U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office

CONSERVATION PARTNERSHIPS PROGRAM ANNUAL REPORT
FISCAL YEAR 2008

Conservation Partnerships Program
Fiscal Year 2008

Message from the Coordinator

The Pacific Islands Conservation Partnerships Program (PICPP) provides cost-share funding, biological expertise and technical assistance to landowners, nonprofit organizations, and community groups for the restoration of native habitats. Our program is part of the U.S. Fish and Wildlife Service's Pacific Islands Office, based in Honolulu, Hawai'i.

Developing partnerships with non-federal landowners is essential to conserving threatened and endangered species and their habitats in Hawai'i and the other Pacific Islands. This is due to the high number of listed species and the low percentage of land in federal ownership. Hawai'i, for example, is home to a quarter of the nation's listed species, and over 90 percent of land in Hawai'i is in private or State ownership.

During fiscal year 2008, the PICPP provided approximately $3 million to cooperators for habitat restoration and acquisition. Of equal significance, we hired two neighbor island biologists, one for the island of Kaua'i and one for the islands within Maui County (Maui, Moloka'i, Lāna'i and Kaho'olawe). As was already the case with our island of Hawai'i biologist, these new additions to the PICPP will be able to provide a local connection to cooperators and communities.

One of this year's highlights was participating in the multi-party effort to eradicate rats from Mōkapu Islet, north of the island of Moloka'i. This project represents the first aerial application of rodenticide for the eradication of rats from an island in the State of Hawai'i.

During fiscal year 2009 we will be participating in a similar project on the island of Lehua, north of the island of Ni'ihau. We will also work toward official recognition of the Hawai'i Fish Habitat Partnership under the National Fish Habitat Action Plan, as an effort to facilitate stream and estuary restoration projects. A large-scale ungulate fence in Limahuli Valley on Kaua'i's north shore is planned for fiscal year 2009 as well as many other important restoration projects.

Without capable conservation partners, the PICPP would not be successful. We look forward to new and continued collaborative efforts with the many resourceful and dedicated partners in Hawai'i and the Pacific Islands.

Craig Rowland
Conservation Partnerships Coordinator

USFWS Mission

Working with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

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Front Cover Photo: Construction of an ungulate-proof fence around Kanaele Bog on the island of Kaua'i. Photo courtesy of The Nature Conservancy.

Inside Spread: Sasanhaya Bay, Rota. Photo courtesy of Chris Swenson.

About the Pacific Islands Ecoregion

Area

The Pacific Islands Fish and Wildlife Office's area of responsibility includes Hawai'i, American Samoa, Guam, the Northern Mariana Islands, and other U.S. Islands and the former trust territories in the Pacific. These areas represent eight political jurisdictions and a myriad of cultures and languages.

Geography

This area includes 2,300 islands distributed over 5 million square miles of ocean with more than 6,500 miles of coastline, and encompasses approximately 90% (13,254 square miles) of U.S. coral reefs. These islands contain a range of unique habitat types that support huge numbers of endemic species, hundreds of which are listed as threatened or endangered.

Land Ownership

Very little land in the Pacific Islands is owned by the Federal government (Hawai'i: 5%, American Samoa: 5%: Guam: 28%; Northern Marianas: 6%), making cooperative partnerships vital to the conservation of Federal trust resources.

Human Population

Estimated population numbers are as follows:
Hawai'i: 1,285,498 (2006 Census)
Guam: 154,805 (2000 Census)
Commonwealth of the Northern Mariana Islands: 69,221 (2000 Census)
American Samoa: 57,291 (2000 Census)
Republic of Palau: 19,129 (2000 Census)
Republic of the Marshall Islands: 50,840 (1999 Census)

Congressional Delegations

Hawai'i
Senator Daniel Inouye
Senator Daniel Akaka
Representative Neil Abercrombie (District 1)
Representative Mazie Hirono (District 2)

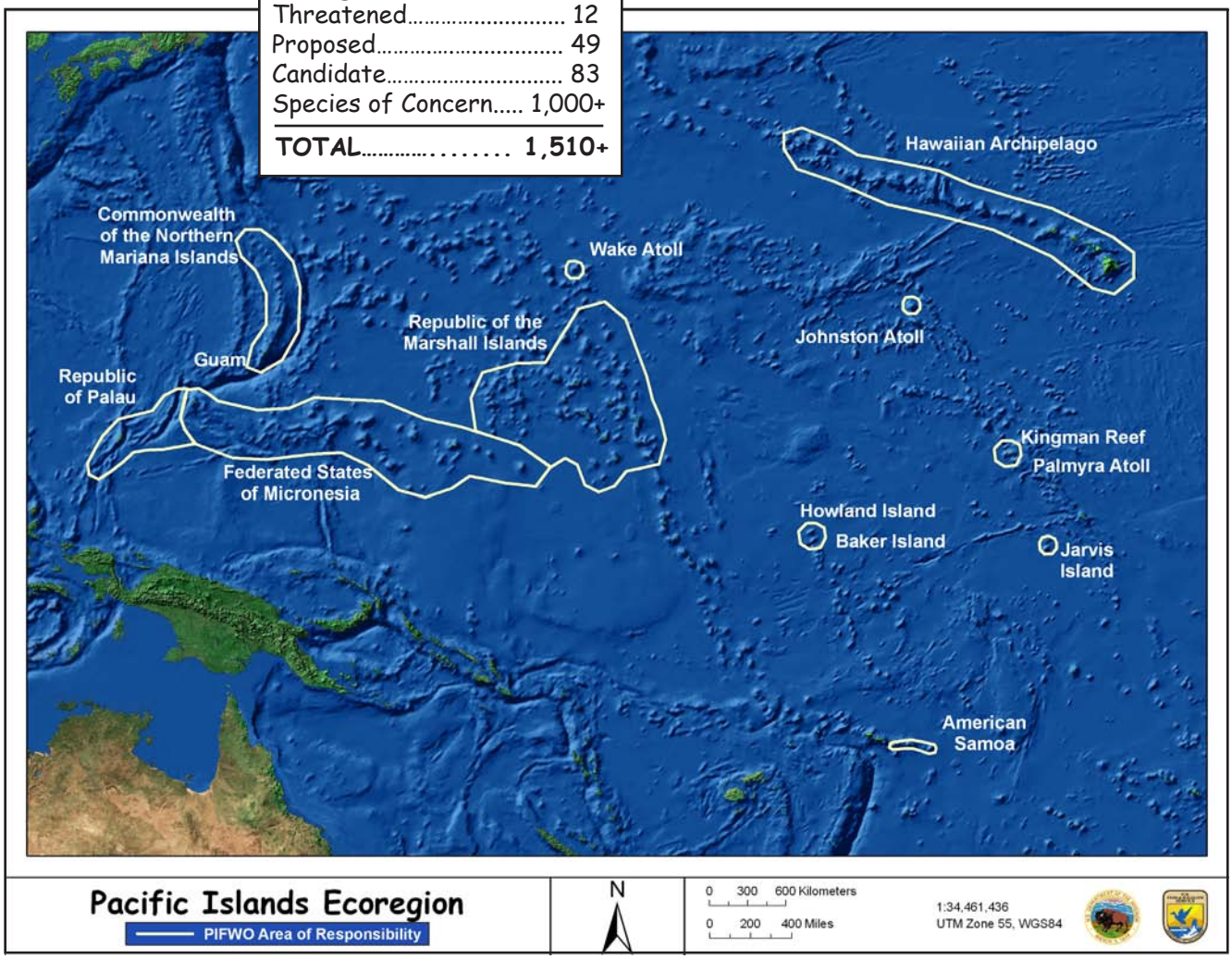
American Samoa
Delegate Eni Faleomavaega

