



PROGRAM OVERVIEW

The Pacific Islands Coastal Program (PICP) is one of 21 such U.S. Fish and Wildlife Service programs around the nation. Established in Fiscal Year 2000, the PICP funds landowners, nonprofit groups, government agencies, and others to conduct habitat protection and restoration, biological surveys, applied restoration research and planning, and environmental education.

Unlike other Coastal Programs, the PICP includes hundreds of islands distributed over thousands of square miles of ocean and covers over 6,500 miles of coastline. Pacific island coasts and nearshore environments include over 90% of the U.S. coral reefs and a range of unique, tropical habitat types that support many endemic species, hundreds of which are listed as threatened or endangered.

The PICP works with people from many Pacific cultures who live in several political jurisdictions. Current projects are located in the State of Hawai'i, the Northwestern Hawaiian Islands, the Commonwealth of the Northern Mariana Islands, the U.S. Territories of American Samoa and Guam, unincorporated U.S. possessions like Palmyra Atoll and Midway Atoll, and two independent nations with Compacts of Free Association with the U.S. - the Republic of Palau and the Federated States of Micronesia.

The mission of the Pacific Islands Coastal Program is to work with partners to conserve native species of fish and wildlife, protect and restore healthy coastal ecosystems, and build the capacity of coastal communities to continue this work into the future.



PROGRAM STRATEGY

The PICP works with partners to identify and prioritize projects in conservation focus areas. High priority projects are characterized by:

- Locations with high biological value, defined as ecological integrity, high biodiversity, and the presence of threatened and endangered species;
- Addressing imminent threats to native habitats and species;
- Strong community and government agency support that will likely result in long-term, community-based management of the area;
- Potential for the project to leverage outside funds and trigger similar projects in adjacent areas;
- Ability to increase public awareness of coastal conservation issues; and
- Feasibility of the proposed conservation technique.

CONSERVATION FOCUS AREAS

Conservation focus areas include offshore islets; coral reefs; and coastal wetlands and other rare coastal habitats such as anchialine pools, dune and coastal strand ecosystems, sea turtle nesting beaches, and seabird colonies.

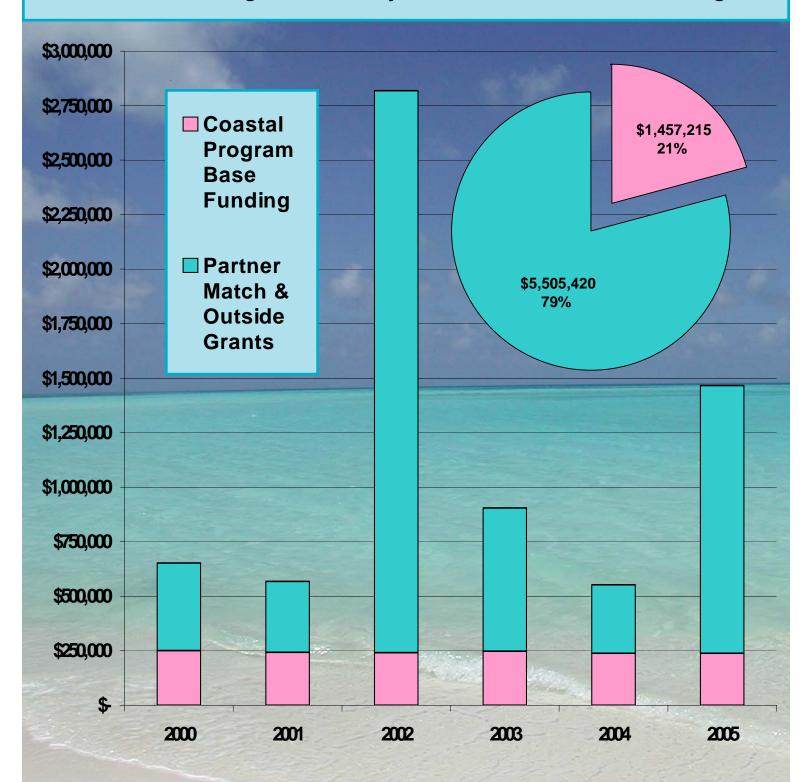
After prioritizing projects using the described criteria, the PICP funds projects that fall into one or more of the following four categories:

- Habitat Protection & Restoration;
- Biological Surveys & Conservation Planning;
- Education & Outreach; and
- Focused Conservation Research.

