

2011-2016

## HELEN REEF MANAGEMENT PLAN

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**We the Hatohobei people envision our islands to have an abundance of natural resources, a pristine healthy environment, and our community and friends are engaged in the sustainable use and management, utilizing scientific and traditional knowledge of our natural resources for us all today and our children in the future.**

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## **I. The Purpose of this Document**

This document is designed to assist in the effective management of the Helen Reef Marine Protected Area. The first Helen Reef Management Plan was developed in 2006 through more than 10 meetings and consultations of the Helen Reef Management Board and the Hatohobei community. The original Management Plan included a full set of Goals, Objectives, and Actions to guide the management of Helen Reef as well as a zoning, regulatory, and penalty scheme.

This document is a full update of the original management plan. The update was developed through a thorough review of the Helen Reef Resource Management Program (HRRMP) undertaken early in 2011 with the support of an Organizational Effectiveness Program (OEP) grant from the Packard Foundation. The review included both interviews of more than 15 program partners for their feedback on strengths and areas for improvement and a week-long program review workshop with the HRRMP staff and Board and Hatohobei community members.

This updated Management Plan will assist in the effective management of Helen Reef over the next five years by:

1. Providing a summary of the biological and social importance of Helen Reef
2. Outlining the main threats to Helen Reef
3. Reviewing the History of Management at Helen Reef including the formation of the Helen Reef Resource Management Program (HRRMP)
4. Summarizing the outstanding progress to date in managing the reef
5. Providing a set of resource targets, goals, and objectives that guide the day to day management of Helen Reef
6. Outlining the management policies including regulations and zoning that are used to govern Helen Reef
7. Outlining how the HRRMP raises awareness and educates key stakeholders about Helen Reef
8. Outlining how the HRRMP enforces the conservation and sustainable development efforts at Helen Reef
9. Articulating how progress at Helen Reef is monitored and how this plan is periodically evaluated and updated.

## II. The Biological and Social Importance of Helen Reef

### Biological Importance of Helen Reef

Located in the Southwest of Palau, Helen Reef is a large enclosed atoll with extensive reef flats, a large channel complex, and a small island that is an important sea turtle nesting site and an over-flight refuge and nesting site for several species of seabirds. At 163 square kilometers in extent, Helen Reef, locally called “*Hotsarihie*”, is roughly two-thirds the size of Palau’s largest island, Babeldaob, (Figure 2). The Helen Reef ecosystem is one of the Pacific’s most outstanding atolls in terms of its area, ecological integrity, abundance of marine biomass, and biological diversity. Remote from dense human settlement and land use, Helen Reef is relatively intact compared to similar biodiverse reef systems in Indonesia and the Philippines. However, a long history of exploitation has resulted in population declination of some of Helen Reef’s economically valuable species.

Helen Reef’s proximity to Indo-Pacific centers of coral and fish diversity has resulted in high species richness and unique fauna compositions relative to the rest of Micronesia. Helen Reef is home to a very high number of reef fish species (530 species, Donaldson and Meyers, in preparation), soft coral (43 species so far recorded, Birkeland et al., in preparation), and the highest recorded hard coral diversity of any Pacific atoll (282 species, C. Birkeland et al., in preparation). Other significant living resources include aggregations of important reef fish species including groupers and snappers. Helen Reef is home to populations of giant clam, large economically valuable reef fish, marine mammals, and near-shore pelagic fish (Maragos and Cook, 1995). Helen Reef’s island also supports nesting populations of green turtles (*Chelonia mydas*) and some of the highest densities of foraging green and hawksbill (*Eretmochelys imbricata*) sea turtles in all of Palau. (Geermans, 1993; Birkeland et al in preparation; Guilbeaux, personal communication; Idechong, personal communication). Helen Atoll is known to support some of the largest nesting sea bird colonies remaining in Micronesia and nearby Southeast Asia (Keppler, 1993), including brown-footed boobies (*Sula Leucogaster*), red-footed boobies (*Sula sula*), the great and lesser frigate birds (*Fregata minor* and *Fregata ariel*), great-crested terns (*Sterna bergii*), black-naped terns (*Sterna sumatrana*), sooty terns (*Sterna Fuscata*), black noddys (*Anous Stolidus*), and white terns (*Gygis alba*). The rare population of coastal nesting great-crested terns at Helen is thought to be one of the largest colonies remaining in the entire Pacific Ocean (King, et al., 1980, Keppler 1993).

