



Building capacity for locally managed marine protected areas in Kayangel and Sonsorol states, Republic of Palau

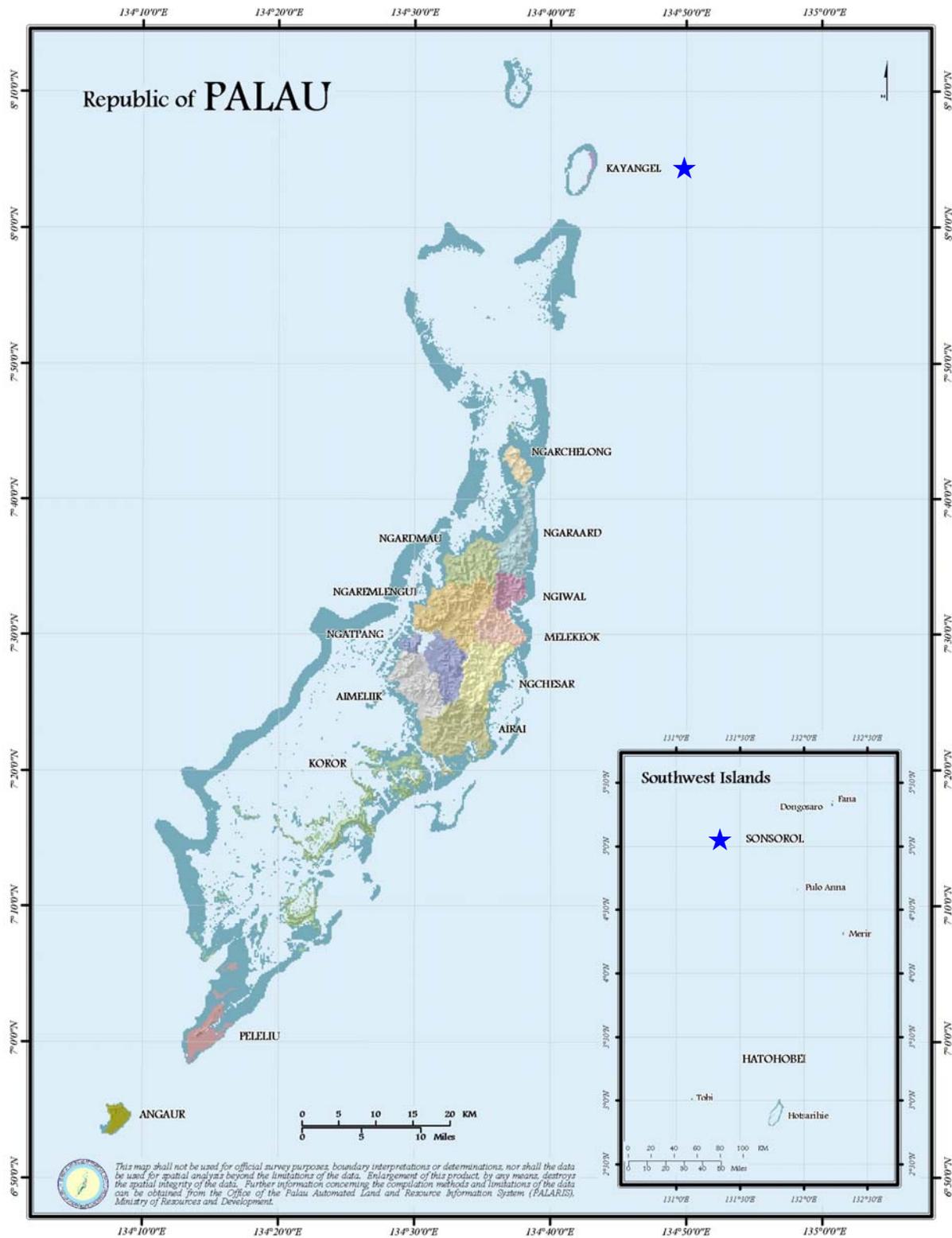
**Final Report to the
National Oceanic and Atmospheric Administration
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Summary