Forming strong working relationships with reliable project partners and leveraging outside funding is critical for achieving conservation in such a large geographic area. The PICP aims to exceed a 1:1 match for program funds, averaged over all projects funded during any fiscal year.

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Conservation Funding Generated By The Pacific Islands Coastal Program



Since FY 2000, the PICP has directed nearly \$7 million in conservation funding to over 80 projects on dozens of Pacific islands. This was accomplished by using less than \$1.5 million of PICP base funds to leverage \$2.8 million in cash and in-kind support from over 50 partner organizations and by devoting staff time to assist partners in obtaining over \$2.7 million from other federal and non-federal sources.

TECHNICAL ASSISTANCE DELIVERS ADDITIONAL CONSERVATION FUNDING

Technical assistance provided by PICP staff helped deliver \$2.7 million from federal and non-federal sources for coastal habitat purchase, protection and conservation projects. The PICP worked with multiple partners to obtain the following:



• \$ 2 million in funding (a \$1 million Recovery Land Acquisition Grant and a \$1 million National Coastal Wetland Grant) for the purchase of rare coastal wetland and dune habitat at Waihe'e Dunes, Maui.



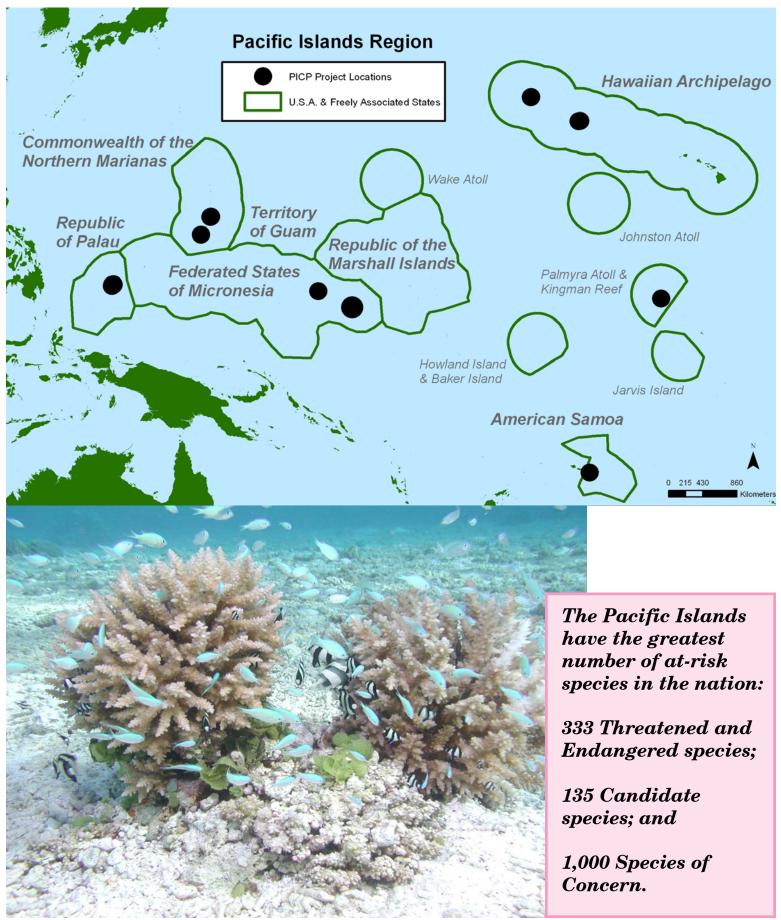
• \$80,000 from the Nature Conservancy to purchase one of the most important U.S. nesting beaches for the endangered Hawksbill Sea Turtle, located at Kamehame Beach on the Big Island.



A \$250,000 fund for Hawai'i marine conservation, resulting from a plea agreement settlement between federal agencies and a marine polluter. This money was matched by an additional \$382,000 from project partners.