Guam
Delegate Madeleine Bordallo

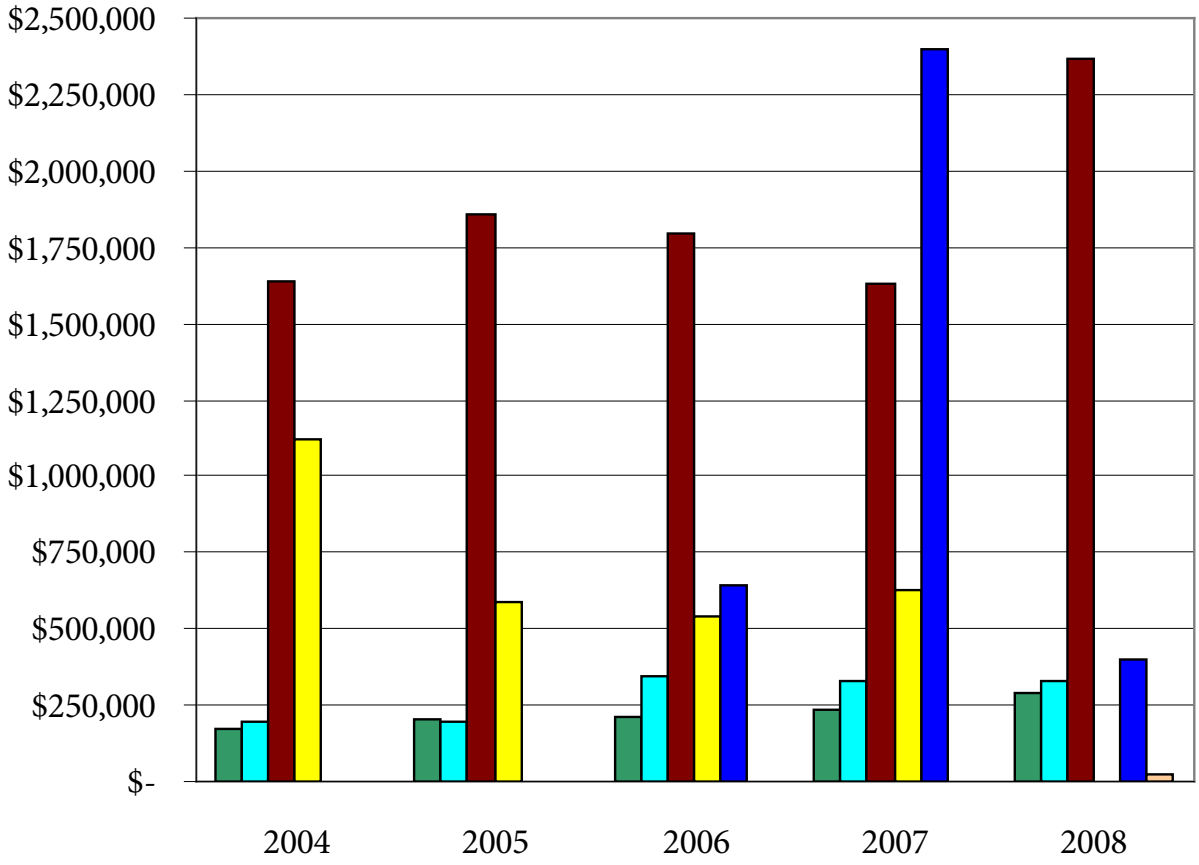
Commonwealth of the Northern Mariana Islands
Delegate Gregorio Sablan

PIFWO At-risk Species

Endangered	366
Threatened	12
Proposed	49
Candidate	83
Species of Concern	1,000+
TOTAL	1,510+



Conservation Partnerships Program
Funding for Projects (2004-2008)



Partners for Fish and Wildlife	$ 293,304
Pacific Islands Coastal Program	$ 327,805
Recovery Land Acquisition Grant	$ 2,367,809
Private Stewardship Grant	$ 0
National Coastal Wetlands Conservation Grant	$ 400,000
Hawai'i Fish Habitat Partnership	$ 25,000
TOTAL PROJECT FUNDING	**$ 3,413,918**

Conservation Partnerships

The Pacific Islands Conservation Partnerships Program (PICPP) emphasizes the collaborative aspects of the U.S. Fish and Wildlife Service's mission statement by providing cost-share funding, biological expertise, and technical assistance to landowners, nonprofit organizations, and community groups for the restoration of native habitats. Developing partnerships with non-Federal landowners is essential to conserving threatened and endangered species and their habitats in Hawaii and the other Pacific Islands due to the high number of listed species on privately owned land in Hawai'i. There are five program elements within the PICPP, each having different areas of emphasis, but sharing the overall goal of habitat protection and restoration.

These programs include:

- Partners for Fish and Wildlife
- Pacific Islands Coastal Program
- Recovery Land Acquisition Grants
- National Coastal Wetland Grants
- Hawai'i Fish Habitat Partnership

The PICPP has staff biologists located on the islands of Kaua'i, O'ahu, Maui, and Hawai'i to provide a local point of contact to help develop and implement conservation projects that benefit trust species and their habitats.

Bait bucket used for eradication of rats from Mōkapu Islet. Photo courtesy of Steve Ebbert.

Partners for Fish and Wildlife

Since 1997, the Partners for Fish and Wildlife (PFW) program has contributed over $2 million to restoration projects in Hawai'i targeting unique ecosystems with threatened, endangered, and candidate species. The PFW program continued its successful implementation of restoration projects on private lands by completing five projects during fiscal year 2008. The PFW program provided almost $300,000 to eight projects in Hawai'i and American Samoa during fiscal year 2008.

FY08 Completed Projects

Keahuolū Rare Plant Conservation and Habitat Restoration
Leeward Haleakalā Watershed Restoration
Pu'u Kukui Watershed Preserve Axis Deer Fence, Phase I
Kanaele Lowland Bog Restoration
Kanakaleonui Forest Restoration
Kūlani Feral Ungulate Control

FY08 Funded Projects

Tutuila Island Tamaligi Invasive Tree Control
Leeward Haleakalā Community-Based Forest Restoration
Ka'ūpūlehu Dry Forest Invasive Plant Control and Firebreaks
Ko'olau Mountains Incipient Ungulate Control
Pu'u Kukui Watershed Preserve Axis Deer Fence, Phase II
Kapilau Ridge West Maui Mountains Habitat Restoration
Ha'ikū Uka Native Forest Protection

Kanaele Bog fence. Photo courtesy of TNC.

Pacific Islands Coastal Program

The Pacific Islands Coastal Program (PICP) is one of 21 such programs around the nation. Established in fiscal year 2000, the PICP funds habitat restoration, biological surveys, GIS mapping, applied restoration research, and environmental education in order to further coastal conservation. During fiscal year 2008, the PICP provided more than $325,000 to fund 11 projects in Hawai'i, the Republic of Palau, and the Federated States of Micronesia.

FY08 Completed Projects

Rota MPA and Marine Education
Limu Restoration at Mokauea Island
Kosrae Community-Based MPA
Helen Reef Community-Based MPA
Obyan Beach Restoration and Marine Education
Mōkapu Islet Rat Eradication
Kanahā Beach Restoration
NWHI Endangered Passerine Translocation Site Analysis

Nihoa finch. USFWS Photo

FY08 Funded Projects

Babeldaob Watershed Alliance Coordinator
Mokauea Island Restoration and Education
Nihoa Millerbird Feeding Ecology Study
Hā'ena Community-Based MPA
Koloa Outreach Plan
Lehua Islet Seabird Telemetry Study
Pohnpei Community-Based MPA
Nihoa Millerbird Genetics Study
Lehua Islet Restoration
Hawai'i Offshore Islet Rat Eradication
Kosrae Community-Based Marine Protection

Recovery Land Acquisition Grants

Recovery Land Acquisition (RLA) Grants provide funds for the acquisition of habitat from willing sellers. These lands are then managed for listed species to meet goals of species recovery plans. Since 2002, more than $10 million has been used to purchase and protect lands for threatened and endangered species in the Pacific Islands. During fiscal year 2008, the State of Hawai'i received more than $2.3 million for acquisition projects on the islands of Hawai'i and O'ahu. Two projects were completed during fiscal year 2008.

FY08 Completed Projects
Kūkūau Acquisition
Lake Susupe Acquisition

FY08 Funded Projects
Kawa Bay Acquisition
Honouliuli Preserve Acquisition
Hāmākua Marsh Watershed Acquisition

Hawaiian stilt. Photo courtesy of NRCS.