The purpose of the project *Building capacity for locally managed marine protected areas in Kayangel and Sonsorol states, Republic of Palau* is to assist the remote island states of Kayangel and Sonsorol to better protect their marine resources through improved management and monitoring capabilities. These sites are shown on the map on page 2. Both states are remote and own a considerable amount of marine environment (see map on page 2). Kayangel state is Palau's northernmost state. Sonsorol state is one of the outlying Southwest Islands, which are located from 300-450 miles southwest of the main Palau islands. Four islands make up Sonsorol state, three of which are isolated from each other by more than 50 miles. These islands are culturally and geographically distinct from the main Palau islands.

Both states have little individual capacity for conservation activities: populations are small, resources are extensive and transportation and logistics are often determined by distance, expense and weather conditions.



Proposed activities

1. Enable Kayangel state Conservation Officers to patrol boat traffic in the state's waters (especially around Ngeruangel Reserve) in a cost-effective manner through the use of a radar system;
2. Facilitate discussions among Kayangel, Ngarchelong, Ngaraard and Ngardmau states to explore options for cooperative management activities;
3. Assist Sonsorol state to establish protected area(s) at Merir and possibly Fana islands; and

Assist Sonsorol state to develop monitoring and management program for protected areas and to build local capacity to monitor and manage the areas.

Actual results and outputs

1. Kayangel radar

Consultations were held among PCS staff and the State Conservation Officers from Hatohobei state in the Southwest Islands who have experience with installation, use and maintenance of a radar system in their remote state. Through these meetings, we selected a radar system that we felt would best meet the needs of Kayangel state, and learned about their experiences and various logistical issues that they had regarding the installation and operation of their own radar system. We opted to purchase Furuno Model 1842, a 10-inch daylight radar capable of 4 kw output and 48 nm range. An antenna is already in place in Kayangel state, which is the property of Palau National Communications Corporation (PNCC) and is used for telecommunications. The Kayangel state office communicated with PNCC to request permission to install the radar scanner on this antenna, which was granted in March 2006.



Kayangel: From the air (photo by Kevin Davidson).

The radar was purchased and shipped from off-island, through a secondary supplier in Hawaii. Purchasing the radar took considerable time, and months of communication with the supplier was necessary before the purchase was finalized. Finally, in late July 2006, the radar arrived in Palau. The system has been given to Kayangel state and is currently being held at the state office until it is installed.

Stephen Swords, a licensed engineer who has worked to install the similar radar at Hatohobei in the Southwest islands, was contracted to install the radar and train Kayangel Conservation Officers how to use and maintain it. Two of the Hatohobei Conservation Officers who were previously trained by Steve, also agreed to assist with the training. These Conservation Officers have successfully been using and maintaining their radar at Helen Reef Reserve for the past three years. This cross-site exchange between the conservation officers of the remote island states of Kayangel and Hatohobei is an important component of this project, as it fosters collaboration and networking among different protected area sites within Palau. The radar installation and training session was scheduled for early November.

In November, Mr. Swords learned from the Chief Engineer at PNCC that there was concern about possible interference from the radar scanner unless it was mounted at the very top of the antenna tower. As this is more than 140ft high, it would necessitate the conversion of the radar system in order to keep the signal intact - Furuno only guarantees sufficient signal strength if cable lengths are less than 30 m (90ft). However, Mr. Swords has agreed to perform an assessment to calculate if the scanner would cause interference to the communication dishes already mounted on the tower. He believes that it will not, but would like to confirm that more substantially. This could delay the installation slightly further, but once begun, the radar will be installed in a matter of days.

2. Cooperative management of Northern States

Kayangel state is also involved in the ongoing consultations among the four states of the Northern States Alliance (Kayangel, Ngarchelong, Ngaraard, and Ngardmau) over joint management of resources. The Kayangel state governor and high chief have signed a Memorandum of Understanding with Palau Conservation Society regarding the use of the radar for this cooperative management initiative. The signing of the MoU took longer than expected, as careful negotiations were needed because of differing views on some sensitive local resource management and development issues. The careful interventions of PCS's Executive Director and the recently hired Kayangel-based community conservation coordinator were crucial to moving the MoU forward. PCS is hoping the joint management process among the four northern states will enable the states to collaborate on resource management for mutual benefit, and will help to ease any tensions that may exist among them.