Pacific Islands Coastal Program

Pacific Islands Coastal Program Projects

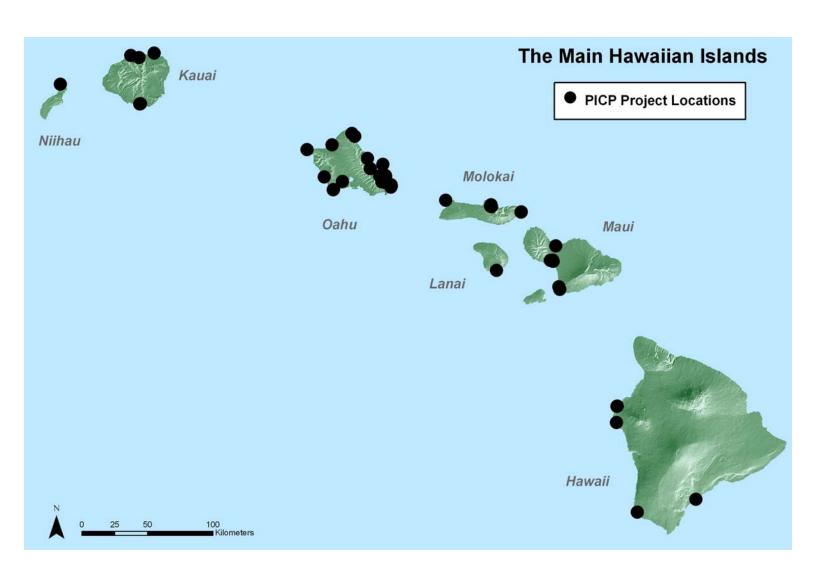


ACCOMPLISHMENTS

PICP projects and technical assistance have played a key role in the protection and restoration of over 32,000 acres of coastal uplands, islets, wetlands, and coral reefs. Protecting these coastal habitats has benefited 25 endangered and threatened species, 30 species of migratory birds, and hundreds of endemic species of plants, insects, and marine organisms.

PICP-funded biological surveys, management plans, and mapping projects have improved resource management on several thousand additional acres of marine and terrestrial habitat.

Educational activities and products have increased environmental awareness in thousands of people in the Pacific Islands Region, including many school-age children.



Threats to coastal and nearshore marine ecosystems include alien species invasions, sedimentation and polluted runoff, coastal development, overfishing, global climate changes, and marine debris.



WETLANDS & RARE COASTAL HABITATS

Kamehame Beach Hawksbill Sea Turtle Nesting Preserve The PICP provided technical assistance to The Nature Conservancy that resulted in their purchase of Kamehame Beach, on the island of Hawai'i. As a result, this 24-acre parcel is now a nature preserve that protects the most productive nesting beach in the United States for the critically endangered Hawksbill Sea Turtle.

Waihe'e Coastal Dunes and Wetlands Preserve PICP technical assistance channeled \$2 million in federal grants through the State of Hawai'i to purchase and protect the 275-acre Waihe'e Dune and Wetland parcel on Maui. This area is now protected in perpetuity and managed by the Maui Coastal Land Trust. Restoration has begun with the aid of the community. One of the last intact dune ecosystems in Hawai'i, this area is home to endangered Hawaiian Stilts, Coots, Ducks and Gallinules; seven species of endangered plants and insects; and provides nesting habitat for the threatened green sea turtle.

Hamakua Marsh Restoration Funding to the State of Hawaii aided restoration of 22 acres of wetland habitat for endangered waterbirds, and migratory shorebirds and waterfowl. The project included weed clearing, grading and sculpting, installation of a brackish water pump, re-vegetation with native wetland and stream species, public education, and interpretive signage.

Kanaha Beach Dune and Wetland Restoration A cooperative project, bringing together community groups and federal, state, and county agencies, fenced and protected 53 acres of sand dunes and coastal wetlands in a Maui County park. The fence was installed to prevent additional damage to dunes by off-road vehicles and to allow recovery. Native plants, including rare and endangered species, are now being re-introduced by community volunteers. Kanaha Beach is one of the last dune ecosystems remaining in Hawai'i. Two endangered and many rare plants, an endangered insect, an endangered wetland bird, and migratory shorebirds are now protected.



