



**PACIFIC INITIATIVE
FOR THE ENVIRONMENT**

PROJECT PROGRESS REPORT

**PROTECTING THE OUTSTANDING BIODIVERSITY AND
MARINE RESOURCES OF HELEN REEF, PALAU:
CREATING AN EFFECTIVE ENFORCEMENT PROGRAM**

YEAR 1 PROGRESS REPORT: JUNE 2001 - MAY 2002

Project Location: Helen Reef and Hatohobei Island, Southwest Islands, Palau

Country: Palau **Region:** Micronesia

Village or Local Area: Hatohobei State, Southwest Islands, Palau

PIE Category within the Project falls:

- Capacity Building for Environmental Management
- Biodiversity and Resource Management

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1.0 Summary

In June, 2001, the New Zealand Official Development Assistance fund, through the Pacific Initiative for the Environment, approved a grant of US\$112,314, payable over two years, at the rate of US\$55,258 and US\$55,056 respectively, to the Community Conservation Network in support of a community-managed marine protected area at Helen Reef in the Republic of Palau. Helen Reef has long been identified as a Regional and National level priority for marine resource management and biodiversity conservation. Through this award, the Hatohobei Community and assisting partners have commenced the piloting of an enforcement program that could lead to increased and sustained conservation and protection of this regionally outstanding resource. This progress report covers the period beginning September 1, 2001 to May 15, 2002. During this period, individuals from the Community Conservation Network worked with the Hatohobei Community, the Hatohobei State Government, and later the Helen Reef Action Committee in capacity building, and the development, design, and implementation of a community-based marine conservation project for Helen Reef of Hatohobei State. This assistance has led to, in part, the establishment of a community-lead Marine Protected Area (MPA) and the training and deputizing of law enforcement and conservation officers.

This report highlights the strategies for addressing the issues at Helen Reef with the NZ ODA's support, and discusses the accomplishments and constraints during project implementation. The support received for this project will lead to the direct conservation of marine resources and biodiversity and to the production of lessons learned that can be applied to conservation and management at a multitude of similarly remote reefs across the Pacific Ocean.

2.0 Project Period

July 2001 to July 2003 (two years). The period reported on in this document is July 2001 - May 2002.

3.0 Background and Justification

Helen Reef is one of the Pacific's most outstanding atoll complexes in terms of its high marine biological diversity, ecological integrity, and abundance of biomass. Lying close to the Indo-Pacific center of marine biodiversity in Southeast Asia, Helen Reef has the highest known hard coral diversity (272 species) among Pacific atolls (Birkeland et. al., 2002).

The territory of Hatohobei State is comprised of Hatohobei (Tobi) Island and Helen Reef. Hatohobei Island is a small island situated between the Palau archipelago in Micronesia and insular Southeast Asia. Located over 500 km. south of the main islands of Palau and 65 km. east of Hatohobei, Helen Reef is one of Hatohobei's traditional fishing grounds (see Figure 1). Helen Reef is 163 sq. km. in extent and includes a large enclosed atoll with extensive reef flats, and a small island that is an important overflight refuge for several species of seabirds. The Hatohobeian people have historically relied on the rich marine resources at Hatohobei Island and Helen Reef, and these places and their ecosystems remain an important cultural, subsistence, and economic source for the Hatohobei people today.

Hatohobei State is one of Palau's smallest states with a population of approximately 200 people. Over the years, Hatohobeian people have increasingly left Hatohobei Island to look for economic opportunities and other benefits of a more developed society in main islands of Palau, primarily in the capital city of Koror. These migrations have situated Hatohobei Island as a place for the majority of Hatohobeians to visit, but not to live, and has changed the nature of their society and the character of marine resource use in the Southwest Islands. However, Helen Reef has continued to serve as an important place and resource to the people of Hatohobei. The Reef has provided income and resources to the people of Hatohobei ranging from cash income from trochus and live grouper trading to the provisioning of fish, sea turtles, sea birds and other items for consumption. In recent decades, Helen has also become the target of foreign fishermen in search of valuable marine commodities. Pillaged by numerous fishermen from countries nearby (e.g., the Philippines and Indonesia) and distant (e.g., Taiwan and Korea) and impacted by unsustainable locally-driven harvesting, some of Helen Reef's key resources and habitats have been overexploited or harmed to the point where wide-scale damage is evident (Birkeland et. al., 2002).