Historically, the grouper populations at Helen Reef were sufficient enough to support both authorized and unauthorized live food fish ventures, which exploited large spawning aggregations of a number of species. While these populations currently appear to be depressed, surveys have indicated that there is likely enough groupers to enable restoration of the

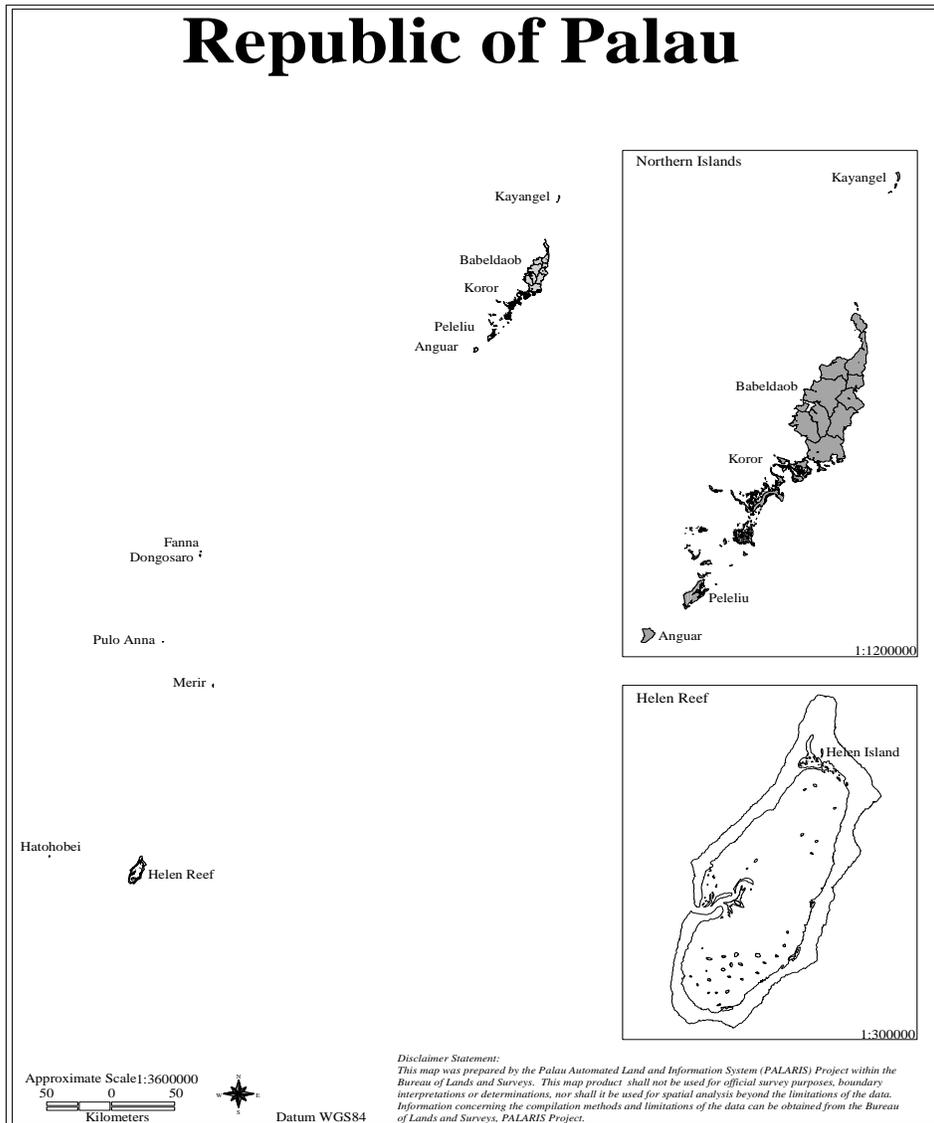
population. In fact the abundance of several species of grouper has already increased since 2000 when extensive surveys were conducted.