A presentation was given to the Kayangel state Governor and legislature. The purpose of the presentation and subsequent meeting, was to discuss the ways forward on management planning of the Northern Reefs, a collaborative management initiative between the northern states of Palau. A second meeting was held with Ngarchelong state Governor and legislature. The information presented at these meetings were the preliminary results of a collaborative ecological assessment of the reefs, and the introduction of a socioeconomic survey that will be conducted in both states. The ecological assessment was conducted by Conservation Officers from Kayangel, Ngarchelong and Ngardmau and Hatohobei, together with staff of the Palau Conservation Society. The underwater ecological survey was designed with technical assistance from Dr. Patrick Colin of the Coral Reef Research Foundation. This was another opportunity for cross-site collaboration among Palauan Conservation Officers. The Conservation Officers were trained in a specific data collection method, as well as how to enter the data into spreadsheet files. The data is currently being analyzed and will be presented back to these communities by mid 2007.

3. Protected areas at Sonsorol

Sonsorol state is one of Palau's most remote and inaccessible states - it is 300 miles south of the main islands of Palau and a 2-day boat journey away. Sonsorol state itself is composed of 3 separate island groups (Sonsorol and Fana; Merir; and Pulo Ana) each approximately 60 miles from each other. Each of these islands has a small fringing reef surrounded by deep ocean. All rely upon the semi-annual visits from the state ship that brings supplies and people from the capitol of Koror four times a year. As there are no deep water anchorages in Sonsorol state, residents of the islands must travel in small punts that traverse across the fringing reef and breaking waves in order to meet the state ship. Each island group has at least one punt. These punts are vital to the subsistence lifestyle of the islanders as well. They are also used by community members who monitor local resources such as foraging and nesting sea turtles.



Sonsorol:

Left: Sonsorol island; Below: Meeting the supply ship with island punt on Sonsorol.



An urgent request was made by the Governor of Sonsorol to PCS for assistance to purchase a new engine for one of these small boats. Without the engine, it was not possible for the residents of Sonsorol and Fana islands to meet the state boat in order to receive supplies (such as cooking gas, rice, flour, canned food and other staples used to supplement their subsistence diet). Through the use of funds from this grant, PCS was able to respond to this very urgent request in time for the engine to be sent on the next visit of the quarterly supply ship. This engine will help the residents of these remote outlying islands to manage and protect the natural resources that are essential for their survival.

In mid 2006 Fana Island in Sonsorol State was designated as Palau's first Important Bird Area. The traditional chiefs, major land owners and community members of the island all agreed that it was important to protect the large seabird nesting colonies on the island. This decision was made after PCS staff conducted meetings with community members and leaders to discuss the findings of a nationwide bird survey and to discuss the importance of protecting Palau's coastal resources.

4. Capacity building for Sonsorol state

Monitoring of green turtle nesting continued throughout the year on Merir Island. The two remaining residents of Merir monitor Palau's largest nesting colony of green turtles on a daily basis in the peak nesting season. The residents of the island have been collaborating with PCS and the national turtle monitoring program to tag and monitor nesting green turtles. The state has indicated that it is interested in designating Merir as the state's second protected area in the near future. PCS staff are excited about the progress that is being made and look forward to continuing these discussions about conservation with the remote state of Sonsorol. Sonsorol state was visited by PCS Senior Marine Conservation Officer during the collaborative resource monitoring trip that went to the Southwest Islands (Sonsorol and Hatothobei states) in November. The purpose of this trip was to visit all the islands, as well as to assist Hatothobei state conservation officers to conduct the annual, collaborative monitoring survey of Helen Reef, Palau's largest MPA.