Lehua Island Ecosystem Restoration Ecosystem restoration has begun on 290-acre Lehua Island, located west of Kauai. Eradication of introduced rabbits and rats will allow re-planting of native vegetation. Restoration will protect thousands of nesting seabirds, attract new seabird species to the island, allow native plants and insects to rebound, and prevent soil erosion into the marine environment. Numerous endangered and rare species will benefit.

Mokulua Islands Native Plant Restoration

Native coastal vegetation is being restored on the Mokulua Islets off the coast of Oahu. These islets are home to large colonies of Wedge-tailed Shearwaters and native plants. Re-vegetation and other erosion control techniques have reduced erosion and collapse of seabird burrows, and reduced sediment runoff onto surrounding coral reefs.

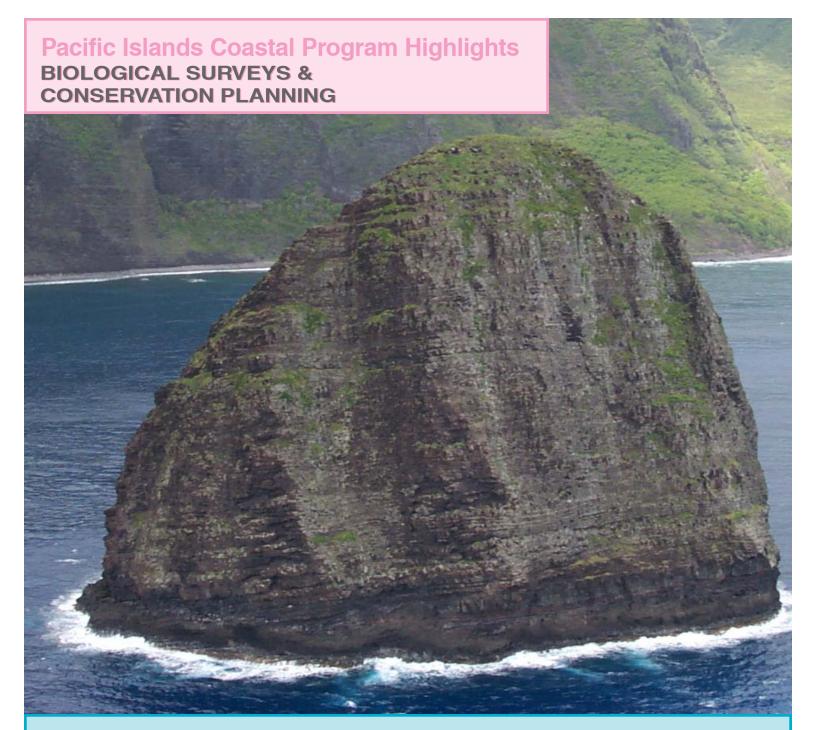
Managaha Island Rat Eradication & Restoration Rats were eradicated on 10-acre Managaha Island, located in the Commonwealth of the Northern Mariana Islands (CNMI). The eradication protected the only known colony of Wedgetailed Shearwaters in CNMI. High-school students also re-routed trails and re-planted vegetation to reduce human impacts on the seabird colony.

CORAL REEFS

Pohnpei Marine Protected Area This project, located in the Federated States of Micronesia, provides assistance to communities in marking the boundaries of multiple marine protected areas (MPAs) that protect 29,600 acres of coral reef and lagoon habitat; trains communities to monitor MPAs; and assists the communities to develop and implement their own MPA management plans, in cooperation with state agencies.

Hawaii Mooring Buoy Project Malama Kai, a non-profit environmental organization, is working with communities, commercial SCUBA operations, and agencies to install 40 new mooring buoys and maintain an additional 125 existing mooring buoys throughout Hawai'ian nearshore waters. Buoys are located in popular dive sites and will significantly reduce anchor damage to coral reefs.





Statewide Offshore Islet Surveys and Restoration Planning The PICP chairs and provides funds to the Hawai'i Offshore Islet Restoration Committee (OIRC). OIRC, a multi-agency coordinating group, is conducting statewide surveys of all major offshore islets and is using the data to identify and prioritize conservation actions. The offshore islets are home to many rare and endangered species of seabirds, plants, insects, and marine organisms that are no longer present on the larger, more densely populated islands in the state.