Helen Reef plays an important role in the Palau Protected Area Network (PAN). The Helen Reef Protected Area constitutes a significant percentage of the total protected area coverage of the nation. Because Helen has the highest known hard coral diversity of any Insular Pacific Atoll, it supports the PAN's goal of conserving biological diversity. Also, Helen is home to the largest sea bird over flight refuge and the second largest green turtle nesting population in Palau. Finally Helen Reef helps to provide for representative coverage of Palau's coral reef habitats both by protecting an atoll of which only two exist in Palau and by protecting a reef at the Southwest margin of Palau's exclusive economic zone.

### **Social Importance of Helen Reef**

Helen Reef is traditionally owned by the Hatohobeian community which is represented by Hatohobei state. Hatohobei is one of Palau's smallest states with a population of approximately 200 people which call themselves People of Hatohobei. Over the years, the Hatohobeian people have left Hatohobei Island and Helen Reef 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. The Hatohobei islands are today a place for the majority of People of Hatohobei 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. Helen Reef has continued to serve as an important place and resource to the people of Hatohobei. The reef has provided income and resources ranging from cash income from trochus and live grouper trading to the provisioning of fish, sea turtles, sea birds and other items for consumption.

The People of Hatohobei have historically relied on the rich marine resources at Helen Reef, and this ecosystem remains an important cultural, subsistence, and economic source for the People of Hatohobei today. Helen Reef is a major resource for the People of Hatohobei due to its abundant marine life (particularly giant clams, trochus, sea cucumbers, turtles, seabirds, and large reef fishes). In recent decades however, Helen Reef has also become the target of foreign fishing, legal and illegal, 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 over exploited or harmed to the point where wide-scale damage is evident (Birkland et al., 2003).



**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).**

Several agencies, organizations, and reports have identified Helen Reef as an important site for conservation and action due to its outstanding biological characteristics and the immediate threats to those 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, 1991), The Nature Conservancy's Asia-Pacific Program (Maragos et al., 1994a), and the National Master Planning Office of the Republic of Palau (SARGIC, 1996).