Coastal strand habitat at Kawa on the island of Hawai'i. Photo courtesy of State of Hawai'i DLNR DOFAW.

National Coastal Wetlands Conservation Grants

The National Coastal Wetland Grant (NCWG) program was established during 1990 to acquire, restore, and enhance wetlands in coastal areas. To date approximately $185 million has been awarded to 25 coastal states and one U.S. Territory, protecting and restoring over 200,000 acres of coastal wetlands and associated uplands. The State of Hawai'i has received over $4 million for wetland acquisition and restoration.

FY08 Funded Project
Kure Atoll Biodiversity Restoration

Satellite imagery of Kure Atoll, NWHI. Photo courtesy of PBS.

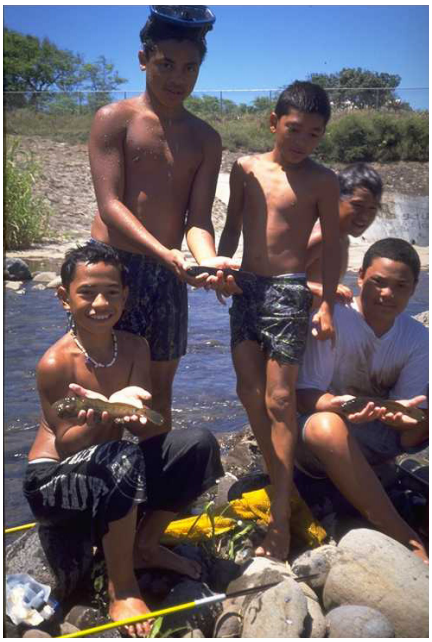
One acre of palustrine emergent wetland habitat will be restored for the eventual introduction of Laysan ducks to Kure Atoll. Photo courtesy of Jimmy Breeden.

Hawai'i Fish Habitat Partnership

The Hawai'i Fish Habitat Partnership (HFHP) program was initiated during fiscal year 2007 under the umbrella of the National Fish Habitat Action Plan. This developing partnership program will focus conservation planning and implementation efforts on macrofauna native to Hawaii streams, stream mouth estuary habitats, and freshwater and estuarine sport fishery species. The HFHP will submit a proposal for national recognition during fiscal year 2009.

FY08 Funded Project
Atlas of Hawaiian Watersheds and their Aquatic Resources

Sampling stream habitats at Kipapa Stream, O'ahu Forest National Wildlife Refuge. Photo courtesy of Gordon Smith.



Youth fishing from one of Hawai'i's perennial streams. Photo courtesy of Gordon Smith.

Conservation Partnerships Program
Island of Hawai'i Projects

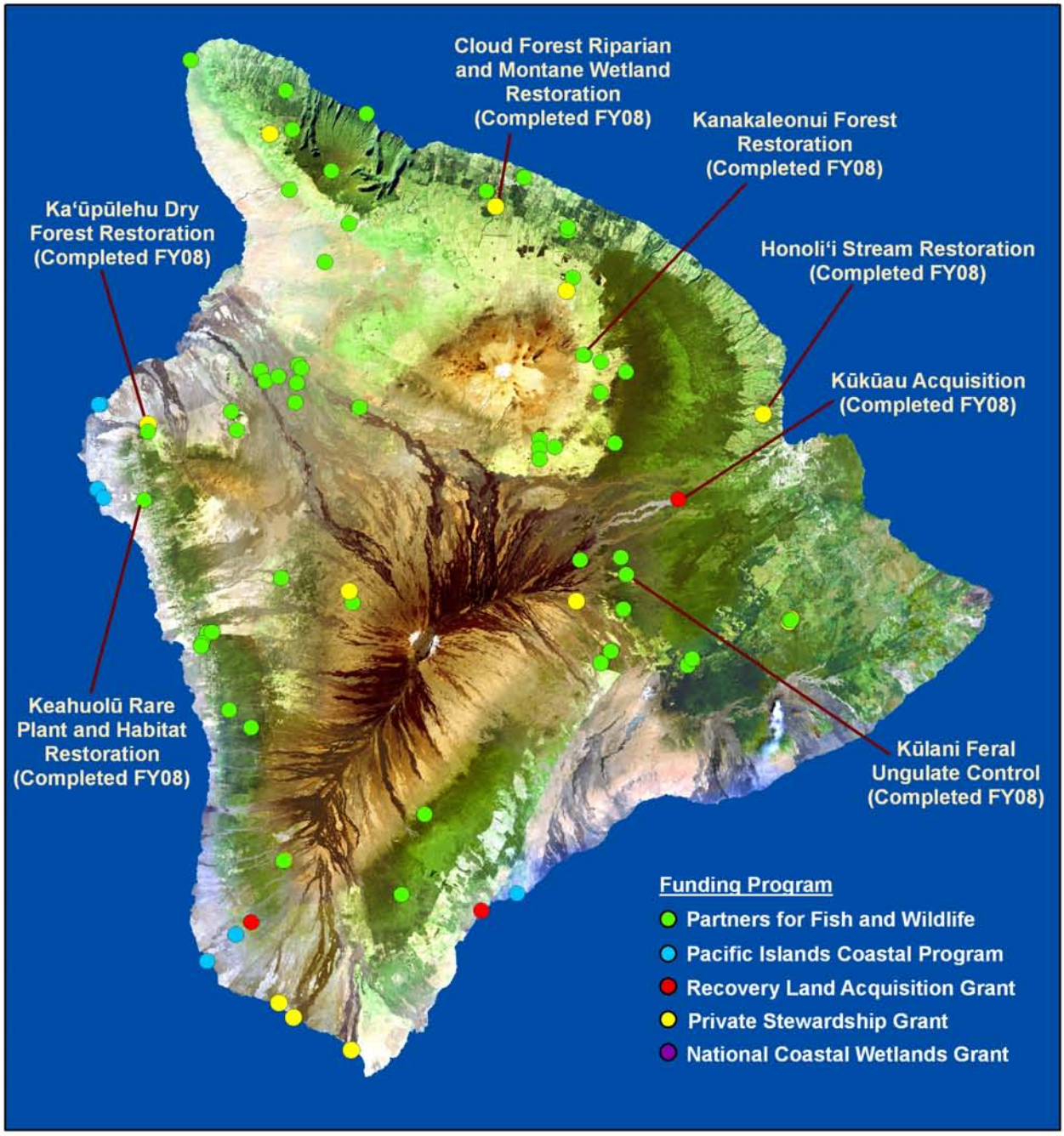
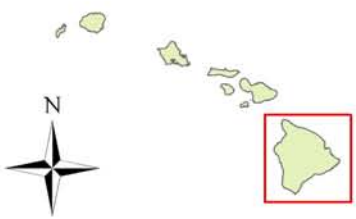


Photo by USGS.

Kanakaleonui Sub-alpine dry forest.



0 5 10 15 20 Miles

0 8 16 24 32 Kilometers

UTM Zone 5, WGS84

Hoʻolai nā manu i ke aheahe.

The birds poise quietly in the gentle breeze.

Native ʻōhia forest. USFWS Photo

Kūkūau Acquisition

Acquisition of the Kūkūau (Carlsmith) parcel, which protects over 1300 acres of native habitats on the island of Hawaiʻi, was completed during 2008. The area includes approximately 550 acres of old growth koa (*Acacia koa*) and ʻōhia (*Metrosideros polymorpha*) trees that have never been logged. It contains a diverse native flora that has remained remarkably free of invasive species. Conservation of the Kūkūau parcel will protect habitat for threatened and endangered plants and forest birds, and the endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*).