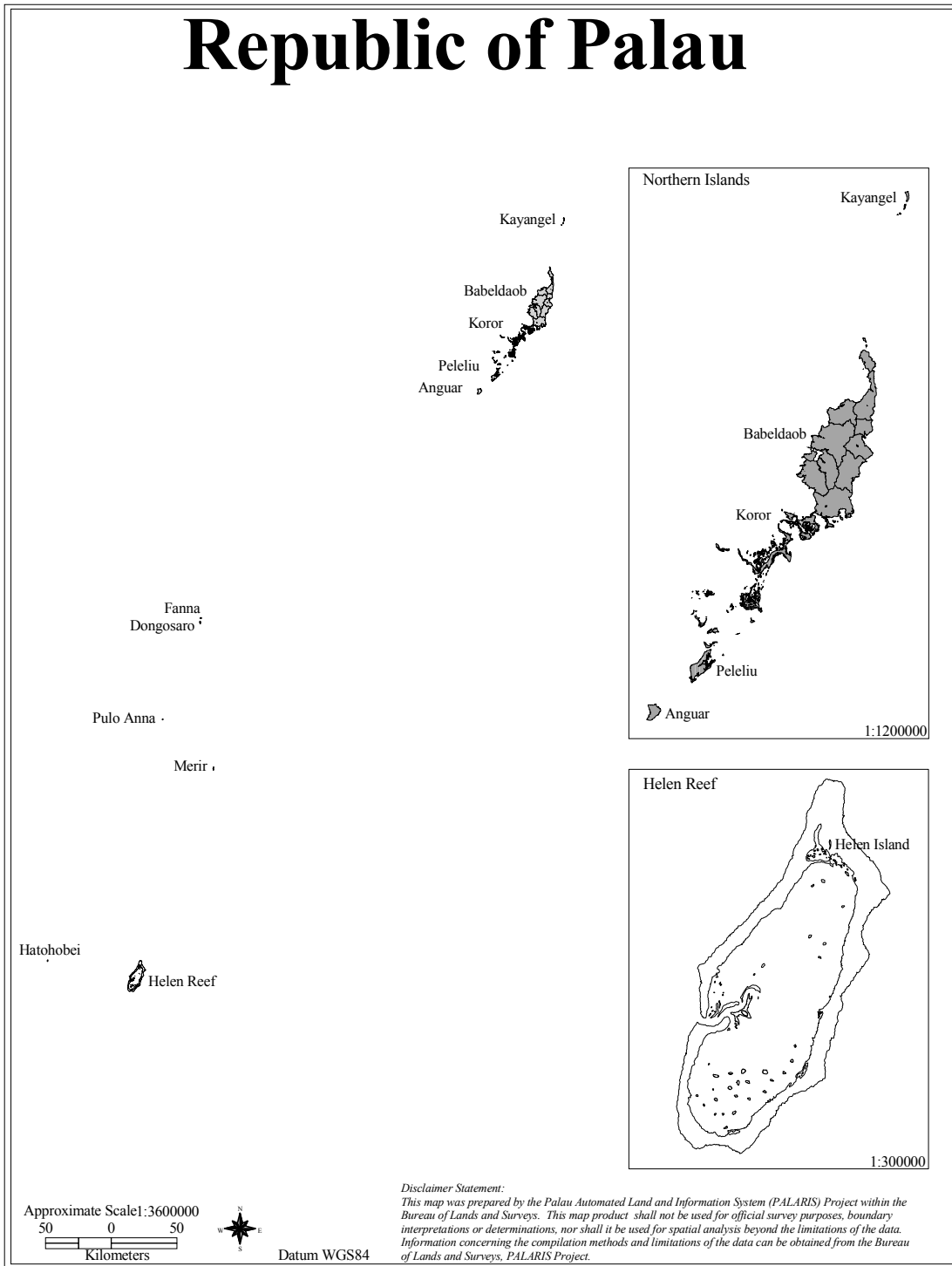


Fig. 1: Map of Palau indicating the relative position of Helen Reef to the main islands (provided by the Palau Division of Lands and Surveys).

For decades, the Hatohobei people have actively searched for means to protect their reef resources at Helen Reef from illegal plundering by outsiders and local overexploitation. With little community, State, or National resources to effectively deal with long-standing foreign incursions or quick moving business ventures, many of Helen's highly valuable economic species have been depleted beyond sustainability. In the past, Hatohobei State attempted to deter and enforce against poaching at Helen Reef by placing community members and State staff on Helen Island. While these attempts demonstrate an important commitment to the protection of Helen Reef, these efforts lacked necessary on-going support, as staff were not sufficiently provisioned, authorized, or trained. Often requests for assistance at the reef were not answered and illicit trading between personnel and foreigners often resulted. Likewise, many of these State representatives had no enforcement authority or sufficient defenses to protect themselves in possibly dangerous situations. Currently, the Palau National Patrol Boat includes Helen Reef on its patrols; however, these patrols occur infrequently and are not sufficient to protect the reef from over-harvesting. Both the State and National Governments are interested in supporting and developing further enforcement activities.



Fig. 2: Helen Reef as seen from NASA's orbiting Space Shuttle.

Several researchers and conservationists have recommended the creation of a marine protected area or sanctuary at Helen Reef to help protect its outstanding biological resources. These recommendations and analysis include those by the International Biological Program of the 1960's (Elliot, 1973), Dahl (1986), the International Union for the Conservation of Nature (IUCN) (1988), The Nature Conservancy's Asia-Pacific Program (Maragos et al., 1994), the National Master Planning Office of the Republic of Palau (SARGIC, 1996), the Palau Conservation Society (N. Idechong, pers. com., 1997), and the World Resources Institute's Reefs at Risk Program (1998).

Following these recommendations, a major step in this direction was the creation of the Helen Reef Management Area Act in October 2001. Since then, substantial progress has been made in enforcement and community resource monitoring planning at the protected area and in facilitating community input into the process.

4.0 Strategies for Addressing the Situation

Community support and involvement in the Helen Reef Project is seen as the only long-term option for efficient, sustainable use of natural marine resources. At the request of the Hatothobei State Government, the Community Conservation Network (CCN) is helping the Hatothobeian people and other stakeholders, including the Palau National Government, to plan and implement a long-term strategy for the conservation and sustainable use and management of Helen Reef and Hatothobei Island. Bringing about effective management in this area poses several challenges and will necessarily involve numerous groups and actors. As a network interacting with multiple conservation partners, CCN is working with stakeholders to develop the necessary relations, understanding, and capacity to address complex conservation issues such as resource security and ecosystem sustainability.

