



5 General Coral Reef Conservation Grants

Introduction

The CRCP General Coral Reef Conservation Grant Program supports on-the-ground efforts to monitor, restore, and sustainably manage coral reef ecosystems. It also provides educational and social benefits for communities dependent on coral reefs and their resources. The work is designed to complement and fill gaps in state, territorial, and commonwealth coral reef programs and can include community-based conservation efforts.

Activities must fall within at least one of these seven categories:

- Monitoring and assessment of coral reefs or reef resources
- Socioeconomic assessments and resource valuation
- Marine protected areas (MPA) and associated management activities
- Coral reef fisheries management and enforcement
- Coral reef restoration
- Public education and outreach activities
- Local Action Strategy (LAS) implementation

Since 2002, the CRCP has provided \$2.4M in grants to support projects and leveraged an additional \$3.68M in non-Federal matching funds resulting in a total of \$6.1M. Of the \$2.4M, 26.5% was for projects funded in the Pacific, 23.3% for the Freely Associated States (FAS), 44.4% for the Atlantic, and 5.8% for projects that were National in scope, as seen in Exhibit IV-5-1. This funding supported a total of 62 projects. The majority of the awards were given to non-profit organizations and to academia, as shown in Exhibit IV-5-2. (Note: In 2002, this program initially included targeted research projects; however, beginning in 2003 research was only eligible under this grants program if it had direct management implications.)

Percentage of Projects by Region (2002-2006)

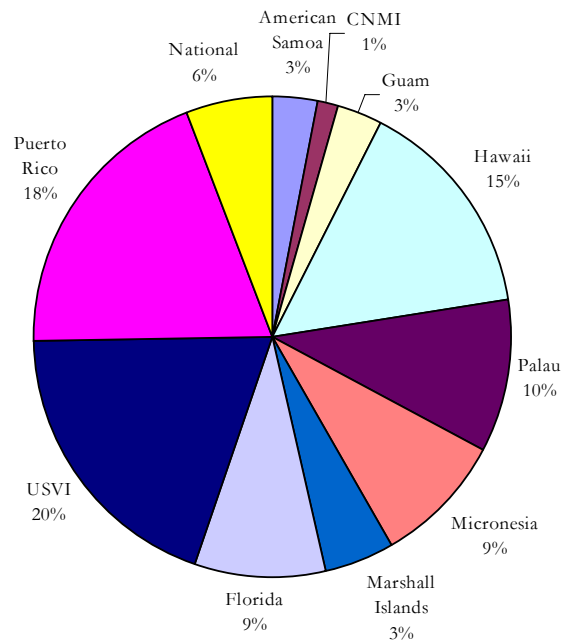


Exhibit IV-5-1. Projects by Region





a. Eligibility

Eligible applicants are institutions of higher education, non-profit organizations, commercial organizations, local and Indian tribal governments, and FAS government agencies. U.S. state, territory, and commonwealth governments and Regional Fishery Management Councils are not eligible under this category. Federal agencies are eligible under this program; however, such applications are considered a low priority unless they are an essential part of a cooperative project with other eligible educational or non-governmental institutions.

Exhibit IV-5-2 Number of Projects by Grantee 2002-2006	
Organization	Number of Projects
Non-Profit (National/International)	25
Non-Profit (Local)	18
Academia	17
For Profit	1
Pacific FAS Government Agencies	1
TOTAL	62

b. Activities

The CRCP General Coral Reef Conservation Grant Program has funded external partners to conduct on-the-ground efforts to monitor, restore, and sustainably manage coral reef ecosystems that cut across several of the CRCP spend plan categories, as shown in Exhibit IV-5-3.

The following sections provide highlights of activities within each of the seven priority categories.

Grant Category: Monitoring and assessment of coral reefs or reef resources

The activities supported under this category have included:

- Applying the Atlantic and Gulf Rapid Reef Assessment (AGGRA) methodology to determine community composition and condition.
- Developing monitoring programs with emphasis on habitat characterization and mapping and on the monitoring of coral reefs, seagrass beds, mangroves, and some water quality,

Number of Projects per Category (2002-2006)