Cooperator: State of Hawaiʻi DLNR Division of Forestry and Wildlife
USFWS Contact: Craig Rowland
Funding Program: Recovery Land Acquisition Grant

Kanakaleonui Forest Restoration

Kanakaleonui, on the island of Hawaiʻi, provides a corridor for the movement of Hawaiian forest birds between upper dry māmane (*Sophora chrysophylla*) woodlands, mesic koa (*Acacia koa*) – ʻōhia (*Metrosideros polymorpha*) forests, and wet ʻōhia forests. During 2008, an ungulate-proof fence was constructed around the 525-acre Kanakaleonui corridor on lands owned by the Department of Hawaiian Homelands. The fenced area is directly adjacent to the Hakalau Forest National Wildlife Refuge and expands the area of native habitats available to endangered forest birds. After the fence was completed, all ungulates were removed from within the enclosure and native species were planted to restore native forest habitats.

Cooperator: Hawaiian Silversword Foundation
USFWS Contact: Donna Ball
Funding Program: Partners for Fish and Wildlife

Keaholoa STEM program students collecting māmane (*Sophora chrysophylla)* seeds at Kanakaleonui. Photo courtesy of Cheyenne Perry.

Cloud Forest Riparian and Montane Wetland Restoration

Riparian and palustrine wetlands were restored on 100 acres in the Honokaʻa area on the island of Hawaiʻi. An ungulate-proof fence was completed to exclude feral ungulates and dogs in order to control large mammalian predators and improve water quality. Twenty species of native trees and shrubs were planted in riparian gulches following manual removal of strawberry guava (*Psidium cattleianum*). Herbaceous wetland vegetation, including *Cyperus* sp. and *Eleocharis obtusa* were planted around restored wetland basins. These areas are used by Hawaiian ducks (*Anas wyvilliana*). The landowner continues to propagate and plant koa (*Acacia koa*) and ʻōhia (*Metrosideros polymorpha*) trees in surrounding upland areas.

Cooperator: Ducks Unlimited, Inc. *USFWS Contact*: Donna Ball *Funding Program*: Private Stewardship Grant

Intermittent riparian gulch before (left) and after (right) invasive tree removal and native tree/shrub planting. Photos courtesy of NRCS and Ducks Unlimited, Inc.

Kūlani Feral Ungulate Control

The Three Mountain Alliance controlled feral pigs within a new 2,000 acre fenced management unit on Kūlani Correctional Facility lands (South Boundary Unit) to protect and restore native Hawaiian rainforest. This has allowed for the recovery of diverse native forest and for the protection of threatened and endangered species, including *Cyanea platyphylla* (ʻakū ʻakū).

Cooperator: Three Mountain Alliance
USFWS Contacts: Benton Pang and Donna Ball
Funding Program: Partners for Fish and Wildlife

Cyanea platyphylla (ʻakū ʻakū). Photo courtesy of Lyman Perry.

Hibiscus brackenridgei (maʻohauhele), the state flower of Hawaiʻi, benefits from dry forest restoration. Photo © C. H. Lamoureux.

Kaʻūpūlehu Dry Forest Restoration

This project continued restoration on 70 acres of dry forest habitat, one of the most endangered habitat types in Hawaiʻi. Nine species of endangered plants have been planted within a fenced area that is free of feral ungulates. Endangered plant species reintroduced into the unit include *Kokia drynarioides* (kokiʻo), *Colubrina oppositifolia* (kauwila), *Bonamia menziesii* (bonamia), *Hibiscus brackenridgei* (maʻohauhele), *Abutilon menziesii* (koʻoloa ʻula), *Pleomele hawaiiensis* (hala pepe), and *Nothocestrum breviflorum* (ʻaiea). A site manager and volunteers continue to control non-native vegetation, monitor plant survival, and maintain the perimeter fence.

Partner: Hawaii Forestry Industry Association
USFWS Contact: Donna Ball
Funding Program: Private Stewardship Grant

Keahuolū Rare Plant Conservation and Habitat Restoration

The USFWS worked cooperatively with a private landowner and the surrounding community to restore a small area of native dry shrubland in a light industrial area near Kona on the island of Hawaiʻi. The dryland habitat is suitable for the endangered *Isodendrion pyrifolium* (wahine noho mauna) and *Neraudia ovata* (maʻaloa). Fountain grass (*Pennisetum setaceum*) and other invasive species were removed from the designated restoration site and archeological park. Following removal of invasive vegetation, volunteers planted native dryland species appropriate for the area.

Cooperator: The Queen Liliʻuokalani Trust
USFWS Contacts: Benton Pang and Donna Ball
Funding Program: Partners for Fish and Wildlife

Greenhouse with native plants and *Tetraplasandra hawaiiensis* at Honoliʻi stream restoration site. Photo courtesy of Waialae Falls, LLC.

Honoliʻi Stream Restoration

This project restored 14 acres of riparian habitat along a 0.3 mile section of Honoliʻi stream on the island of Hawaiʻi. The area was fenced to exclude feral pigs and cleared of invasive tree species that had overgrown the stream. Slopes were re-vegetated with native species grown on-site including *Psychotria hawaiiensis* (kōʻpiko ʻula), *Tetraplasandra hawaiiensis* (ʻohe), *Metrosideros polymorpha* (ʻōhia), *Acacia koa* (koa), and *Myrsine lessertiana* (kōlea lau nui). In addition, natural recruitment of *Rhus sandwicensis* (neleau), *Cibotium* sp. (hāpuʻu), and *Pipturus albidus* (māmake) occurred following removal of roseapple (*Syzygium jambos*), *Albizia* sp., and strawberry guava (*Psidium cattleianum*). This riparian restoration benefits native fish, waterfowl, and invertebrates by increasing the amount of sunlight reaching the stream, improving food resources, and decreasing erosion and run-off. Preliminary surveys of a native freshwater mollusk, hihiwai (*Neritina granosa*), in the restored area also suggests a positive response following invasive tree removal along Honoliʻi stream.

Cooperator: Waialae Falls LLC
USFWS Contact: Donna Ball
Funding Program: Private Stewardship Grant

Conservation Partnerships Program
Maui Nui Projects

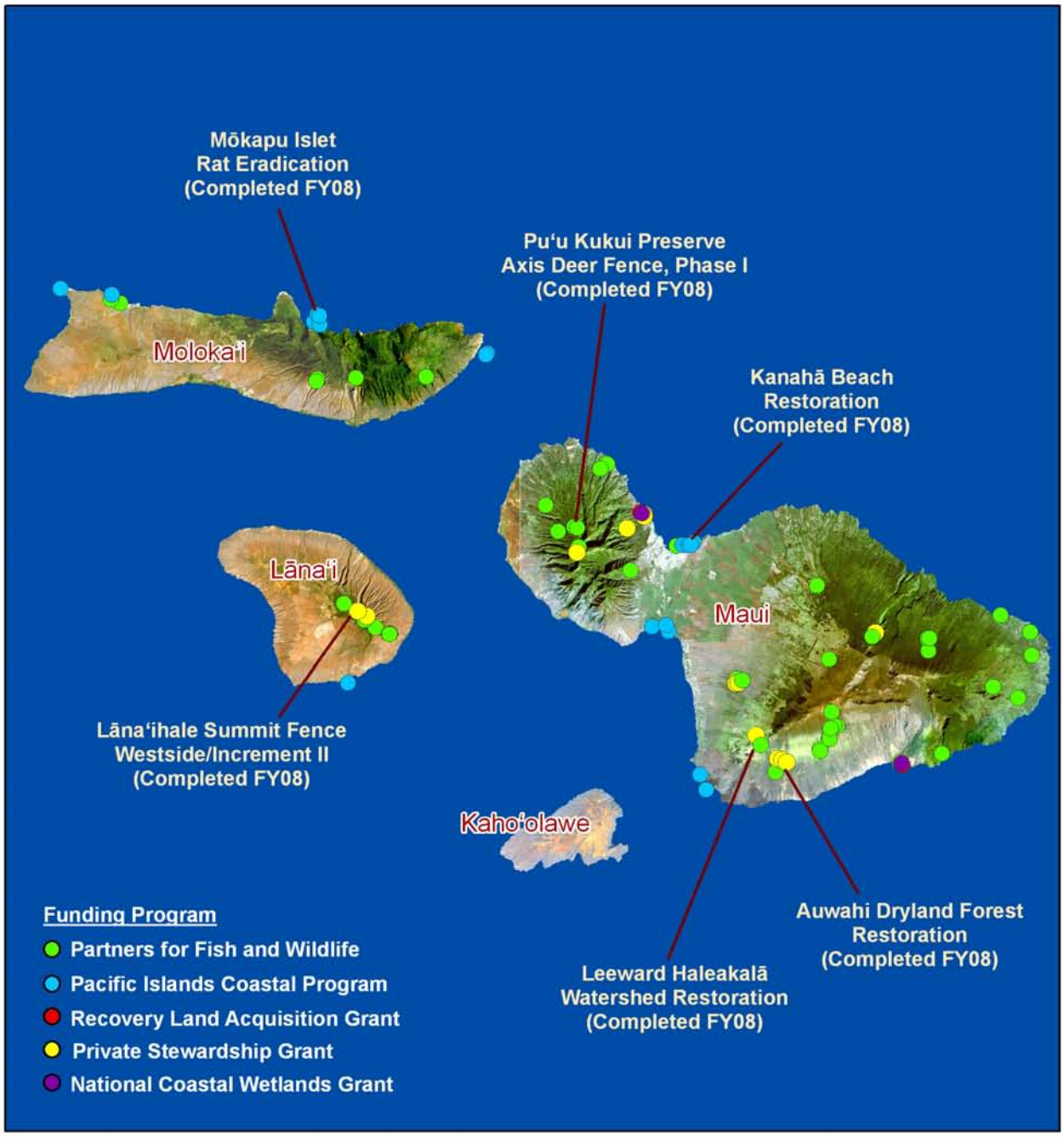
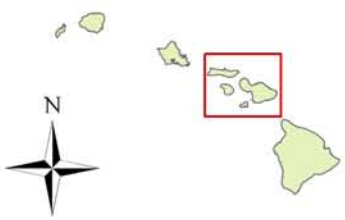