Islet Surveys of Endemic Insects

Bishop Museum is providing taxonomic identifications for terrestrial arthropods collected on several offshore islets in Hawai'i. Terrestrial arthropods are poorly known and are of great conservation concern. The survey has already identified previously unknown populations of rare, endemic arthropods and will be used to guide conservation actions.

WETLANDS & RARE COASTAL HABITATS

Waimanalo Watershed Restoration Plan A restoration plan was completed for the Waimanalo watershed on Oʻahu, based on scientific input and the priorities of the Waimanalo community. The plan outlines several strategies and specific projects for restoring streams, streamside vegetation, and nearshore marine areas.

Palau Watershed Conservation This project supports watershed planning and conservation in the Republic of Palau, an island nation with the highest terrestrial and marine biodiversity in Micronesia. Watershed-scale planning, including a mangrove management plan, is being adopted by the government and integrated into land-use planning. Control of land-based problems will benefit Palau's spectacularly diverse forest and coral reef ecosystems.

Anchialine Pool Surveys Biologists completed biological surveys of anchialine pools, a rare type of coastal wetland supporting rare invertebrate communities, in two state preserves on Maui and Hawai'i Island. The pools are home to several species of shrimp endemic or indigenous to Hawaii, six of which are candidates for listing as endangered species. State wildlife managers are using the survey results, which includes a threat assessment, to change regulations and public use patterns to protect these habitats.



CORAL REEFS

American Samoa Marine Alien Survey Biologists completed the first surveys in American Samoa documenting the distribution of marine alien species on coral reefs. Alien species were detected in Pago Pago Harbor but are not currently spreading. This is valuable baseline data for marine managers and is key for interpreting future surveys and forming management strategies.

Hawai'i Marine GAP Project This project gathered and digitized nearshore marine data for Hawai'i to construct GIS data layers. Data layers include species locations, habitat types, recreational and cultural uses, land ownership, and threats to species and habitats. The final product will be used by managers to assess potential impacts of development projects and to model effectiveness and impacts of possible choices for marine protected areas.



CORAL REEFS

Palau Sea Turtle Education Project Government agencies and environmental groups in the Republic of Palau teamed up to create a public education campaign for threatened and endangered sea turtle species. Billboards, radio spots, school visits, an aquarium exhibit, and printed material will emphasize the biological and traditional cultural value of sea turtles – and how they can be conserved.

Community Marine Management Network PICP funds supported several coastal communities around Hawai'i to form a network and hold periodic meetings with each other, state agencies, and others, to determine how communities can take an active role in managing ocean resources near their homes. As a result, some communities have developed Makai Watch programs in partnership with state law enforcement officers. Community members are trained to monitor biological conditions and human uses and to report violations to the authorities. An integral part of this program is the documentation and revival of traditional Hawai'ian methods for harvesting and managing marine resources.

Campbell High School Seaweed Project This project provided resources to Hawai'i high school students to conduct applied research and monitoring in a local, nearshore area traditionally used by Hawai'ians for harvest of edible seaweeds (limu). A variety of fish and invertebrates, as well as a threatened species of sea turtle also utilize this habit. Students conducted water quality sampling to understand the impacts of stormwater runoff. They integrated their scientific understanding with traditional knowledge by working with community elders to learn Hawaiian methods to harvest and conserve limu.

Offshore Islet Education The Offshore Islet Restoration Committee (OIRC) used PICP funds to create several educational products to heighten awareness of the need for conserving endemic and indigenous species restricted to offshore islets in Hawaiʻi. OIRC educational products include a website, informational cards for kayakers bound for offshore islets, T-shirts, press releases, and a seabird conservation poster targeting recreational fishermen.

Mokulua Islet Interpretive Signs This project placed a University of Hawaii scientist, elementary school teachers, and children together to work on a resource conservation issue. The children designed and placed interpretive signs on Mokulua Islet on Earth Day 2005 and the event was covered by local TV stations and newspapers. The signs explain islet biology, threats to nesting seabirds and other islet biota, and how the numerous visitors to the islet can help.

