



# Improving community based marine conservation area management in Palau

## Final Report

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**Grantee:**

Palau Conservation Society (PCS)

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\$30,000

## Summary

The goal of this project was to help the Palau Conservation Society improve its ability to successfully work with communities to manage and monitor marine conservation areas in Palau. Since 1994, the Palau Conservation Society has helped communities set up marine and terrestrial conservation areas around the country. PCS provides states assistance with site selection, demarcation, deployment of buoys, sign installation, coral reef or forest monitoring, research and management plan development. This project has helped PCS to improve its marine conservation area program and develop local-level management capacity through the following activities: (1) improvement of community-based monitoring and management activities for selected conservation areas; (2) collection and incorporation of culturally appropriate best practices guidelines for community-based coral reef conservation into PCS's work; and (3) economic valuation of coastal resources.

## Proposed activities

1. Develop a community-based monitoring and management program for selected conservation areas
  - ◆ Identify local community groups or individuals



- ◆ Develop and perform training sessions
  - ◆ Dive certification for conservation officers
  - ◆ Reef monitoring
2. Develop culturally appropriate best practices guidelines for community-based coral reef conservation in Palau
- ◆ Document best management practices for coral reef protection in Palau
  - ◆ Assess practices as tools for future conservation efforts
  - ◆ Identify ways to bring community ideas into national debates on conservation of resources and
  - ◆ Identify ways to integrate these best management practices into PCS' work.
3. Economic valuation of coastal resources
4. Present results at one regional (International Tropical Marine Ecosystems Management Symposium, ITMEMS) and one international (IUCN's World Parks Congress) meeting.

## **Actual results and outputs**

### ***1. Community based monitoring and management***

*Identify and train local community groups or individuals*

When this proposal was first written it was envisioned that PCS would play a lead role in educating local communities to monitor their resources by setting up community-based monitoring systems through schools or other local institutions. We have explored this idea with some Palauan communities, and have been learning the real needs, strengths and weaknesses of the local communities we work with. One of the biggest difficulties is that the marine conservation areas in states with the most interest in the project are situated offshore and are not accessible to most members of the community on a regular basis. We have therefore decided to focus our initial efforts on strengthening the ability of the local conservation officers to monitor and manage these sites. They are the key links to the communities, being community members themselves. They in turn will be able to pass some of their expertise on to other community members through daily education and outreach.

In January, PCS staff visited Kayangel state to explore with the community how to develop more local monitoring of Ngaruangel Reserve. Kayangel is Palau's northernmost state and is surrounded by rich and diverse coral reefs. Since the Reserve is accessible only by boat, and is completely inaccessible when the weather is rough, the community decided it was more appropriate for them to monitor the Kayangel lagoon area. They decided that for now, it was best if the Reserve continued to be monitored by the local Conservation Officers and PCS staff. However, this is an exciting development as Kayangel's lagoon is unique in Palau (Kayangel is the only inhabited coral atoll in Palau). The lagoon is not currently under any conservation status

and is an ideal and accessible area for local participation. Some community members were trained in seagrass monitoring as a first step.

The conservation officer based in Ngarchelong has been instrumental in forming a local action group that is interested in marine conservation. This group, called the Ebiil Society, is composed of local fishermen, teachers and traditional leaders. PCS had several meetings with this group as they decide on their activities for the next few years. PCS will continue to work closely with this group to provide technical assistance and conservation related materials (maps, taxonomic guides, etc.) as they develop their ideas of community-based conservation actions. Some of the fishermen in this group have accompanied the conservation officers on reef and fish monitoring trips in Ebiil Channel Conservation Area. Their considerable knowledge of the local reefs will be a great asset to the monitoring program. PCS staff are developing ways to tap this expertise through informal monthly interviews with the fishermen in order to get a richer picture of how the reefs and the resources are changing over time. The teachers in the group are also interested in learning ways to involve their students in the conservation efforts. This group is the first of its kind in Palau - a truly grassroots conservation interest group. They are just discovering the possibilities of community-based management. However, they have already begun discussions with Kayangel state (to the north of Ngarchelong) on how they can collaborate to manage the reefs that both of their states depend on (an area of close to 200 mi<sup>2</sup>). PCS has identified people in Kayangel state who are interested in forming a similar action-oriented group in their state.