### **III. Threats to Helen Reef**

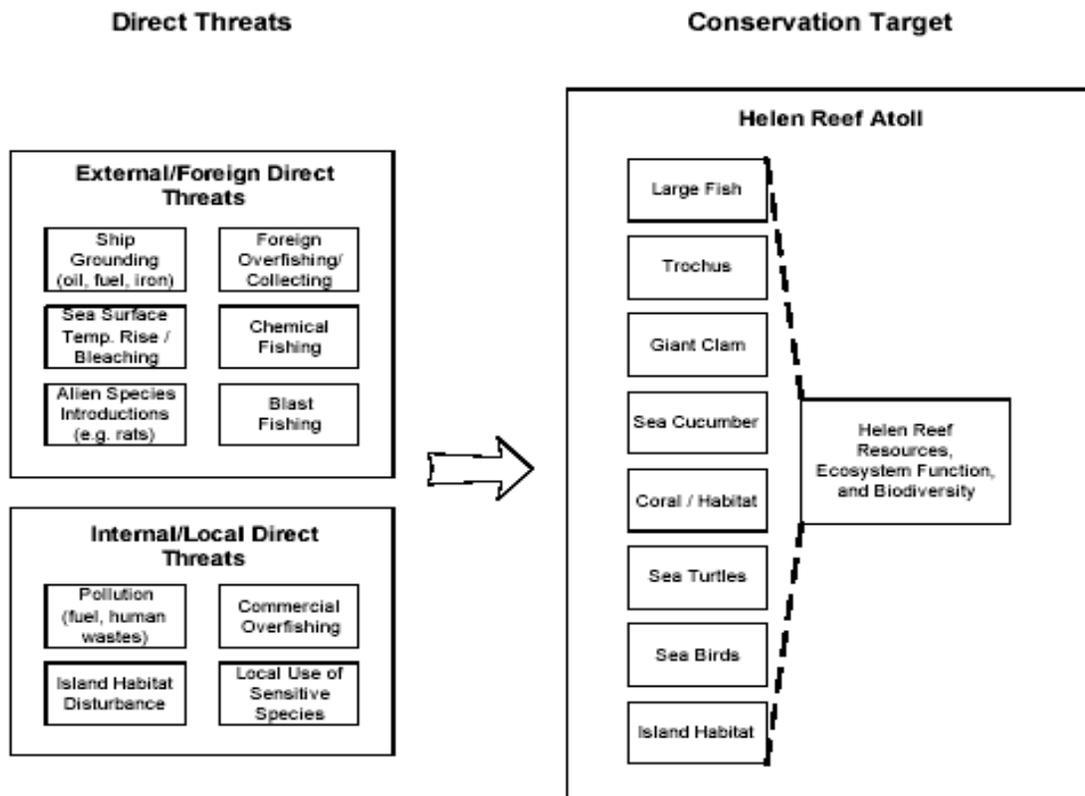
While Helen Reef's remoteness has helped it to remain relatively intact ecologically, it is significantly threatened by overexploitation and destructive fishing, particularly by foreign vessels. Despite enforcement efforts by the Palau National Maritime Enforcement Division, Indonesian and Filipino fishing boats have raided the reef on several occasions over the past two decades. During these raids they illegally harvest live reef fish, trochus, sharks, turtles, giant clams, sea cucumbers, and other species beyond sustainable levels. At the start of the HRRMP, there was visible evidence of blast fishing in critical fish spawning aggregation areas. Populations of several important species such as giant clams, trochus, sea birds and sharks were depressed primarily due to illegal over-collection by foreigners. As the records of the Hatohobei State Office attest, violation by illegal foreign vessels at Helen dramatically increased, from a level of one or two vessels per month in the mid-80's to as many as one or two per week in the early 90's (Black, 1990). In October of 2000, 41 Indonesian fishermen were apprehended collecting sea cucumber and other marine resources at Helen Reef. Human disturbance and commercial and subsistence exploitation also affects populations of endangered or sensitive species of concern, such as sea turtles, and sea birds. Seabird populations at Helen faced a fifteen-fold decrease in a thirteen year period, being reduced from total numbers as high as 96,000 in 1979 to high estimates of only 7,100 in 1992 (Engbring, 1983; Keppler, 1993).

The other main threats to Helen Reef include potentially unsustainable fishing by community members and visitors and coral bleaching due to periodic increases in sea surface temperature. In the 1990s a commercial life food fish enterprise was operated by community members and resulted in significant declines in populations of targeted species such as grouper. Fortunately, once it was recognized that this harvest was not sustainable it was discontinued. However, without consistent management and oversight it is possible that unsustainable levels of commercial harvest could happen again.

In 1997 and 1998, Helen Reef suffered from a widespread coral bleaching event associated with a particular severe El Nino. The reef recovered very well over and after more than a decade is very healthy. However, more regular bleaching events have potential to negatively impact the health of the reef. Fortunately populations of herbivorous fish appear to be very healthy thus helping to ensure that areas that do bleach do not become overwhelmed with algal growth. There are no land-based pollution threats at Helen Reef; however ship grounding does have potential to cause problems due to direct reef impact and the possibility of fuel spills.