CCN has worked with the Hatothobei State officers and community members for the past three years to establish a working relationship and set the foundation for future conservation and management success. Major accomplishments of the State, the community, and CCN over this period include:

- Facilitation of a comprehensive survey and monitoring of biodiversity and marine resources at Helen Reef (Birkland et.al. 2002); including the creation of a base map for future GIS mapping and information management.
- Initiation and significant progress in development of a management strategy that will lead to the further development of potential State legislation and an adaptive Helen Reef Management Plan.
- Formation of a voluntary Helen Reef Action Committee comprised of community members and State representatives. The Committee may soon evolve into a multi-stakeholder management authority.
- Forging of relationships with resource management-related entities in Palau including the Palau Conservation Society, The Nature Conservancy, Palau's Marine Resources Consortium of the Pacific (MAREPAC) unit, the Palau International Coral Reef Center, the Bureau of Lands and Surveys, the Coral Reef Research Foundation, the Division of Marine Resources, the Division of Maritime Enforcement, the Ministry of Justice, the Ministry of Foreign Affairs, and others.
- Initiating dialog with other National resource management practitioners working in similar sites and conditions with a view to incorporating the Helen Reef project into longer-term National efforts.
- Training of Hatothobeians at various levels, from SCUBA diving, resource monitoring, and data recording, to computer skills, email communications, and regional conference participation.
- Invitation and acceptance of the Helen Project to participate in wider regional and national Locally Managed Marine Area (LMMA) management and monitoring networks.
- Fundraising from other sources to support this effort.
- Consideration of sustainable financing mechanisms.

- Support of academic twinning projects, such as the support for a project/internship on community enforcement as the basis of a Master of Science project for a Hatohobeian studying at the Chaminad University, Honolulu, Hawaii.
- Development and adoption by the State Legislature of the Helen Reef Management Act through Bill No. 5-1R-04,D2, which formally establishes the Helen Reef Conservation Area..

Recently, conservation efforts have seen a marked increase in interest and coordination with National government agencies, whereby the Palau Ministry of Justice and other Ministries have allocated resources and personnel to assist with the State's program to the extent possible. With this National assistance and funding from NZ ODA and other sources, the Hatohobei community, the Helen Reef Action Committee, the State Government, and CCN have commenced the piloting of remote reef enforcement and surveillance strategies at Helen Reef to protect marine biodiversity and resources.

5.0 Principal Threats

The marine resources at Helen Reef are under immediate and severe threat primarily by poaching by foreign fishers. Indonesian and Filipino fishing boats frequent the reef and illegally harvest trochus, sharks, turtles, giant clams, sea cucumbers, nesting seabirds, live reef fish, and other economically valuable species. Evidence of blast fishing is visible in critical spawning aggregation areas, while populations of several important species such as sharks and groupers are depressed, primarily due to over-collection by foreign poachers. Fortunately, marine biologists and resource managers who recently surveyed Helen Reef believe that if a regular patrol and enforcement system could eliminate the foreign threats, then the atoll could regain its ecological integrity (Birkeland et al. 2002). Greater ecological integrity can also translate into greater benefits for the Hatohobeian people as resources become more abundant and therefore can be used and managed sustainably.

6.0 Progress of the Helen Reef Project

The Project itself has two principal components: (1) to strengthen the surveillance and deterrence capacity and (2) to develop the local capacity to monitor reef health and resource levels to be able to adequately and sustainably manage the resources. Each of these components run simultaneously with slight overlap among individuals involved in each of the sectors.

6.1 Strengthening Surveillance and Deterrence Capacity

Four new staff members were hired by the project as officers-in-training. These were Paul Homar, Ken Tarkong, Flave Andy and William Andrew. These young Hatohobeians were selected by the Community and by the Helen Reef Committee to perform the duties of law enforcement and surveillance on Helen reef, pending successful training. A multi-level training course was developed for the four candidates, who have successfully graduated through all levels and are now among the more highly trained enforcement squads nationwide. After six months of on-the-job experience, and coupled with their

new experiences and training, the Officers are now the key to carrying out the first pilot phase of the Surveillance and Deterrence component, and will be the backbone of the long-term enforcement programme. Key milestones during the course of this project include:

- Between July and September 2002, the four were trained at the 8th Palau National Police Academy, graduating on September 28, 2001. The Police Academy provided the trainees with basic law enforcement knowledge, and will conclude with small arms handling training at a later date.
- In January/February of 2002, the four officers-in-training completed a three week Marine Law Enforcement Conservation Officer Course, graduating on February 18, 2002. The intensive three-week course in Marine Enforcement was held at the Palau Marine Enforcement Division with the technical assistance of the Australian Royal Navy. The Minister of Justice of Palau presented the Certificates of Course Completion to the four, who gained experience and background knowledge in the areas of marine surveillance, enforcement, boarding, vessel approach, evidence-gathering, and the legal process, among many other topics.
- The four were then sworn in as State Conservation Law Enforcement Officers by the Governor of Hatohobei State on March 22nd 2002. The ceremony was attended by the Vice President of Palau, H.E. Sandra Pierantozzi, the former President of the Republic Honourable Kuniwo Nakamura, the Deputy Chief of Public Safety Mr. Norbert Yano and the Chief of the Marine Law Enforcement Division Mr. Thomas Tutii. This marked an important milestone in the Project's efforts to build capacity in Law Enforcement, and signaled a turning in the legal position with which these Officers will be able to act while carrying out the Project's Surveillance and Deterrence mission.
- Finally, the Bureau of Public Safety (Palau's National Government law enforcement agency) entered into three-way Memoranda of Understanding on May 7th, 2002 with each officer and with the Governor of Hatohobei State, Mr. Sabino Sackarias. The MoU provides for cases in which the Conservation Officers might be called-upon, or might need to enforce National Law, and clarifies the roles of the Officers, the State Government and the Bureau of Public Safety. The four swore an Oath of Office and under the new MoU, will be empowered to uphold not only State Laws but also National Laws. This was an important step in the Project's efforts to uphold the law on Helen reef, given it's remote location from Palau's main islands, where access to National law enforcement officers is not always possible.