#### *Dive certification and reef monitoring*

Six state Conservation Officers (representing three states that have designated marine conservation areas) attended and completed a one-week open water scuba certification class in November 2002. All of these Conservation Officers were also trained in various underwater monitoring techniques depending on their needs. These methods include AIMS coral and fish monitoring, ReefCheck, grouper spawning aggregation and seagrass monitoring. The officers live near and work in the marine conservation areas in their states. Over the past several months, they have been encouraged to monitor resource uses in or near the conservation areas, if those uses are allowed. This system of monitoring will be formalized over time. Together with staff from Palau Conservation Society and Palau International Coral Reef Center, they will conduct annual resource monitoring activities in the conservation areas. They will also be the key local counterparts who will assist PCS staff to train community groups to conduct modified resource monitoring activities in the future.



#### *Mangrove monitoring*

PCS's Community Relations Officer has been working with a group of women, who call themselves the Retired Environmental Volunteers (REVs), to monitor the mangroves in Ngaremlengui, Ngatpang, Aimeliik, Airai and northern Koror states (see photos on page 4). They had a traditional bamboo raft built so that they could explore the mangroves in places inaccessible to regular boats. They found some areas in pristine

condition, while others have been heavily impacted by development projects on land. In addition, they spoke with the people they met, mostly fishermen and crabbers, about the status of the local mangroves and the species that depend upon them, the ways that their health could be improved. The REVs plan to continue their mangrove monitoring in the coming year and hope to encourage others to join their expeditions.

#### *Education and community awareness*

Local student groups have been taken to visit the conservation areas in PCS's ongoing effort to educate and inform the Palauan communities about the role of conservation areas. The community-based monitoring portion of this project is being revised to be more appropriate to local communities in Palau.

## **2. Best management for coral reef conservation**

#### *Document and compile information*

Information was compiled that will be used to create best management guidelines for coral reef management in Palau, focusing on traditional, local and community-based efforts. Information was gathered in several ways: from community consultations held as part of Palau's National Biodiversity Strategy and Action Plan process, as well as from on-going experiences in community-based conservation area management. An important part of this project is the documentation of PCS's experiences with community-based management of reefs through community-based conservation area management and watershed management. Since watershed management is new to Palau, PCS has been working with its partners, especially the Airai State Watershed Working group and the USDA Natural Resources Conservation Service, to design and implement best management practices to minimize soil erosion from farmed land. PCS continues to explore these issues with its partners and local community groups in order to find the most effective ways of decreasing land-based sources of sedimentation.

#### *Assess practices*

PCS staff and local communities are assessing some of these practices through implementation in the Ngerikiil Watershed in Airai. It is still too early to tell the results of tree planting and buffer zone restoration, as these activities have just begun. However, the communities are enthusiastic about the



work. The assessment of the best management practices will take much more time than previously thought.

#### *Identify ways to bring community issues to national conservation programs*

In 2003, PCS was influential in creating national legislation called the Protected Areas Network (PAN) Act. PCS is a member of the PAN working group and will be responsible for community education and awareness. The PAN Act is an important piece of legislation as it gives national recognition in the form of technical assistance and enforcement for community-based conservation areas.

PCS actively works with many partners in state and national governments (especially the Bureau of Marine Resources, Environmental Quality Protection Board, Division of Fish and Wildlife, Palau Automated Land and Resource Information System, Koror State Department of Conservation and Law Enforcement, among others) through its active membership in the Marine Resources Pacific Consortium (MAREPAC-Palau). MAREPAC-Palau is a venue through which all of the members coordinate marine research and management activities.