Lessons learned

There was considerable difficulty accessing funds throughout this grant. One payment was drawn down successfully for approximately half of the grant amount. Subsequent draw downs were unsuccessful, and as of February 2007, the remaining balance of \$16,553 still had not successfully been received. Personnel at NOAA and the Treasury Department greatly assisted in troubleshooting the problems, and the money was finally withdrawn in March 2007.

In terms of the project, we did not anticipate the difficulty that the existence of the communications antenna would cause to the installation of the radar. We actually believed that the presence of the tower would make the installation easier as a new antenna would not have to be built just for the

radar scanner. Had we known of the technical difficulties that would ensue, we would have contracted the engineer earlier in the process to help with the more technical aspects of the radar purchase and logistics. We believe that we will be able to resolve these issues relatively soon. However, the technical aspects of the radar installation have taken much longer to resolve than originally anticipated.

Other issues that were encountered over the course of this project were the always-daunting logistics of Southwest islands work. We had anticipated that there would be difficulties associated with working with Sonsorol because of the distance of the islands. However, In 2006, trips to the islands were postponed because of unsafe weather conditions or problems with the state supply boat. Thus a trip that was originally scheduled for March did not occur until November, thus setting our visit back significantly. However, on a positive note, we were very pleased to be able to respond to Sonsorol state's urgent request for assistance with purchasing an engine for their punt.

We look forward to continuing to work with the states of Kayangel and Sonsorol into the future.

Financial Report

	<i>Original budget</i>	<i>Actual expenses</i>	<i>Balance</i>
Personnel	8,400	8,911.45	-511.45
Fringe Benefits	504	504	0.00
Travel	2,000	2,114.94	-114.94
Equipment	12,000	11,999.76	0.24
Supplies	2,000	1,741.00	259.00
Contractual	1,000	1,000.00	0.00
Construction	0	0	0.00
Other	5,036	4,668.85	367.15
Total Direct Charges	30,940	30,940.00	0.00
Indirect Charges	623	623	0.00
TOTAL Charges	31,563	31,563.00	0.00

Supplemental information (June-July 2007)

Kayangel. The radar was installed on July 21-22. The Kayangel State Conservation Officer was trained in the use and maintenance of the radar. Over the next few weeks we will be working with the state to ensure that the radar is functioning properly and we will have further discussions on how best to use this radar as a tool for monitoring and enforcement of Palau's northern reefs.

Southwest islands. To date there is no formal monitoring program in place in Merir island, Sonsorol, besides the turtle monitoring program. Merir is the site of Palau's largest, and Micronesia's third largest, green turtle nesting populations. Each year there are about 500 successful nesting attempts on the island, and up to 500 other false crawls. There are only 2 people currently resident on the island, which is totally inaccessible unless there is a visit from the state boat - which occurs, at most, 4 times a year. Thus, it is not feasible to develop a more formal monitoring program on Merir at this time. However, there are management rules in place to help protect local resources. For instance, it is strictly prohibited to remove any wildlife from the island. This includes coconut crabs, lobsters, fish, turtles and other marine resources. The only use that is allowed is for on-island subsistence purposes. We are working with landowners and leadership of another Sonsorol island, Fanna, which has officially become Palau's first IBA (Important Bird Area). The development of a management plan and associated actions are still underway for Fanna, and will continue over the next several years.

PCS's Senior Marine Conservation Officer participated in the collaborative monitoring survey at Helen Reef. This trip was one element of our on-going partnership with Hatohobei state and the Helen Reef Project. It was also a collaborative effort of partners who are involved in Palau's Locally Managed Marine Areas (LMMA) - PCS staff and staff of the Helen Reef Project are leading members of Palau's sub-group of this network. We try as much as possible to assist each other in monitoring efforts around the country. To date, the report of the survey has not been made available by the Helen Reef Project. We do hope to obtain some results soon. The resource managers of the Helen Reef Project have been at the Southwest Islands and are scheduled to return in late June. Their return has been greatly delayed - they were originally scheduled to arrive in early May. PCS's NOAA grant was not used to fund this monitoring trip