Fig. 4: The four Hatohebian officers posing with the Minister of Justice (far left) and the Governor of Hatohebei State (far right) during the National MoU signing ceremony: William Andrew, Ken Tarkong, Paul Homar and Flave Andy (L-R).

6.2 Strategies for Long-Term Training and Enforcement

In the last month, two additional candidates have been identified by the Helen Reef Management Board to participate in the next Basic Police Academy Training, to be carried out sometime in the fourth quarter of 2002. In addition, a fifth recent graduate of the 9th Basic Police Academy has been employed by the project to complement the existing enforcement team. This new trainee will eventually undergo all of the training in which the original four Officers participated, along with the graduates from the 10th Basic Police Academy training.

One of the intentions of the Project is to develop multi-stakeholder teams for the Surveillance and Deterrence operations composed of Hatohebian Officers alongside officers from the National patrol boat, the Fish and Wildlife Service of Palau, interested NGOs or combinations thereof. Similarly, the Project would like to integrate the tasks of several operations (for instance surveillance and resource monitoring, or beach cleanups) to form multi-tasked teams for better project cost efficiency. It is envisioned that as the Project advances and as teams become more accustomed to the tasks, and the Project is further integrated into the conservation and enforcement communities, there will be a natural transition from simple approaches to more complex but also more rewarding efforts.

6.3 Monitoring on Helen Reef

In the past there was intermittent residence on Helen Islet, and only brief visits by the State vessel, the *Atoll Way*. Since the inception of this project, however, a major effort has been to increase the number of days spent at the atoll to deter would-be poachers.



Fig. 4: Enforcement training activities aboard Project boat.

After a lengthy preparation phase, the first joint monitoring/surveillance trip departed Koror on December 1st, 2001 for Helen Reef. The ship's purpose on this voyage and the sole mission of its crew for the next two weeks was to establish a deterrence presence against foreign poaching and resource piracy at Helen Reef. This was the first time that a trip to station individuals at Helen Reef had occurred in many years, and the first time it had happened with the assistance of a multitude of partners - from State, National, and non-government organizations. On board the *Atoll Way* were two of the trainees - Paul Homar and Flave Andy - as well as two National Patrol Boat Marine Law Enforcement Officers. For the state enforcement trainees this position and new responsibility was a great source of pride. They had the encouragement of their community and others who have an interest in better managing Helen Reef. The departure of the *Atoll Way* represented the first phase of direct reef protection by the Helen Reef Resource Management Project, and was a momentous event for many Hatohobeians, who have searched for a means to protect these resources and the integrity of the reef known to them as the "Reef of the Giant Clam".

Table I: Duration of Surveillance and Deterrence Trips to Helen Reef, August 2001 to May 2002.

Departed	Returned	# of Days
December 1 st 2001	December 14 th 2001	14
January 16 th 2002	February 2 nd 2002	18
February 10 th 2002	February 25 th 2002	16
March 11 th 2002	March 18 th 2002	7
April 3 rd 2002	April 14 th 2002	11
		66

Actual commencement of surveillance and deterrence trips to Helen Reef was delayed until December due to maintenance drydocking of the State's vessel, *the Atoll Way*, in the Philippines. The duration of enforcement trips (Table I) has been shortened on occasion by emergency response needs, in which the State vessel was needed for medical evacuations and other State duties. The Project Management is currently working closely with the State Government on the scheduling and timing of voyages, to maximise the effectiveness of both State needs/operations and Project activities.

Monthly trips have been planned for the State vessel taking into account all known and planned uses of the vessel for matters other than the Project, and similarly in consultation with the National Bureau of Marine Safety, so as to maximise surveillance and deterrence time spent in or around the Helen Reef Atoll.

6.4 Development of a Draft Enforcement Plan

The Helen Reef Action Committee and CCN have jointly developed a draft Surveillance and Deterrence Plan (HSG, 2001) which has formed the backbone of the activities of the enforcement Officers, and which is now a key project document. This initial plan provides for day to day activities by the Officers while stationed at Helen, and has since been amended to include data sheets and databases for reporting encounters with vessels, permits for entering the Helen Reef Conservation Area, and guidelines on activities that are permissible within the Area. A trip log is kept by the officers which will evolve as and how their duties become further delineated.