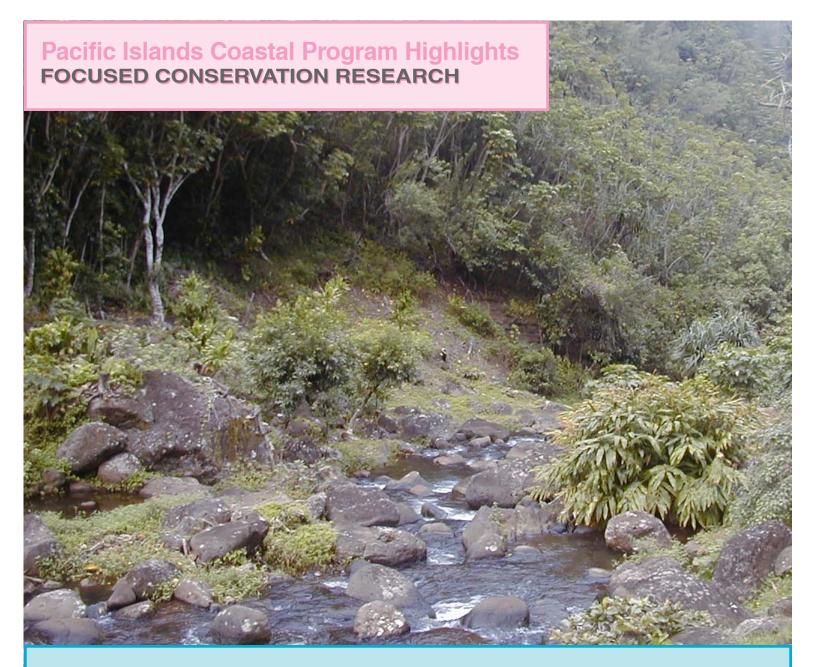


WETLANDS & RARE COASTAL HABITATS

Plays for Environmental Education PICP provided funds to Ohia Productions, a group that writes and performs plays with environmental themes for thousands of school age children throughout Hawai'i. Ohia Productions hired an educational consultant to produce a curriculum that school teachers will use to reinforce the conservation themes introduced by the plays.

Wing Beach Sea Turtle Restoration and Outreach Wing Beach is one of only three nesting sites on Saipan used by threatened green sea turtles, but was, until recently, heavily impacted by off-road vehicles. In addition to blocking vehicle access to the beach, this project funded production of educational signs explaining basic turtle biology, why the beach was blocked, and how the public can help turtles.

Coastal and Wetland Education Programs The Hawai'i Nature Center offers long-term, coastal and wetland education programs to large numbers of elementary school students on Oʻahu and Maui. PICP support for these programs helped provide thousands of students an opportunity to learn and appreciate the ecology of seabirds and endangered, native waterbirds such as the Hawai'ian stilt and the Hawai'ian coot.



WETLANDS & RARE COASTAL HABITATS

Kalaeloa Anchialine Pool Restoration This project experimentally restored rare Hawai'i wetland habitat on a National Fish and Wildlife Refuge by excavating fill material and monitoring for the return of native flora and fauna. Anchialine pools are tidally influenced coastal wetlands with a subsurface connection to the ocean through porous lava or limestone. Native shrimp have already re-colonized the pools, indicating that this technique will be applicable to other areas.

Limahuli Stream Restoration Research University of Hawai'i scientists quantified the effects of restoring native riparian vegetation on stream primary productivity and the subsequent effects on native fish and invertebrate populations. Study results will be used to determine riparian restoration strategies statewide.

Waimanalo Stream Restoration Research Researchers experimented with the use native riparian vegetation, stone, and other organic materials for protecting against erosion of steep, artificially constructed stream banks. Successful techniques are being integrated into stream restoration guidance for Hawai'i.

Cocos Island Rat Eradication Techniques
Research on Cocos Island, Guam, is developing
eradication techniques for invasive rats that will
minimize impacts to non-target, native species of
coconut crabs, reptiles, and birds.

Midway Atoll Ant Eradication This project is investigating the efficacy of ant eradication techniques on small islets and the impacts to non-target insects. Results will assist in managing invasive ant populations that are strongly suspected to be a major cause of the decline of many native species.

Lehua Islet Vegetation Recovery Monitoring
Scientific monitoring, to be carried out in
association with Lehua Islet ecosystem
restoration project, will document recovery of
native plant species and quantify whether the
removal of introduced herbivores results in
appearance of new weed species.