Photo by Randy Bartlett.

Axis deer fence.



0 5 10 15 20 Miles

0 8 16 24 32 Kilometers

UTM Zone 5, WGS84

'Uwē ka lani, ola ka honua.
When the sky weeps, the earth lives.

Pu‘u Kukui Watershed Preserve Axis Deer Fence, Phase I

With over 8,304 acres, the Pu‘u Kukui Watershed Preserve forms the core of regional protection efforts of the West Maui Mountains Watershed Partnership’s 48,000 contiguous acres. Fourteen native natural communities, two of them rare, are found in the Preserve along with over 40 rare plant species and six endemic species of land snails. During 2008, Maui Land and Pineapple Company, Ltd. completed the installation of an 8 ft. high galvanized fence along the lower boundary of the Pu‘u Kukui Watershed Preserve which will prevent the migration of feral ungulates (e.g., axis deer, *Cervus axis*) into the Pu‘u Kukui Watershed Preserve. This fence, totaling approximately 1 mile in length, is the first phase in securing a strategic northwestern boundary of the preserve.

Cooperator: Maui Land and Pineapple Company, Ltd.
USFWS Contacts: Benton Pang and Jennifer Higashino
Funding Program: Partners for Fish and Wildlife

Completed ungulate fence that excludes axis deer from Pu‘u Kukui Watershed Preserve. Photo courtesy of Randy Bartlett.

Lāna‘ihale Summit Fence, Increment II/Westside

Approximately 3 miles of ungulate-proof fence was constructed on the island of Lāna‘i. When all three management units of the Lāna‘ihale Fence Project are completed, approximately 3,560 acres will be protected from feral ungulates. This will benefit several species of endangered plants, including *Bonamia menziesii* (bonamia), *Clermontia oblongifolia* ssp. *mauiensis* (‘ōhā wai), *Cyrtandra munroi* (ha‘iwale), and *Gahnia lanaiensis* (gahnia). Lāna‘ihale is also home to the endangered Hawaiian Petrel or ‘ua‘u (*Pterodroma sandwichensis*) as well as *Partulina semicarinata* and *Partulina variabilis*, two species of tree snails proposed for listing as endangered.

Cooperator: Lāna‘i Institute for the Environment
USFWS Contact: Craig Rowland
Funding Program: Private Stewardship Grant

Endangered *Manduca blackburni* caterpillar at Kanahā restoration area. Photo courtesy of Community Workday Program.

Kanahā Beach Restoration

This project continued community volunteer efforts begun in 2003 to restore coastal habitats at Kanahā Beach. During 2008, the Community Workday Program completed a fence to exclude off-road vehicles from sensitive sand dunes. In addition, they cleared non-native vegetation and planted rare native plants on 8 acres of upland, 4 acres of wetland, and one mile of shoreline. The Kanahā Wetland provides habitat for the endangered Hawaiian stilt (*Himantopus mexicanus knudseni*). Protecting the wetland from off-road vehicle use and removing invasive weeds improved habitat and will contribute to the recovery of Hawaiian stilts. This project not only preserves rare, threatened and endangered plant and waterbird species, but it also allows community volunteers to participate in restoration and learn about Hawai‘i’s coastal resources.

Cooperator: Community Workday Program
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Fence-building at Lāna‘ihale. Photo courtesy of Lāna‘i Institute for the Environment.

Auwahi Dryland Forest Restoration

As of September 2008, more than 44,800 native seedlings of 36 different species have been planted within fenced exclosures at Auwahi on the island of Maui. During 2007–2008, seed collecting focused on obtaining seeds to propagate difficult uncommon species, including *Santalum freycinetianum* var. *lanaiense* (ʻiliahi), *Vigna o-wahuensis*, *Alphitonia ponderosa* (kauwila), *Smilax melastomifolia* (hoi kuahiwi), *Artemesia mauiensis* var. *difussa* (ʻahinahina), *Zanthoxylum hawaiiense* (aʻe), and *Melicope adscendens* (alani). Of the 51 total native species with the Auwahi exclosures, 28 are naturally reproducing, whereas only 4 of these species naturally reproduce outside of the restoration areas. Lessons learned from Auwahi restoration efforts have increased the success of native seedling planting, including decreased re-invasion by non-native species and increased planting rates.

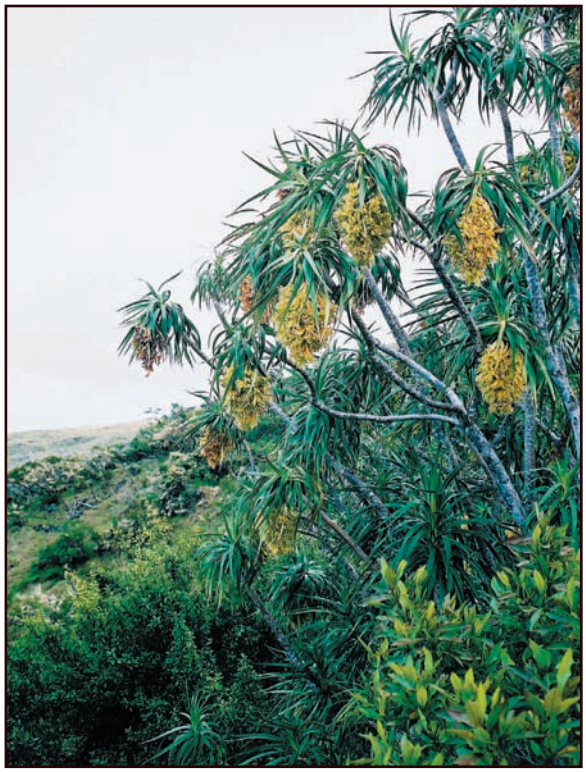
Cooperator: ʻUlupalakua Ranch
USFWS Contacts: Jennifer Higashino and Craig Rowland
Funding Program: Private Stewardship Grant

Volunteers planting native species at Auwahi dryland forest. Photo courtesy of Maui Restoration Group.