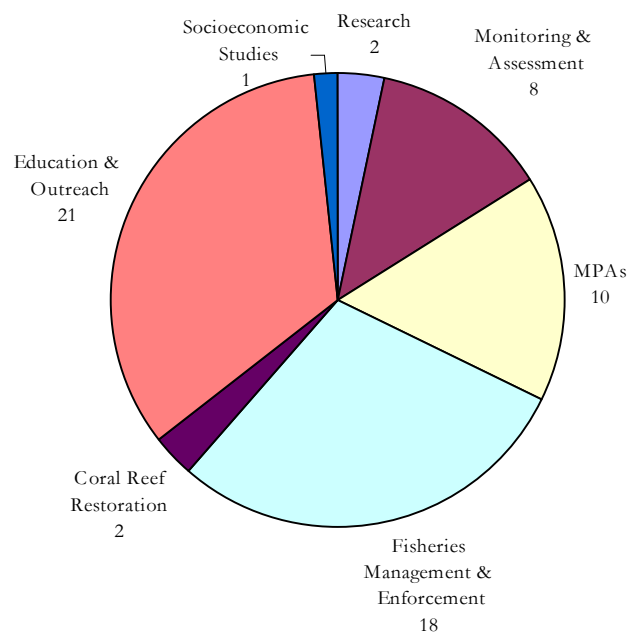


Exhibit IV-5-3. Number of Projects per Category.





as well as targeted monitoring of key indicator species (i.e., groupers and spawning aggregations, culturally important invertebrates, rabbitfish and other species).

- Mapping the spatial distribution of elkhorn coral colonies, including assessing colony size and condition, the prevalence of disease, damselfish lawns, predation and other stressors.

Grant Category: Socioeconomic assessments and resource valuation

The activity supported under this category was a community-based study to determine the feasibility and expectations of MPA management in Vieques, Puerto Rico.

Grant Category: Marine protected areas and associated management activities

The activities supported under this category have included:

- Research to characterize ultraviolet (UV) protecting compounds in corals within and outside of MPAs, with comparison between sites affected to differing degrees by sedimentation.
- Efforts to compile relevant information and develop management decisions by involving community members in the implementation of the East End Marine Park in St. Croix, USVI.
- Assessment of MPA effectiveness in relation to fish movement and life history traits.

Grant Category: Coral reef fisheries management and enforcement

The activities supported under this category have included:

- Analyzing existing enforcement schemes in the FAS, providing training for enforcement officers, and supporting the purchase and implementation of new tools and equipment (e.g., patrol boats and radar systems).
- Defining and mapping essential fish habitat for reef fishes (including characterization of spawning aggregations, movement patterns of commercially important species, and characterization of fishing activities in Federated States of Micronesia, Palau, and Hawai'i).
- Assessing the status of shark populations in USVI.
- Developing community-based management plans for food fish including the rabbitfish, (*Siganus fuscescens*) in Palau.
- Supporting wise management and sustainable use of the aquarium fisheries by using best practices in Hawai'i.





Grant Category: Coral reef restoration

The activities supported under this category have included:

- Evaluation of approaches to propagate and grow out corals from fragments, including comparisons of *in situ* growth rates and captive culturing, and survival of fragments in different reef environments.
- Characterization of the distribution, abundance and impact of coral reef “pest species” such as, the Pacific crown-of-thorns starfish (*Acanthaster planci*).

Grant Category: Public education and outreach activities

The activities supported under this category have included:

- Education campaigns on coral reefs and climate change, as well as snorkeler and diver codes of conduct.
- Development of a community-based conservation program, including training and implementation of monitoring, community-based enforcement, development of strategic partnerships and participation in state government management activities.
- The Maui Voluntary Code of Conduct and CORAL Reef Leadership Network, with emphasis on the development of education materials, training for dive operators and other staff in best practices for coastal uses and tourist recreation activities (including diving and snorkeling).

c. Outputs

Grant outputs reflect the diversity of projects across the various regions that have received support. Examples of such outputs include the following:

Pacific

- **Hawai'i**—worked with local communities to conserve coral reefs along the Kona coast by supporting communities to build the awareness, capacity, and partnerships needed to engage in multi-stakeholder coral reef management. Project outputs include a community-based Makai Watch programs (similar to neighborhood watch programs, but focused on violations related to the marine/coastal environment), increased community awareness, training and education for local youths, and documentation of traditional knowledge.
- **American Samoa**—developing educational brochures and posters explaining bathymetric and GIS mapping in the Fagatele Bay National Marine Sanctuary, and education modules using new Benthic Terrain Modeler ArcGIS extension to be used by the community college.





- **Guam**—developed new tools for the management of chronic infestations and outbreaks of the crown-of-thorns starfish through the use of bait stations, traps, and alarm pheromones.
- **CNMI**—mapped and characterized Saipan Lagoon to ground truth and demarcate 16 ecologically unique habitats.
- **Freely Associated States**—conducted threats and needs assessments for coastal marine areas in the States of Chuuk, Kosrae, and Yap. The assessment found environmental agencies in all three states often lack appropriate legislation, resources, and training to perform effectively and therefore are not prepared to meet increasing anthropogenic threats to marine coastal areas. In Palau, funding helped enhance law enforcement and regulations related to coral reefs and the marine environment through the purchasing of equipment such as night vision binoculars, digital still cameras, video cameras, computers, and printers; updated field monitoring forms and developed a database; and increased environmental awareness through outreach and education.