CORAL REEFS

Coral Reef Disease Study Researchers quantified the type and distribution of coral diseases at different locations in the tropical Pacific, obtaining photographs and tissue samples of lesions and tumors, and characterizing and recording the histology of diseased coral tissues. This information will allow marine resource managers to better document, describe, and understand the occurrence of diseases in corals.

Endangered Crocodile Genetics Study Yale

University is using molecular genetics techniques to determine if the population of endangered saltwater crocodiles in the Republic of Palau is composed of one or more separate species and if the population reflects the genetic influence of alien crocodilian species introduced by humans. Results will be used to help formulate a national crocodile management plan.

Pacific Islands Coastal Program Projects

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Hawaii Hawksbill Sea Turtle Conservation Program Midway Ant Eradication Study Coral Disease Study Kaena Point Coastal Ecosystem Restoration Marine Alien Species Workshop Statewide Coastal Vegetation Surveys Ukoa Marsh Fence and Restoration Plan Waimanalo Watershed Project **Wetland Information Network** Wetland Plant Restoration Trials Historical Marine Research GIS Data Layer

Hawaii Midway Multi-island Oahu Multi-island Multi-island Oahu Oahu Multi-island Multi-island

Multi-island

NPS-Hawaii Volcanoes National Park **USFWS-Midway Atoll National Wildlife Refuge** USGS-Natl Wildlife Health Research Center Hawaii Natural Area Reserve System University of Hawaii, Bishop Museum **USGS-Biological Resources Discipline** Kamehameha Schools Waimanalo Health Center Ducks Unlimited, Inc. University of Hawaii NOAA, University of Hawaii

2001

Ahihi-Kinau NAR Signs Anchialine Pool Surveys Bishop Museum Insect ID Contract Hamakua Marsh Restoration Hawaii Nature Center Coastal Education Program Hawaii Nature Center Coastal Education Program Heeia Stream Restoration Kaena Point Education Project Laysan Greenhouse and Restoration Lehua Island Baseline Survey Limahuli Stream Restoration & Monitoring Mana Wetland Restoration Plan Manuka NAR Signs Maui Hawksbill Sea Turtle Conservation Laysan Pollen Coring Study Oahu Seabird Island Habitat Restoration Palau Saltwater Crocodile Report Statewide Coastal Plant Database Waimanalo Stream Vegetation Study

Maui Multi-island Multi-island Oahu Maui Oahu Oahu Oahu Laysan Lehua Kauai Kauai Hawaii Maui Laysan Oahu Palau Multi-island Oahu

Hawaii Natural Area Reserve System **Environmental Assessment Company** Bishop Museum The Wildlife Society- Hawaii Chapter Hawaii Nature Center- Maui Hawaii Nature Center- Oahu Friends of Heeia State Park Hawaii Division of Forestry and Wildlife USFWS- Hawaiian/Pacific Islands NWRC National Tropical Botanical Garden **UH-Hawaii Stream Research Center** Ducks Unlimited, Inc. Hawaii Division of Forestry and Wildlife Hawaii Wildlife Fund International Archaeological Research Hawaii Division of Forestry and Wildlife **Watanabe Consultants Bishop Museum** University of Hawaii

2002

American Samoa Marine Alien Survey Hawaii Hawksbill Sea Turtle Conservation Program Kahuku Golf Course Seabird Fence/Signs Kalaeloa Coastal Strand Restoration Lawai Kai Coastal Restoration **Marine GAP Analysis** Moomomi community-based marine management Offshore Islet Restoration Palau Dugong and Crocodile Surveys Sealife Park Seabird Rehab Pool **Waipa Coastal and Riparian Restoration**

Hawaii Oahu Oahu Kauai Multi-island Molokai Multi-island Palau Oahu

American Samoa Bishop Museum, National Park Service NPS-Hawaii Volcanoes National Park USFWS- Oahu National Wildlife Refuge Kaala Farms, Inc. National Tropical Botanical Garden The Nature Conservancy of Hawaii, NOAA The Nature Conservancy Bishop Museum, The Nature Conservancy The Nature Conservancy Sea Life Park Kauai Waipa Foundation

The traditional Hawai'ian Ahupua'a concept, which emphasizes local, integrated watershed management from the mountain tops to the coral reefs, provides a viable model today for community-based natural resource management.