Leeward Haleakalā Watershed Restoration Partnership Project

Funding for this project increased efforts to restore dry forest habitats on private lands for the Leeward Haleakalā Watershed Restoration Partnership. Through the efforts of a coordinator position, the number of volunteer trips increased from 7 during 2003 to 26 during 2008. As a result, total volunteer hours increased from 1,538 hours during 2003 to 3,666 hours during 2008. A total of 11,301 native seedlings were planted during 2008. The survival rate for planted seedlings is 99 percent. In addition, the first three miles of the Leeward Haleakalā Watershed Restoration Partnership fence was started and nearly 1000 acres of the invasive silk oak tree (*Grevillea robusta*) and Christmas berry (*Schinus terebinthifolius*) were removed from dryland forests.

Cooperator: Tri-Isle Resource Conservation and Development Council, Inc.
USFWS Contacts: Benton Pang and Jennifer Higashino
Funding Program: Partners for Fish and Wildlife



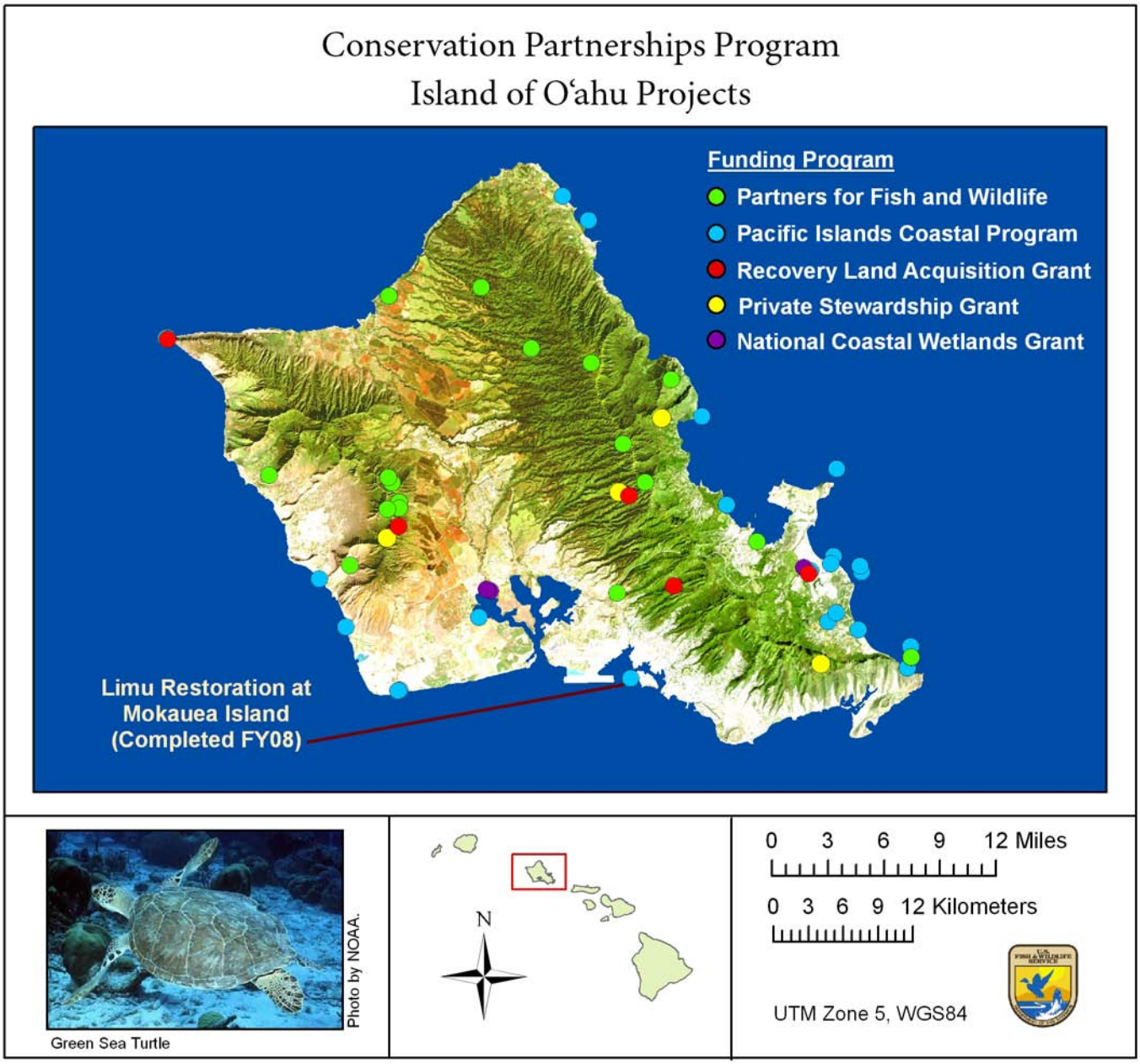
Pleomele auwhiensis (hala pepe) at Auwahi dryland forest. Photo courtesy of Maui Restoration Group.

Mōkapu Islet Rat Eradication

During February 2008, this multi-agency project eradicated rats on Mōkapu Islet, a 10-acre offshore islet north of the island of Molokaʻi. This was the first eradication of rodents from an island in the State of Hawaiʻi using aerial application of rodenticides. And it was the world's first eradication accomplished by aerial application of diphacinone rodenticide. Diphacinone is considerably less toxic to non-target species than the rodenticides previously used on other islands. Mōkapu Islet supports rare native seabirds, plants, and invertebrates, whose populations had been seriously damaged by rat predation. Rat removal has allowed these rare native species to recolonize on their own and has cleared the way for future planting of critically endangered coastal plants.

Cooperator: USDA Animal and Plant Health Inspection Service
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Mōkapu Islet. Photo courtesy of Heather Eijzenga.