Although in the late 1990, Helen Reef was degraded, many marine scientists and community members believed that Helen Reef could regain its ecological integrity once poaching, destructive fishing, and over-collection was stopped. As a result the Hatohobei community initiated efforts to protect the reef and over the past decade the reef health has improved a great deal and is now very healthy.

**Figure 2. Program Target and Threats as Identified from the Results of Community Conceptual Modeling and Strategic Planning Meeting.**



#### **IV. The History of Management at Helen Reef**

Over the past two decades, the Hatohobei people have actively searched for means to protect their reef resources at Helen from illegal plundering by outsiders and local overexploitation. Through the 1990s, with limited community, State, and National resources to effectively deal with long-standing foreign incursions, many of Helen's highly valuable economic species were significantly depleted.

In the mid-1990s, Hatohobei State attempted to deter and enforce against poaching at Helen Reef by placing community members and State staff on Helen Island. However, due to insufficient financial support these early attempts were largely unsuccessful. Likewise, over the years, the Palau National Patrol Boat has included Helen Reef on its patrols; however, these patrols occur infrequently and are not sufficient to protect the reef from over-harvesting.

#### **The Helen Reef Resource Management Program (HRRMP)**

In 2000, the Hatohobei people and their partners initiated the Helen Reef Resource Management Program (HRRMP). The program is focused on ensuring the integrity and sustainable use of marine resources of Helen Reef. It is overseen by the Helen Reef Management Board with the technical assistance from both local and international partners such as Palau Conservation Society (PCS), Micronesia Conservation Trust (MCT), Conservation International (CI), Packard Foundation, and OneReef (NE). The Board is comprised of five people with one appointed by the Governor, one appointed by the Traditional Leadership Council, one appointed by the state legislature and two elected by the people of Hatohobei State.

The program has both an enforcement initiative and a reef resource monitoring initiative that are designed to eliminate illegal fishing while monitoring changes in the condition of marine resources over time. A Program Manager and Deputy Program Manager supported by an Administrative Assistant oversees the day to day management activities of the Program. Eight Conservation Officers rotate in teams of four between Helen Island and the Program offices in Koror for approximately six week periods to carry out conservation-related activities.

For law enforcement activities, the Program is also supported by the Ministry of Justice, Republic of Palau, through tripartite Memoranda of Understanding among the Ministry of Justice, the Governor of Hatohobei State, and each of the Conservation Officers. The Ministry of Justice, through the Division of Marine Law Enforcement, enforces national laws by dispatching the National Patrol Boat "President Remeliik" throughout Palau's Exclusive Economic Zone.

#### **The Helen Reef Management Act**

In November 2001, the Hatohobei State Legislature passed the Helen Reef Management Act declaring Helen Reef a State Marine Protected Area. According to this Act, Helen Reef became

closed to all exploitation of marine life for three years with the exception of cultural harvesting of up to five sea turtles a year for State functions.

Hatohobei State created this law in response to several important factors. The resources at Helen Reef were severely depleted as demonstrated both by a biological survey in 2000 and by the testimony of the people of Hatohobei. Likewise, the Hatohobei people have been frustrated for decades that their traditional resources have been greatly over-exploited primarily by foreigners. In addition, the State recognized that the take by People of Hatohobei and Palauans also presented a considerable threat to the sustainability of Helen's natural resources. Finally, the significant level of community interest and involvement in combination with assistance provided by program partners instilled a high degree of confidence that the State could adequately manage Helen Reef as an MPA.

The decision to make Helen Reef a full no-take area for three years was based primarily on the depleted state of the reef's natural resources. The Hatohobei State government decided that the most effective and efficient method for restoring key populations was to completely restrict take for a period of time. Three years was deemed an appropriate timeframe. A comprehensive enforcement program was designed and implemented to ensure that this prohibition on take was fully effective. Much to the credit of Hatohobei State and the staff of the program, this enforcement program successfully prevented all take of marine resources from the Helen Reef for the four years (note: the program has actually exceeded the original three year period and Helen Reef was fully closed to exploitation for four years). During this period, scientific observations were carried out to assess changes in the resource condition as a result of the no take rules. These surveys have demonstrated increases in populations of several economically and biologically important species.