6.5 Interaction with other State and National Enforcement Divisions

The four Conservation Officers have participated in several voyages aboard the national Patrol Boat, *PSS President H.I. Remeliik*, during which they have had the opportunity to further their training, particularly real-life vessel boardings and apprehensions, navigation, maritime safety, and general ship-based procedures. The course which was carried out by the National Patrol Boat for the four Conservation officers in

January/February 2002 was also attended by two officers from Kayangel State, and plans are underway to conduct joint practice sessions and cross-over

6.6 Developing Local Capacity to Monitor Reef Health and Resource Levels

This second main strategy of the project will result in the training of several Hatohobeians in SCUBA diving techniques, followed by which a select team of four to six will be trained in reef resource monitoring techniques, data analysis and interpretation. The trainers will then participate in the training of a second group, with assistance and input from the Project Management, and then a third group independently. It is hoped that this process will result in a team of trainers who will be able to further train Hatohobeians as and how required, and that a significant group of people exist who can be called upon annually to conduct reef monitoring exercises for Hatohobei, and potentially throughout Palau.

The majority of the training work for this aspect will take place around Koror and the main Palau islands, given the logistical constraints of running such a programme at Helen itself. Complementing the in-water training will be a series of lectures and discussion sessions on marine ecology, interactions/impacts between humans and the marine ecosystems, coral reef ecology, marine turtles, coral reef fish biology and reproduction, etc.

The primary training has already commenced, with the recent completion of the second SCUBA diving course, bringing the total number of Hatohobeians who can SCUBA dive to thirteen. A third course is scheduled for mid-May 2002. Lectures have already been given on marine turtle biology, and plans are underway for a comprehensive seminar series to which other Palauan Conservation Officers and practitioners will be invited, coordinated with The Nature Conservancy and the Palau Conservation Society.

6.7 Investigating the use and effectiveness of remote sensing technologies for monitoring and surveillance

The Project is in the process of investigating the possible use of RADAR and sonic technologies to monitor illicit vessel activity at Helen Reef. Designs under consideration include a RADAR station established on Hatohobei Island to detect illegal vessels operating at Helen Reef, some 40 nm away. Consultations with US and Australian Defense Departments and RADAR manufacturers Raytheon and Furuno have lead to some significant advances in conceptualizing viable solutions, however more research into this option is needed to confirm its usefulness and costs. If further research and tests prove successful, it might be possible that personnel stationed on Hatohobei Island could scan Helen Reef using radar and only approach the area if vessels are detected, solving some of the more complex logistical issues. The use of sonic technology is also being evaluated for remote monitoring at Helen. Assisted by several researchers, the project is considering the deployment of an array of sonic recorders that could indicate the level of fishing vessel incursion when surveillance staff are not present at the Reef. This remote solution may prove a valuable way to measure deterrence and over-all project success.

Tests are needed to evaluate these potential aids to surveillance and investigations are ongoing.

7.0 Addressing Risks and Gender Equality

One of the primary risks the Project identified from the very beginning was that the community might not maintain its interest and motivation in the Project and its objectives. Through monthly meetings of the Helen Reef Action Committee the Project has been able to maintain a continued interest by the Hatohobei community on the developments and progress of the project. These meetings have been augmented by community-wide meetings at irregular intervals to discuss among other things the development and implementation of a natural resources monitoring plan, and to share information with the wider community. It is still felt that the committee needs to enhance this process of information sharing, but at present there appears to be continued support for the process by the community in general.

The project continues to be faced with a limited pool of candidates for positions within the project, but in recent months there has been interest by several members of the community to be involved with expanding the enforcement team (there are potentially three new candidates) and to be involved in the natural resource monitoring (at present a further seven people are keen to become involved). By continuing to provide training opportunities for Hatohobeians (for example through SCUBA diving courses, GIS courses, computer classes, etc.) the Project intends to widen the pool of candidates for positions within the project scope.

Two Hatohobeian women feature prominently at all the regular Committee meetings, and two others have been involved in all of the meetings with regard to the development of a natural resource monitoring plan, one of which has recently completed the SCUBA diving training toward that end. It is foreseen that more of the younger women will become involved with resource monitoring in the coming months.

8.0 Integrating the Helen Reef Project with other Conservation Initiatives

The Helen Reef Project, through a series of successful interactions, has increased its profile and awareness among conservation initiatives and institutions and Government departments in Palau and also at a regional level. Through a number of initiatives and interactions (examples of which are listed below) the Project has promoted itself and attempted to integrate within the conservation community.

- Through sharing of information and collaboration on scheduling with the Bureau of Marine Enforcement the project is able to maximise enforcement at the atoll, with little overlap between State and National vessel presence at the reef.
- The Project Management team has worked closely with the Palau Conservation Society on marine turtle conservation initiatives, and through these interactions have become involved with furthering marine turtle conservation in the Southwest islands.
- In attempt to join with the efforts of SPREP, the Pacific Roundtable for Nature Conservation, and other organizations, institutions, and individuals promoting biodiversity conservation in the Pacific, the Project has adopted relevant elements of the SPREP Action Strategy for

Nature Conservation in the Pacific Islands Region (1998) into its workplan which is reviewed semi-annually. One goal of the project is to contribute to Mainstreaming Nature Conservation through the promotion of private sector interests in the development of sustainable alternative income generation at the Project site. The Project also intends to promote nature conservation in the Region through the development of general and specific lessons learned in the protection and management of remote reef ecosystems through out the Pacific.

