance Tax (25% of total Conveyance Tax revenues) on real estate transactions. The cash balance of NARF at the beginning of FY 14 was \$9,517,128 with prior year's encumbrances of \$4,669,931, leaving available cash balance of \$4, 847,197. FY 14 NARF revenues were \$18,970,793 with \$18,970,447 from the Conveyance Tax and \$346 from miscellaneous (See Table B).

FY 14 expenditures totaled \$8,839,644 representing expenditures of approximately 4,507,754 of FY 14 encumbrances, \$3,255,946 for FY 13 encumbrances, \$515,569 for FY 12 encumbrances and \$514,440 central services fees. Outstanding FY 14 encumbrances totaled \$3,052,024.

All of the FY 14 allowed spending cap of \$7,210,793 was spent or encumbered.

The cash balance of NARF at the beginning of FY 15 was \$14,514,082 with \$11,462,058 as the available cash balance. Based on Conveyance Tax transfers for the first 4 month of FY 15, revenues projections are approximately 10% lower than the record of last year.

NARF also supports other statutorily authorized programs and projects, most of which are administered by DOFAW:

FY 14 transfers totaled \$4,951,715 which were: \$2,100,000 to the Forest Stewardship Fund through direct transfers that included \$600,000 to the Forest Stewardship Program pursuant to §247-7, HRS, and \$1,500,000 for Forest Reserve management; \$2,750,000 to HISC; \$95,748 to DLNR Administrative Services Office for an accountant and partial funding of an account clerk and data processing analyst; and \$5,967 to Department of General Services/Risk Management for insurance premiums. These expenditures are reported in their respective legislative reports.

FY 15 transfers are expected to total \$4,820,000 and include: \$600,000 to the Forest Stewardship Program through direct transfers pursuant to §247-7, HRS; \$1,500,000 for Forest Reserve management; \$2,600,000 for watershed and endangered species protection and HISC; \$6,000 to the Department of Accounting and General Services/Risk Management; and \$120,000 to DLNR Administrative Services Office. These expenditures are reported in their respective legislative reports. Please see Table C for summary of NARF combined drawdown.

APPENDIX A. LNR 407 – NARS and WATERSHED MANAGEMENT SUMMARY

Table A:

FY 14 NARS Expenditures (General Fund Appropriation G-14-047)

	Total = \$1,151,302
NARS 'A' Personnel Expenditures FY 14 =	\$ 725,756
NARS 'B' Operating Expenditures FY 14* =	\$ 425,546

* Pursuant to Act 134 SLH 2013, the Watershed Program was funded via this appropriation in FY 14.

FY 15 NARS Allocation (General Fund Appropriation G-15-047)

	Total = \$822,575
NARS 'A' Personnel Allocation (29 positions) =	\$ 704,003
Traditional NARS 'B' Operating Allocations =	\$ 18,572
IUCN World Conservation Congress/Hawaii 2016 =	\$ 100,000

Table B: NAR Fund Revenues FY 14 (S-14-342)

Source	Timeframe	Amount
FY 14 Conveyance Tax	7/1/2013 – 6/30/2014	\$ 18,970,447
Other	7/1/2013 – 6/30/2014	\$ 346
Total Revenues =		\$ 18,970,793

Table C: FY 14 NAR Fund Drawdown (Special Fund Appropriation S-14-342)

	Total = \$12,173,452
NARF 'A' Personnel Expenditures	= \$ 1,663,257
NARF Operational Expenditures/Encumbrances	= \$ 5,558,480
Transfers Out	= \$ 4,951,715

FY 15 NAR Fund Allocations (Special Fund Appropriation S-15-342)

	Total = \$17,164,125
NARF 'A' Personnel Allocation	= \$ 2,867,426
NARF Traditional Operational Allocations	= \$ 5,576,699
IUCN World Conservation Congress/Hawaii 2016**	= \$ 3,900,000
Transfers Out	= \$ 4,820,000

**Pursuant to Act 122 Sect. 14.4 SLH 2014, funds to be transferred from Special Land Development Fund as necessary

APPENDIX B. WATERSHED INITIATIVE PROJECTS FY 14 (SUMMARY TABLE)

Watershed Partnership Program - Status of Bond-Funded Projects

Island	Project	Project Status	Acres	FY13 Funding	FY14 Funding
Kauai	Alakai Wilderness Preserve - Halehaa	Ongoing; IFB completed	1,300		\$1,075,000
	Hono O Na Pali Natural Area Reserve	Completed; 2.6 miles built	2,200	\$200,000	\$225,000
Oahu	Ewa Forest Reserve	Ongoing; 0.5 miles built	1,300	\$500,000	\$590,000
	Kaluanui Natural Area Reserve	Ongoing; fenceline surveyed	500		\$300,000
Maui	Hana Forest Reserve	Ongoing; 1.3 miles built	2,300	\$225,000	\$450,000
	Hanawi Natural Area Reserve	Completed; 5 miles built	3,500	\$200,000	\$350,000
	Nakula and Kahikinui Reserves	Completed; crossings built	2,600		\$105,000
	Kahikinui DHHL Forest Restoration	Ongoing; 6.3 miles built	4,400	\$415,000	\$565,000
Hawaii	Puu O Umi Natural Area Reserve	Completed; 2.5 miles built	1,900	\$250,000	
	Puu Waawaa Henahena	Ongoing; IFB drafted	900		\$450,000
	Kau Forest Reserve	Ongoing; 3 miles built	2,000	\$510,000	\$240,000
	Puu Makaala Natural Area Reserve	Ongoing; 1.6 miles built	1,000		\$550,000
	Mauna Kea Forest Restoration Project	Ongoing; 15,216 trees planted	N/A	\$200,000	\$100,000
TOTAL			23,900	\$2,500,000	\$5,000,000