As the reef recovered, the Helen Reef Management Board adaptively managed the program by opening approximately 30% of the reef for sustainable fishing. This helped to alleviate some of the economic difficulties of this resource limited community, restore a traditional and culturally important resource, improve the Hatohobei diet and well-being (as more local fresh fish harvested on a sustainable basis will be available), and potentially provide for ongoing economic benefits from earned income opportunities such as small scale tourism to the area.

The Helen Reef Management Act also called for the creation of a Management Plan for Helen Reef. This plan was to be developed based on the experience gained through active management and based on the condition of the resources as demonstrated by scientific surveys. The first Draft Management Plan was developed in 2006 and included recommended Goals, Objectives, and Activities for management of the Reef for the next five years. This original Draft Management

Plan was developed through a series of more than 10 meetings of the Helen Reef Management Board in which all the components of the plan were discussed.

The updates to the Management Plan, presented in this document, were developed through a thorough review of the program in early 2011. The review included interviews of more than 15 program partners and supporters and a one week review workshop with the program Board, Staff, and community members.

### **Progress to Date**

For over ten years of active management, the HRRMP has designed and implemented a system to fully protect Helen Reef from illegal fishing and from local over-fishing. Over this time, a year-round enforcement presence has achieved almost complete protection of the reef. Only a handful of illegal fishing instances have occurred and legal over-harvest has been prevented. The illegal harvesting incidents occurred only when weather or other safety concerns prevented the enforcement officers from intercepting illegal boats and in all cases the illegal fishing was intermittent, lasting only a day or two.

From 2001 to 2006, Helen remained closed to all harvesting by community members and visitors, except limited take by Enforcement Officers for their subsistence. In 2006 with the creation of the first Management Plan and zoning scheme, 30% of the reef was open to sustainable community non-commercial harvest while 70% remained in no take. This zoning scheme has remained in place until 2011 when it was replaced by the new zoning and regulatory scheme outlined in this Management Plan update.

Overall, as a result of the program, Helen Reef has received nearly 100% protection from fishing activities that could further degrade its condition and inhibit its recovery. Given Helen's remoteness and difficulty in logistical support, this achievement is an outstanding conservation success. While there is much more work ahead, the program has provided a tangible example of how successful community-based remote reef conservation can occur. Contributions from numerous individuals and a long list of activities have enabled this conservation success.

A few of the most significant activities include:

- Partnering of the Hatohebei State Government, the Palau Ministry of Justice, and other agencies and organizations on enhancing enforcement and management activities at Helen Reef.
- Training of a total of twelve People of Hatohebei as Enforcement Agents in the National Police Academy
- Deputization of the Hatohebei officers beginning in 2002 to enforce State laws.