- After sharing the Marine Enforcement course with officers from Kayangel State, the project is working closely with the Palau office of The Nature Conservancy to develop cooperative learning programmes. Importantly, the Koror State Rangers, the Palau Conservation Society, TNC, and the Helen Reef Project have worked together to develop an education programme for Conservation Officers nationwide.
- Through regular consultations with the Minister of Justice, the Project has managed to further the training of its Officer candidates and has received complete support from the Ministry for its activities. Given the Project's needs for an effective Law Enforcement Division, this is seen as a key partnership.
- The Project is now a member of MAREPAC – Palau, a marine resources management consortium, and through this liaises with the Environmental Quality Protection Board, the Coral Reef Foundation, the Palau International Coral Reef Center, the Global Coral Reef Monitoring Network node, and many others.
- The Project Management has been involved with Government offices and legal representatives to discuss and promote Palau's signing and ratification of the World Heritage Convention. The Project Management at the same time participated in workshops to assist the World Heritage Convention in determining boundaries for potential cluster sites in Palau, which now include the Southwest islands and Helen Reef. The Project Management believe that the nomination by Palau of a cluster of sites has a much greater chance of being reviewed favourably by the Commission as opposed to a series of independent sites which lack connectivity.
- The Project is in the process of becoming a member of the Locally Managed Marine Area Learning Network, which currently reaches across community-based MPA projects from Fiji, Papua New Guinea, the Philippines, Indonesia, and the Solomon Islands with additional plans to incorporate projects from other Pacific regions. This approach and methodology is currently being considered by the Pacific Roundtable for Nature Conservation, SPREP, and other projects and programs as a holistic, regionally applicable method for community-based project monitoring and evaluation. Major objectives of the Learning Network are to provide relevant training and skills to communities in adaptive resource management. Through this sharing network the Project intends to contribute and be a recipient of results on effectiveness and measures of success of a biological and socio-economic nature, in a process of collaborative learning. This LMMA framework is also becoming a major tool for monitoring and evaluating the progress of the Helen Reef Resource Monitoring Project.
- Three Hatohobeians participated in ReefCheck training offered by staff from the ReefCheck Headquarters at the University of California – Los Angeles and the Palau International Coral Reef Center. In addition, the Lieutenant Governor of Hatohobei State and member of the

Helen Reef Action Committee, Crispin Emilio, was invited to address the group to highlight the background and progress of the Helen Reef Project, in effect sharing the knowledge and highlighting the skills of the Hatohobeian project team with others at a National and International level.

9.0 Project Costs and Expenditures and Budget Variance

Expenditures under the New Zealand Official Development Assistance grant have been focused nearly entirely on supporting efforts related to capacity building for enforcement, training activities, and surveillance/deterrence operations. A breakdown of expenditures is appended below.

Item No.	Description	Original Budget (in US\$)	Actual Expenditure (in US\$)
	<i>Starting Balance</i>	57,257.00	57,257.00
1.	Equipment	9,575.00	-4,387.44
2.	Administration	7,468.00	-8,980.70
3.	Supplies/Maintenance	23,937.00	-17,570.34
4.	Staff Stipends	14,362.00	-17,777.68
5.	Travel	1,915.00	0.00
	<i>Balance as at April 10th 2002</i>		8,540.84

Due to unforeseen circumstances, the Project has been unable to conduct some of the surveillance trips to their full extent (number of days), and in some months has been unable to run enforcement trips altogether. This accounts for the shortfall in expenditure under Budget Line Item 3, which includes diesel fuel and lubricants for the enforcement vessel. Administration costs have slightly exceeded the amount budgeted, mostly with regard to legal fees incurred in developing documents to authorise and deputise law enforcement officers. The project has invested in equipment to assist the law enforcement officers, including a radio with which to communicate with the State vessel when out on patrol, and plans on providing additional equipment needed for marine enforcement in the coming weeks. Staff stipends have been slightly higher than budgeted based on a change in number of enforcement crew (from 3 to 4 individuals) for safety and logistics purposes and the addition of government taxes and other charges. Finally, to date no funds have been spent for travel, which was originally supposed to support a fact-finding exposure and skills exchange mission to Tubbataha Marine Park in the Philippines, which has been rescheduled by the Philippines staff for the third quarter 2002. It is envisioned that by this time all of the commitments made under the first budget period for this grant will have been completed, while at the same time continuing with the commitments for the second granting period, effectively ending the pilot process.

Complete evaluation of the project success and cost effectiveness will be implemented during the second year of the pilot project, through an internal process with the Helen Reef Action Committee and with external review from key conservation agencies within Palau. A preliminary list of project success indicators are contained within the Helen Reef Pilot Surveillance/Deterrence Program Plan (Patris et al., 2001) and are exemplified in Appendix 1. At the end of the second year of funding from NZ ODA it is expected that the piloting phase of this project will be complete and that regular operations and law officer staffing for this program will become the responsibility of the Hatothobei State Government and/or the Republic of Palau.

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Appendix 1: Conceptual Model, Objectives, and Monitoring Indicators For Pilot Surveillance/ Deterrence (S/D) Program At Helen Reef (Adapted from Patris et al., 2001).

The pilot program will focus on discouraging destructive and illegal activities that occur through foreign vessel poaching at Helen Reef. This will be accomplished through efforts to establish a sustained human presence at the site that builds Hatohobei State’s capacity for a more long-term comprehensive enforcement program (Figure 1.).