Atlantic

- **Florida**—collected sound scientific data on the conditions of corals and reef fishes in the Florida Keys that provided a snapshot of the health of these reefs and the impacts of bleaching, and developed culture techniques to propagate scleractinian and gorgonian coral for reef restoration and coral research.
- **Puerto Rico**—created a comic book and weather proof poster illustrating the code of conduct necessary around coral reefs, leveraged this work to develop teaching strategies using these materials in the classroom, and developed an educational cartoon that is airing on public television in Puerto Rico to increase awareness and change behaviors impacting reefs.
- **USVI**—assessed the status of the shark population. Researchers captured a total of 255 sharks in longlines, of 10 different species, and identified one major nursery area in Fish Bay, St. John, which currently is not under protection. This study concluded that shark populations are small and declining.

National

- **National**—developed a set of targeted, interactive educational materials highlighting the current state of knowledge of global climate change, how it is likely to affect coral reefs both in the U.S. and around the world, and what people can do to protect coral reefs from this and other threats.





d. Outcomes

Outcomes for the projects supported by this program include the following examples.

- As a result of community efforts on the big Island of Hawai'i and work by partners in Maui, the State of Hawai'i has recognized and sanctioned the Makai Watch programs, opening new opportunities for local communities to play important roles in protecting local reef resources. This project has also created a renewed sense of stewardship, pride, and respect within local Hawaiian communities. Makai Watch program has continued to expand on Maui.
- Creation of Marine Conservation Trust Fund for Maui that has continued to raise over \$90,000 (cash and in-kind) over the last three years for initiation of a public day-use mooring repair program, assessment of 59 mooring pins and mantas for repairs, repaired 20 mooring pins, planned and participated in numerous reef cleanup events and the development a pilot educational program/materials for snorkel and dive boats.
- Building on the threats and needs assessment for States of Chuuk, Kosrae and Yap, a local non-governmental organization (NGO) received a grant in the amount of \$250,000 from the U.S. Department of State's *Oceans and International Environmental and Scientific Affairs Initiative* to carry out specific needs highlighted by the assessment for enforcement and legislation such as revising applicable laws and training for conservation and law enforcement officers.
- Through increased patrolling and outreach to remote villages, Palau's Division of Fish and Wildlife Protection citations increased 100% compared to the year before the grant, and four additional states within Palau initiated conservation law enforcement programs. After the initial Conservation Law Enforcement Workshop, state conservation law enforcement officers independently decided to establish a Conservation Enforcement Association that would meet every two months to discuss progress and problems encountered.
- All three natural resource management agencies in CNMI are currently using the habitat maps for Saipan Lagoon to establish a long-term monitoring program that selects sites stratified by habitat (<http://www.cnmicoralreef.net/monitoring.htm>), relating watershed sizes and development to habitat identity, integrity, and size; and assessing the fish populations in the lagoon before and after the ban of gill netting.
- The project *Developing a Status Report on the Condition of Florida's Coral Reefs: Application of the AGGRA Methodology* provided critical data on *Acropora palmata* and *Acropora cervicornis* that assisted NOAA during the status review on these species that are now listed as "Threatened" under the Endangered Species Act.
- Researchers conducted a study on fisheries vulnerability and life history assessment of squaretail coral grouper (*Plectropomus areolatus*) in Pohnpei, Micronesia. Results were presented to the Pohnpei Marine Resource Committee and to a wider legislative audience in May 2006, and are helping shape recommendations for further consideration before the full legislature.





e. Challenges

- The Coral Reef Conservation Act mandates that a minimum of 40% of the grant funding be for Pacific projects and 40% for Atlantic projects, which limits the CRCP's ability to fund the best work. This mandate limits our ability to fund the best work because the CRCP General Grant Program is often required to make up the deficiencies in the balance, which is thrown off kilter by the other CRCP grant programs.
- Limited funding is available for projects in the FAS.
- Few proposals are received from the Pacific territories because there are very few qualified researchers and NGOs in these jurisdictions.
- Proposals rejected by this grants program because of significant shortcomings have been funded through the NFWF Coral Fund without the shortcomings being fixed.
- Academic institutions find it difficult to meet the required 1:1 non-Federal match.
- The lack of growth in funding for the program, even though projects funded by this program are more cost effective than those supported by other CRCP grant programs
- Difficulty in getting qualified reviewers because of the overlap of the proposal process with other grant submission periods and holidays.
- Grants are not used for implementing LAS projects, even though this program provides a cost-effective mechanism to implement LAS projects.