#### *Integration into PCS's work*

Over the past two years, PCS has been undergoing a series of strategic planning exercises, with the goal of creating a strategy for how best to protect Palau's sensitive marine environment from the onslaught of development that is occurring on land, especially on the island of Babeldaob. As a result of these strategic exercises the PCS staff and Board of Directors developed two linked strategies: one for marine conservation and the other for terrestrial conservation, with a focus on Babeldaob Island. The information collected on locally important best management practices has proved immensely helpful in developing these strategies. PCS will continue to collect and refine the practices in the upcoming months.

### ***3. Economic valuation***

The economic valuation portion of the project has proved to be more challenging than originally anticipated. Two World Bank economists paid visited Palau in January 2003 to conduct a capacity building exercise in economic valuation. This fortuitous visit allowed PCS staff to participate in the national efforts to conduct a valuation on coastal resources. After consulting with these economists, and after some internal discussion, PCS staff decided to focus its economic valuation study on the marine resources of the state of Ngchesar, site of a newly established marine conservation area. PCS's Development Officer (who has considerable interest and training in economic valuation activities) developed a questionnaire and prepared to conduct the survey. Unfortunately, she was not able to complete the survey because of added responsibilities due to the resignation of two key staff at PCS. In addition, it proved to be very difficult to link the national coastal valuation with PCS's smaller scale needs. In the end, PCS contributed to the national effort through its work on subsistence fishing (funded through NOAA's Coastal Services Center), as well as defining cultural and traditional values of natural resources for the final analysis. A draft document has been produced and should be finalized by October 2004.

#### **4. Workshop participation**

Jason Kuartei, Senior Marine Conservation Officer, attended International Tropical Marine Ecosystem Management Symposium in Manila on March 19, 2003 (the workshop had been postponed from November 2002). Unfortunately the research officer could not attend the rescheduled workshop due to conflicting commitments. In addition, the registration fee, accommodations and airfare had all increased significantly since the original proposal was submitted. As a result, the amount budgeted was sufficient for only one participant.

Jason Kuartei, Senior Marine Conservation Officer, attended the IUCN World Parks Congress in Durban, South Africa in September. Jason met with many people involved in coral reef management and monitoring throughout the world. He attended sessions on marine protected area networks, including sessions that focused on resilience, monitoring and funding for networks. This is an area of real interest to Palau, as many of the conservation efforts are directed towards creating a system of linked protected areas based on existing community managed marine conservation areas.

### **Lessons learned**

There was considerable difficulty accessing funds at the start of this grant. Staff throughout NOAA and the Treasury Department greatly assisted in troubleshooting the problems. These problems were not resolved for several months into the funding cycle. However, now that they have been resolved, PCS has been able to access funds for other US Federal Grants with much more ease.

In terms of the project, PCS conservation staff learned that conservation area management capacity needed to be built before a lot of effort was put into training community members to monitor resources, i.e., conservation area staff need to be trained first.. However, once the conservation officers were comfortable in monitoring techniques, they were then much more comfortable and enthusiastic to work with other members of the community. The formation of local community environmental action groups that have grown out of the conservation officers' enthusiasm, is helping to further catalyze local community action.

Some marine conservation areas, particularly Ngaruangel Reserve in Kayangel and Ebiil Channel in Ngarchelong are difficult and at times dangerous to access. In addition, the deeper water sites require scuba certification, which is not a skill possessed by many community residents. Therefore, community based monitoring activities should focus on sites that are more accessible to villages.

Finally, while it is important to build capacity of local staff to conduct surveys (in this case economic valuation), they may not have time to fully conduct the necessary research. Unfortunately, by hiring outside experts to lead these studies, the local gap in expertise will continue. Perhaps a combination of techniques would be best - hire an outside expert to lead the exercise with local staff working on certain aspects of data collection and analysis. PCS will explore this possibility in future projects.

## Financial Report

	<i>Original budget</i>	<i>Actual expenses</i>
Personnel	0	0
Fringe Benefits	0	0
Travel	11,105	10,489
Equipment	4,265	4,238
Supplies	850	702
Contractual	6,000	6,769
Construction	0	0
Other	7,780	7,802
Total Direct Charges	30,000	30,000
Indirect Charges	0	0
TOTAL Charges	30,000	30,000