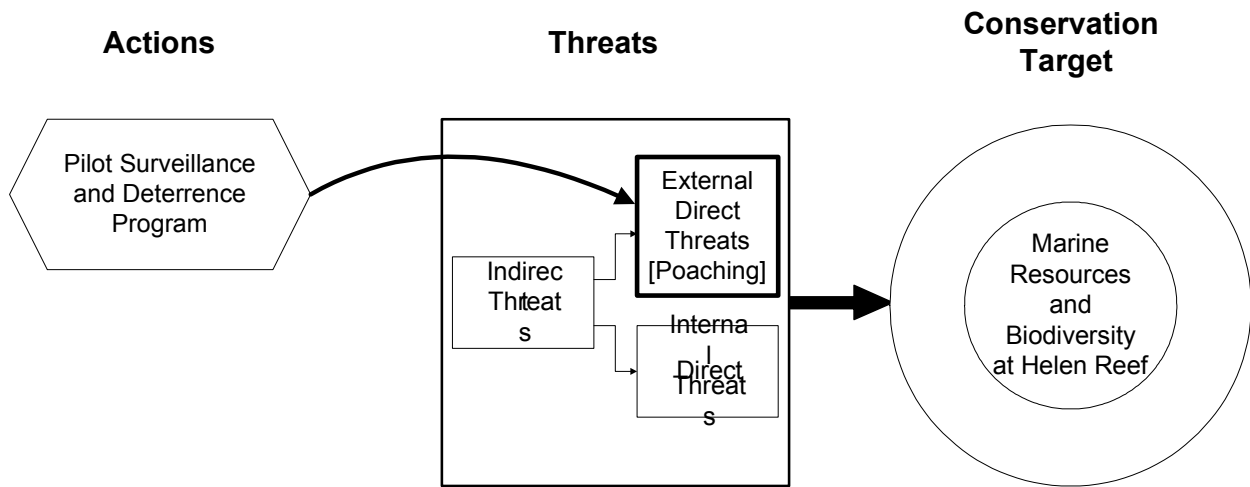


Figure A1. Representation of threats (impacts) and actions (strategies) related to enhancing management and conservation at Helen Reef. The Pilot Surveillance and Deterrence Program is designed to address external direct threats (namely, foreign poaching) that influence the condition of marine resources and biodiversity at Helen Reef, Hatohobei State, Republic of Palau. Other threats to biodiversity are known, but are not addressed in this pilot plan.

Objectives of Pilot Surveillance and Deterrence Program

Pilot Program objective and indicators are included below. Performance will be measured by project staff at commencement of pilot project activities and 6, 12, 18 and 24 months thereafter. Monitoring methods, including a list of variables to measure, will be developed by project staff during the commencement (August ‘01) of the pilot activities based on methods suggested by the Pacific Roundtable for Conservation and methods proposed by the Locally Managed Marine Area (LMMA) Learning Network.

Pilot Surveillance and Deterrence Program Status:
 Aug '01 – May '02 (10 months) as of May 20, 2002

Objective 1

For Hatohobei citizens to maintain a temporary presence at Helen Reef implementing the major elements of the Pilot Surveillance and Deterrence Program Plan at a relative frequency of 180days/year by August 2001 for a duration of 2 years or until a long-term comprehensive enforcement plan can be implemented.

Objective 1, Indicator 1:

Number of days S/D Team is present at Helen Reef (Aug 1 2001 to May 20 2002).

Measurement: 66 days at Helen Reef over a period of 10 months or ~300 days.

Objective 1, Indicator 2:

Degree to which elements in this plan are carried out compared to the elements which are not implemented or followed.

Measurement: *Percent and degree of plan implementation still under evaluation.*

Objective 2

Build the capacity (through training, education, exposure, or direct experience) of the State and its personnel to carry out surveillance and enforcement activities at Helen Reef within a two-year period.

Objective 2, Indicator 1

Number of individuals of Hatohobei graduated from the Palau National Police Academy

Measurement: 5

Objective 2, Indicator 2

Number of individuals of Hatohobei trained in Marine Enforcement procedures

Measurement: 4

Objective 2, Indicator 3

Number of individuals of Hatohobei implementing or involved exclusively in marine enforcement procedures at Helen Reef.

Measurement: 4

Objective 2, Indicator 4

Number of individuals of Hatohobei who have visited a project or site utilizing similar marine enforcement methods during an exchange visit.

Measurement: 0**Objective 2, Indicator 5**

The production of a comprehensive enforcement program plan that outlines how the State and cooperating partners will conduct enforcement and surveillance activities on a long-term basis.

Measurement: Pilot Surveillance and Deterrence Program Plan, version 1.2 complete; Comprehensive enforcement program plan yet to be initiated.

Objective 2, Indicator 6

The identification, collation, and publication in a community-accessible medium of specific “lessons learned” during the implementation of the pilot program to guide the design and development of a comprehensive enforcement program.

Measurement: Some lessons identified, but yet to be collated or disseminated. It is expected that participation in the LMMA Network will increase the documentation of lessons learned.

Objective 2, Indicator 7

Accurate and adequate records of field observations and activity and other project-related information being recorded and stored, including information from participating agencies or organizations.

Measurement: Partial attainment. Data forms in use; limited sharing.

Objective 3

Increase the level of collaboration and cooperation of Hatohebeians and other partners involved in field activities at Helen Reef

Objective 3, Indicator 1

Number of days National Patrol Boat is at Helen Reef or adjacent the 12 mile vicinity.