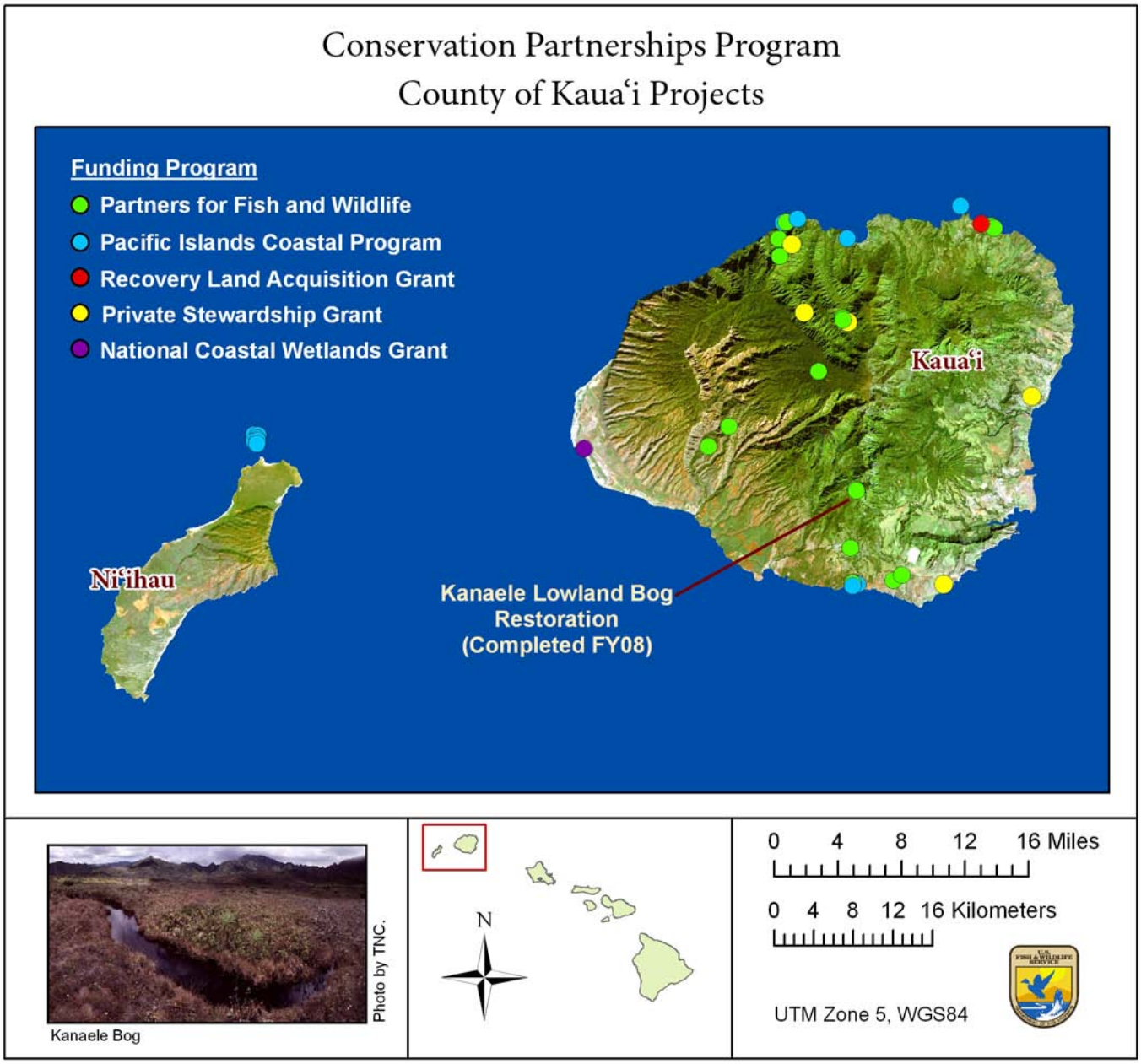


Limu Restoration at Mokauea Island

In partnership with the non-profit environmental organization Kai Makana and several elders in the native Hawaiian community, this project restored 1 acre of coral reef and intertidal habitat. This project promoted community stewardship by involving local school-age children in the restoration of nearshore seaweed beds. In the process, Hawaiian elders passed on their knowledge of traditional techniques for the harvest and sustainable management of marine resources. Several marine species benefited from the seaweed restoration, including reef fish and threatened green sea turtles (*Chelonia mydas*) which feed on marine algae in shallow areas.

Cooperator: Kai Makana
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Education about limu and coral reef restoration. Photo courtesy of Kai Makana.

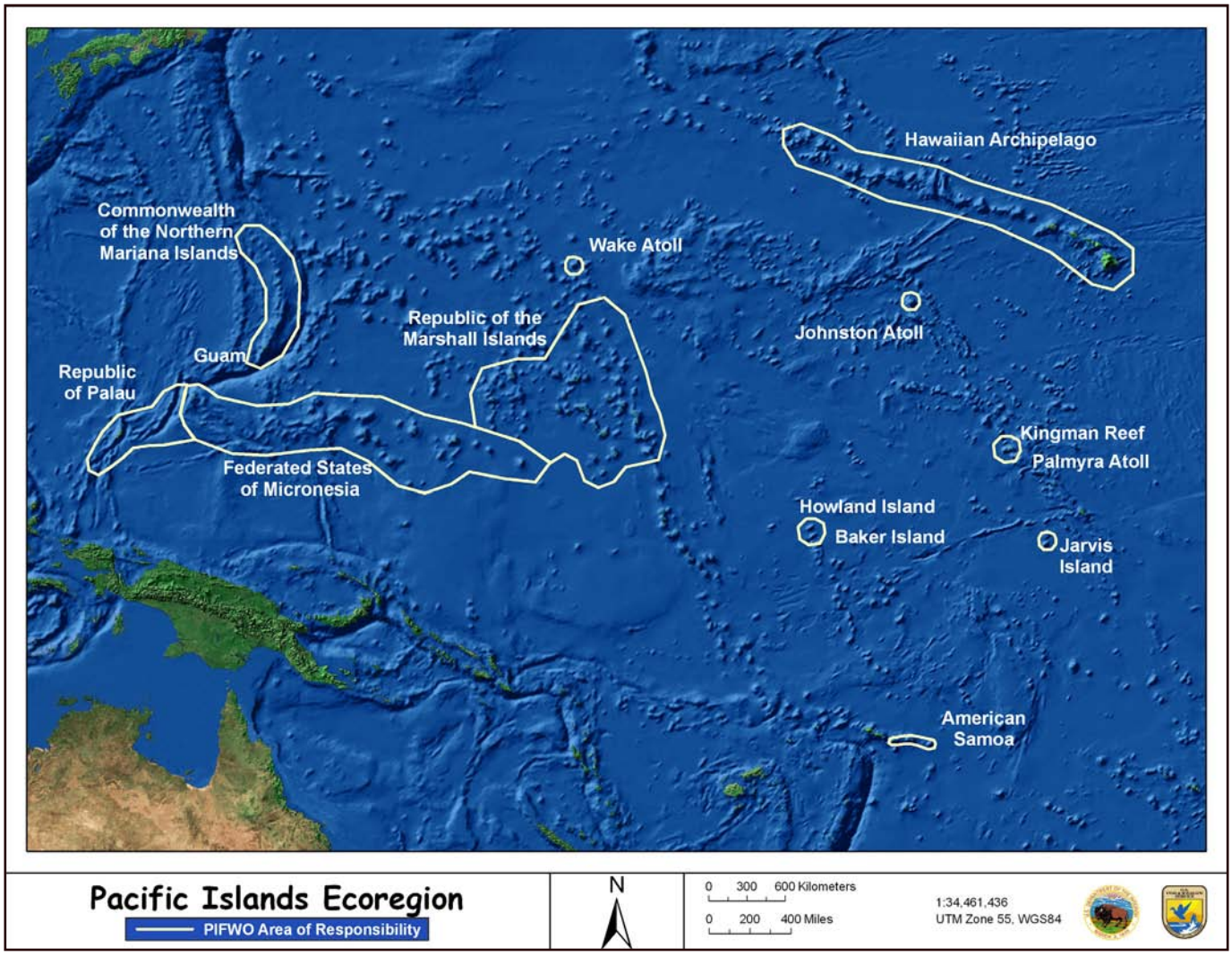


Kanaele Lowland Bog Restoration

Kanaele Bog, located on the island of Kauaʻi, is unique because it is Hawaiʻi's only native low elevation bog below 2,000 ft. During 2008, approximately 58 acres of bog and surrounding wet forest habitats were protected by construction of a fence that prevents feral pigs from accessing native habitats. Excluding feral ungulates from the bog will increase survival and natural regeneration of rare plants including the endangered *Viola kauaensis* var. *wahiawaensis* (nani Waiʻaleʻale) and *Dubautia imbricata* ssp. *imbricata* (naʻenaʻe). In addition, the area is critical habitat for *Cyanea undulata* (hāhā) and *Exocarpus luteolus* (heau), and is proposed critical habitat for an additional 16 species of plants. Fence monitoring, necessary maintenance, and treatment of invasive strawberry guava (*Psidium cattleianum*) and *Melastome* sp. continue to occur monthly.

Cooperator: The Nature Conservancy
USFWS Contacts: Michelle Clark and Benton Pang
Funding Program: Partners for Fish and Wildlife

Ungulate-proof fence that excludes feral pigs from Kanaele Bog. Photo courtesy of The Nature Conservancy.



NWHI Endangered Passerine Translocation Site Analysis

The Hawaiian Islands National Wildlife Refuge is home to three endemic, highly endangered passerines: the Nihoa finch (*Telespiza ultima*), the Nihoa millerbird (*Acrocephalus familiaris kingi*), and the Laysan finch (*Telespiza cantans*). This project funded an expert analysis of potential translocation sites for these 3 species and resulted in a prioritized list of possible sites where these birds could be released. Areas of analysis included the Northwestern Hawaiian Islands, Kahoʻolawe, and offshore islets throughout the state of Hawaiʻi. Climate change and sea level rise were key factors in evaluating suitable translocation sites. This study is a key step toward establishing new populations of these rare birds in sufficient numbers to support long-term survival.

Nihoa finch. USFWS photo.

Cooperator: Marie Morin
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Squaretail grouper. Photo courtesy of Chris Swenson.

Kosrae Community-Based Marine Protected Area

This project provided support for local communities in Kosrae State in the Federated States of Micronesia for conservation of nearshore marine areas. Local communities worked with the government to delineate, plan, and manage a marine protected area (MPA). As a direct result of this project, communities designated a community-managed MPA that includes 1,443 acres of coral reef and mangrove wetlands. The MPA will protect hundreds of coral reef-associated fish and invertebrates and two species of listed sea turtles.