- Development of an enforcement Standard Operating Procedure (SOP) and implementation of year round presence to protect Helen Reef's resources. Presently, at least three enforcement agents are stationed at Helen Reef at all times.
- Entering into Memoranda of Understanding on May 7th, 2002 with Palau's National law enforcement agency and the Governor of Hatohobei State to extend the powers of the Hatohobei Law enforcement officers to included enforcement of national laws.
- Formal establishment of Helen Reef as a Marine Protected Area through the Helen Reef Management Act (State Bill No. 5-1R-04,D2), passed November 2001.
- Establishment of a Helen Reef Management Board Committee comprised of community members, traditional leaders, and State representatives to oversee and guide the program,
- On-going training and joint field operations with the Palau Division of Maritime Enforcement.
- Establishment of a field station at Helen Island to improve living conditions for field personnel when stationed at the atoll.
- Implementation of a radar system to enable the enforcement officers to identify potentially illegal vessels before they enter Helen Reef.
- Training of People of Hatohobei including SCUBA diving, resource monitoring, and data recording and analysis, to computer skills, and email communications.
- Ongoing community-level monitoring of biological resources both with the Helen Reef staff and visiting scientists and students.
- Adopting protocol of the Locally Managed Marine Area Learning Network, which links community-based MPA programs in the Pacific region, as a major tool for monitoring and evaluating the progress of program and the conditions it operates under.
- Provisioning program staff with necessary equipment and training in how to effectively use and maintain patrol boats, radios, safety equipment, and others protocols and procedures to ensure the enforcement officers are safe and can conduct their duties in professional manner.
- Securing USDA funding for Freely Associated States to purchase a larger (26'), more efficient and safer patrol boat to improve surveillance and enforcement at Helen Reef.
- Development of a Management Plan including a set of new resource regulations and a zoning scheme. This plan was developed by the Helen Reef Management Board and staff with the facilitation of CCN.
- Joining the Palau Protected Area Network (PAN) and receiving initial funding support that may lead to sustainable funding over time.
- Undertaking Sustainability Planning which identified three main strategies for encouraging sustainability including: reducing program costs to be as efficient as possible; building necessary institutional mechanisms to help ensure sustainability; and

identifying sources of sustainable finance such as the PAN and developing earned income strategies to generate program income.

- Carrying out a full review of the program progress to date and updating the Management Plan, Zoning Scheme, and Regulations to result in greater community benefit while maintaining conservation of the outstanding biological diversity of the reef.
- Raising 80% of the funding necessary to purchase a new safe and fuel efficient transport vessel (a double hulled catamaran) to bring Conservation Officers and community members to and from Helen Reef.
- Establishing a local Non-profit Organization, the Hatohobei Organization for People and the Environment (HOPE) to serve as a fiscal sponsor and provide technical assistance for the management of the program.
- Undertaking an Organizational Effectiveness Program to improve effectiveness both of the HRRMP and HOPE.

Through these collective efforts of the community and its partners, this important coral reef area has gone from a condition of ongoing resource depletion and degradation to recovery and ongoing conservation. Based on the reports of community monitoring activities and observations, once depleted populations of sea birds, grouper, sharks, and other species of fish are now recovering. This is important both in terms of protecting the Helen Reef ecosystem from further degradation and the protection of its biological diversity, but also in terms of cultural, social, and economic significance for the people of Hatohobei.

The success that the Helen Reef program has achieved is a result of the high level of community involvement, supporting partnerships, and funding the program has experienced to date. However, the long-term conservation and sustainable use of this area is not yet been achieved or secured. Compared to the long history of over-exploitation and lack of effective management systems, this program still has many development milestones which it must surpass to be truly sustainable and integrated into Hatohobei society and institutions. The focus of the next three years of the program will be on continuing, consolidating and building upon successes to ensure management, monitoring, and sustainable use of the reef and its resources by attempting to reduce costs and establishing the necessary institutional and financial mechanisms to create effective, long-term conservation. The example that the Helen Reef Management Program provides to other communities and programs is also worth consideration. Already in presentations and cross-site visits, the experience and lessons of Helen Reef program have served as inspiration to other communities and individuals that deal with the similar obstacles, problems and threats at other remote places. This program wishes to share these experiences, examples, skills and lessons more widely throughout the Micronesia region to build on and leverage the level of conservation and management that is possible at other remote reef locations.

## **V. Vision , Goals, Objectives, and Actions**

The Vision, Goals, Objectives and Actions have been developed to help improve the overall management efficacy for the Helen Reef Marine Protected Area. A detailed one year work-plan that further describes what tasks need to be undertaken under each of the actions has also been developed to help provide day to day guidance for the program. This is a companion document to the Helen Reef Management Plan.