Measurement: *This indicator still under evaluation.*

Objective 3, Indicator 2

Number and level of involvement of National Agencies participating in and assisting with project.

Measurement:

- Ministry of Justice, high – enforcement support
- Division of Lands and Surveys, medium – assistance with mapping

- Palau International Coral Reef Center, planned – reef monitoring
- Bureau of Resources and Development, discussed – project planning assistance
- Division of Marine Resources, planned – assistance in invertebrate restocking (e.g., trochus, giant clam)
- Division of Sanitation, medium – assistance with rat eradication

Objective 3, Indicator 3

Number and level of involvement of NGO's or other organizations in Palau and elsewhere countries participating in and assisting with the project.

Measurement:

- Coral Reef Research Foundation, medium – technical assistance
- The Nature Conservancy, low – administrative support
- International Marinelife Alliance, low – administrative support and possible logistic support in the future
- LMMA Learning Network, low – just initiating

Objective 3, Indicator 4

Number and level of involvement of Hatohobei citizens in Helen Project activities, including the participation of women in enforcement and other project activities.

Measurement:

- 4 Helen Reef Management Board Members,
- 9 Helen Reef Action Committee Members (3 women),
- 4 Helen Reef Conservation/Law Enforcement Officers in Training,
- 11 individuals trained in SCUBA and shortly resource monitoring (1 women),

Objective 3, Indicator 5

Increased effort to educate foreign fisher groups of the enforcement and management activities occurring at Helen Reef.

Measurement:

- No activities in foreign countries, only though interaction during encounters at Helen Reef.

Objective 3, Indicator 6

The number of MoUs (or other agreements) signed and fulfilled with project partners.

Measurement:

- MoU with Division of Lands and Surveys for mapping and GIS assistance.

- Three-way Enforcement MoU with the Ministry of Justice, the Hatohobei Governor, and the 4 Law Enforcement Officers in-training.
- Social Agreement for participation in the LMMA Learning Network under consideration.

Sub-Objective 3.1

Increase the priority of resource management and protection of biological resources at Helen and Hatohobei Island, through the demonstration and commitment to pilot program activities and goals.

Sub Objective 3.1 Indicator 1

Amount of resources and/or assistance allocated to enforcement and resource management activities by the Hatohobei community, the Hatohobei State Government, the Palau National Government, donors and others.

Measurement:

- Hatohobei Community: *Under evaluation.*
- Hatohobei State Government: *Under evaluation.*
- Palau National Government: *Under evaluation.*
- PICRC: Reef Monitoring Assistance – discussed but still pending.
- International Donors:

Packard Foundation:	US\$275,333 (2000-2002)
MacArthur Foundation:	US\$135,000 (2000-2003)
NZ ODA PIE:	US\$112,314 (2001-2003)

Objective 4

Through establishing a human presence at Helen Reef, immediately reduce the impact of foreign fishing incursions during which long-term site and project planning is occurring (over the next two years).

Objective 4, Indicator 1

Number or trends of foreign incursions over time.

Measurement: *This indicator still under evaluation.*

Comment: While it has been reported by field staff that the number of illegal foreign vessels observed at Helen Reef has diminished during the more recent surveillance trips, no direct measure for this objective exists, as permanent presence or surveillance is currently not undertaken, leaving weeks when direct observation is not possible. It is hoped that future RADAR or sonic monitoring could provide information on the actual (or more precise) levels of illicit foreign incursion occurring at Helen Reef.

Objective 4, Indicator 2 (Proxy Indicator for Objective 4)

Number of depleted resources (trochus, calms, specific fish species) to recover or increase to a higher level.

Measurement:

Comment: The recovery of specific populations of resources could be used as a proxy measurement for the reduction of foreign poaching at Helen Reef. The logic behind this measure is based on the assumption that if resources are not impacted by other (external or internal) sources and are not depleted beyond recoverable levels (e.g. are still viable populations and are capable of rapid recovery), they should recover if foreign poaching is reduced significantly and/or eliminated. Baseline measurements of specific resources have been or will be accomplished soon and will be used over time to evaluate the obtainment of this objective. However while difficult to measure, it is conventional wisdom that the regular presence of project staff will reduce the impact of foreign fishers on Helen Reef's biological resources.

Objective 5

Conduct other useful, project-related activities while conducting pilot activities.

Objective 5, Indicator 1

The degree to which trash and other unwanted human debris is cleaned from Helen Island.

Measurement: Helen Island has been cleared of easily removable debris during first two surveillance trips. More Island and reef clean-ups are planned.

Objective 5, Indicator 2

The degree and success to which a rat eradication effort is implemented.

Measurement: Two applications of rat bait have been applied by the Project staff and staff of the Palau Division of Sanitation. In a follow-up trip (Feb 2002) after the initial deployments, no rats were caught by ten traps set out on each of six consecutive nights. The Officers who have since visited the island claim they have not seen even one rat during recent stays.

Objective 5, Indicator 3

The degree to which resource monitoring activities promotes the collection and analysis of information on critical resources or parameters at Helen Reef Atoll.

Measurement: Resource monitoring by external scientists and community members has promoted local and international interest in the Helen Reef Management Project and provided preliminary information for resource owners, project planners and donors. However monitoring activities have yet to lead to the full integration and consistent collection, analysis and communication of information on critical resources as initially planned. It is hoped that more community involvement in monitoring activities will lead to more frequent and rapid reporting.