Cooperator: Kosrae Conservation and Safety Organization
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Lake Susupe: Second Land Acquisition

During 2008, a 2-acre parcel along the shoreline of Lake Susupe on the island of Saipan in the Commonwealth of the Northern Mariana Islands was purchased for conservation. With this acquisition, approximately 11 acres of land at Lake Susupe has been protected to benefit endangered species. The wetlands surrounding Lake Susupe are unique to the region and provide some of the only naturally occurring breeding habitat for the endangered Mariana common moorhen (*Gallinula chloropus guami*) and endangered nightingale reed-warbler (*Acrocephalus luscinia*). Lake Susupe also provides an important stopover and over-wintering area for migratory ducks and shorebirds protected under the Migratory Bird Treaty Act.

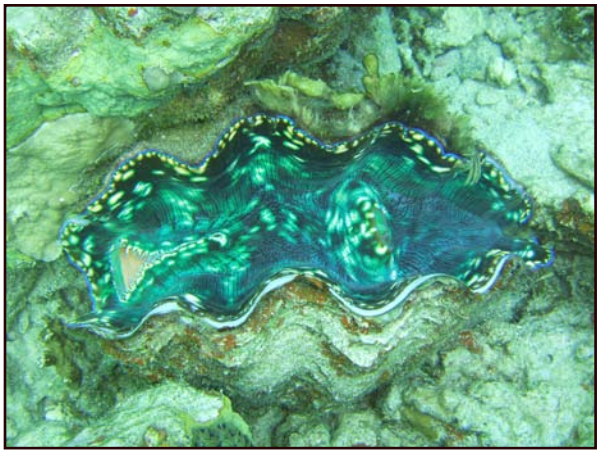
Nightingale reed-warbler. Photo courtesy of Eric Vanderwerf.

Cooperator: CNMI Division of Fish and Wildlife
USFWS Contact: Craig Rowland
Funding Program: Recovery Land Acquisition Grant

Rota Marine Protected Area and Marine Education

This project improved the effectiveness of the existing Rota Marine Protected Area (MPA) to protect 209 acres of coral reef habitats. Previously, the public was unclear about the boundaries of the MPA, did not understand its purpose, or were unaware of use restrictions within the MPA, thus preventing the designated MPA from fulfilling is protective function. Luta Marine Education Center worked with Rota High School's marine science classes, local regulatory agencies, and the Rota community to resolve these problems. The MPA reserve boundaries were demarcated, signs were posted, and extensive public education was conducted. These actions will begin recovery of coral reefs damaged by human disturbance.

Cooperator: Luta Marine Education Center
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program



Giant clam, Palau. Photo courtesy of Chris Swenson.

Obyan Beach Restoration and Marine Education

This project restored 5 acres of green sea turtle nesting habitat along 0.5 miles of Obyan Beach in Saipan by preventing vehicle access to the beach and posting educational signs. Native coastal plants were also used to stabilize eroding soils in areas formerly overrun by off-road vehicles, thus preventing sediment runoff onto adjacent coral reefs. A teacher education program provided local teachers with information on the need for and benefits of coastal and marine habitat conservation on Saipan.

Cooperator: Mariana Islands Nature Alliance
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

Erosion control matting at Obyan Beach. Photo courtesy of MINA.

Rota High School students monitoring the Rota Marine Protected Area. Photo courtesy of MINA.

Helen Reef Community-Based Marine Protected Area

The Palau Conservation Society worked with the local community in Palau's Hatohobei State to plan, delineate, and manage a marine protected area (MPA) at Helen Reef Atoll. Helen Reef is one of the most biologically diverse atolls in the Pacific and supports nesting green sea turtles (*Chelonia mydas*), 530 species of reef fish, and 325 species of hard and soft corals. By protecting 26,265 acres of coral reef, the Helen Reef MPA will prevent poaching by foreign fishing vessels and over-harvesting of rare marine resources.

Cooperator: Palau Conservation Society
USFWS Contact: Chris Swenson
Funding Program: Pacific Islands Coastal Program

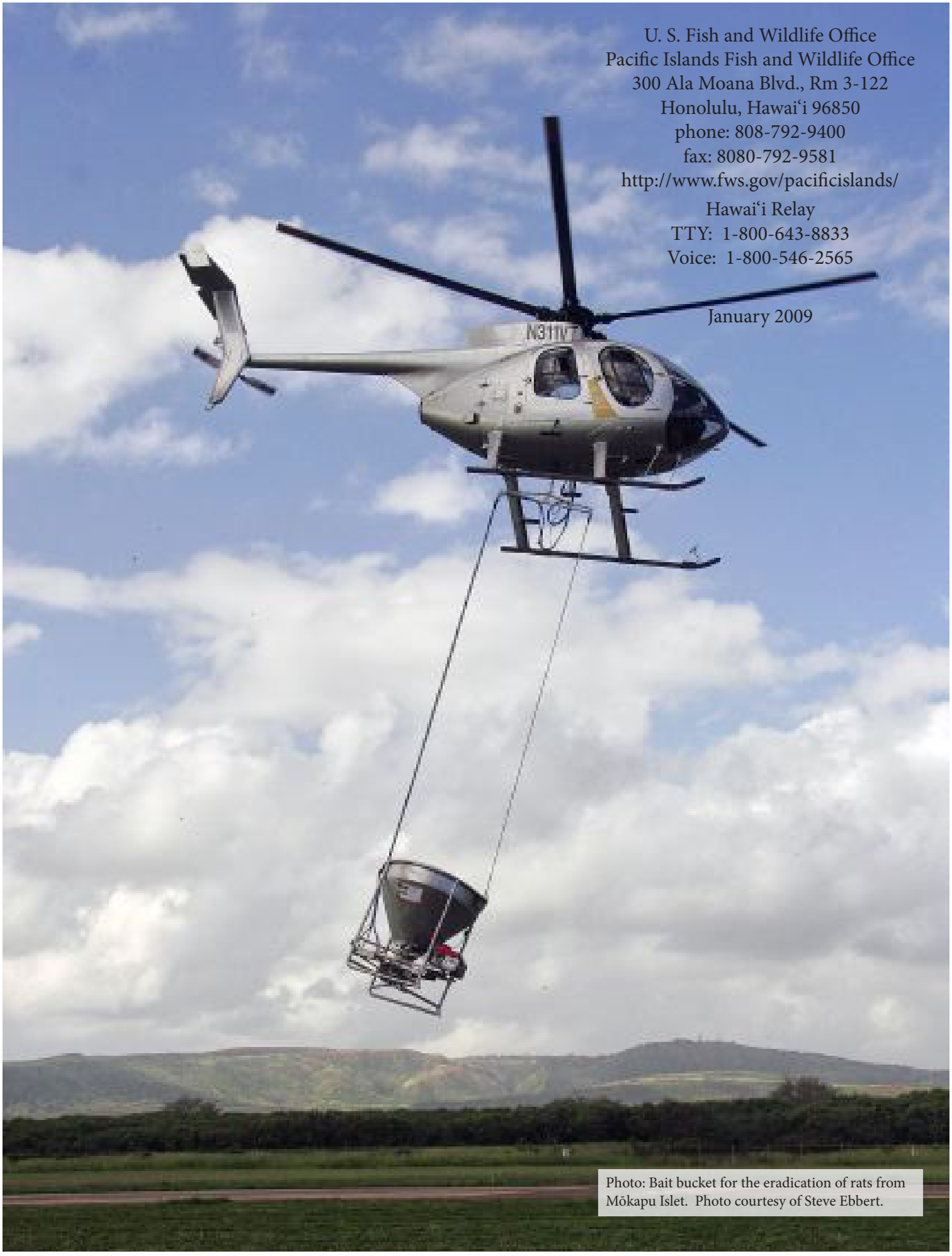


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Photo: Bait bucket for the eradication of rats from Mōkapu Islet. Photo courtesy of Steve Ebbert.