### **The Vision**

We the Hatohobei people envision our islands to have an abundance of natural resources, a pristine healthy environment, and our community and friends are engaged in the sustainable use and management, utilizing traditional and scientific knowledge of our natural resources for us all today and our children in the future

### **Goals**

- I. Biological Goal: To restore, maintain, and understand the biological resources of Helen reef, including ecosystem health, key species, habitats, and biodiversity**
- II. Socio-economic Goal: For the people of Hatohobei and their guests to enjoy social and economic benefits of Helen Reef through various activities that are compatible with the goals of the management plan.**
- III. Program Management Goal: For the Management and Administration of the Helen Reef Area to be efficient, credible, transparent, effective, and adaptive.**
- IV. Financing Goal: For the program to be financially independent and sustainable by 2016.**
- V. Enforcement and Compliance Goal: To ensure 100% Protection of Helen Reef from Infractions of Resource Regulations**
- VI. Awareness and Education Goal: The Hatohobei community, stakeholders, and supporters are familiar with and supportive of the goals and objective of the Hatohobei /Helen Reef Management Area**

**1. Biological Goal: To restore, maintain, and understand the biological resources of Helen reef, including ecosystem health, key species, habitats, and biodiversity.**

**Biological Objectives:**

1. To improve populations of key species and ecosystem health by establishing management zones that is sufficiently large, representative, and resilient by December 2012.
2. To monitor and understand changes in populations of key species and changes in the ecosystem annually.
3. If there is adequate capacity to develop a research plan to understand key biological processes that are important to the effective management of the reef by the end of 2012.

**Actions:**

1. Continue monitoring the zoning system at the reef that balances biological needs and human uses by the end of 2012. This zoning system should include a network of areas for no take to enable declining populations of marine species to recover and the ecosystem overall to regain its natural composition.
2. Adapt and maintain management zones that are sufficiently large, representative, and resilient by the end of 2011.
3. Undertake annual community biological monitoring trips with staff and community members to understand if the zoning system effectively balances biological needs and human uses. Next monitoring before December 2012.
4. Train staff and community volunteers in how to participate in biological monitoring
5. Create and apply data storage and analysis system for biological monitoring on the reef by mid-2012.
6. Training on data entry and data analysis, including linking your monitoring approach to your questions. This could include a possible exchange to Indonesia to improve Monitoring Techniques. Provide more trainings, train someone specifically on analyzing data, streamlining of the system.
7. Consider outsourcing/partnering for select monitoring.
8. Undertake biological assessment with outside scientists every 5-10 years.
9. Continue partnerships with research agencies (PICRC, UOG, , PCC, UH, NOAA etc.) to elicit their participation in monitoring and in research on key management questions. Ongoing –PICRC for monitoring by end of 2014.
10. Develop and initiate a research plan with key questions that are important to the management of the reef (including: current patterns, feeding guild patterns, spawning areas, etc.) by end 2012. (This will be pursued if there is adequate resources and capacity).
11. Identify and adequately protect important SPAGS at the Atoll by 2012.

12. Include adaptation to climate change in management plan of Helen Reef after learning about climate change adaptation by attending trainings and networking with experienced countries and programs.
13. Create a Climate Change ADAPTATION PLAN or actions by end of 2012.

**2. Socio-economic Goal: For the people of Hatohobei and their guests to enjoy social and economic benefits of Helen Reef through various activities that are compatible with the goals of the management plan.**

**Socio-economic Objectives:**

1. Over the next five years the majority of People of Hatohobei and their guest use Helen for subsistence, cultural, and recreational purposes at least once each year.
2. That by June 2012, the majority the Hatohobeian population are satisfied with the management strategies that have been put in place to allow for socio-economic benefits from the use of Helen Reef.
3. To understand the level of use of the reef and how its management impacts the Hatohobei community socio-economically.

**Actions:**

1. Coordinate annual field trip for People of Hatohobei and their guests to Helen Reef.
2. Promote visitation to Helen by People of Hatohobei and their guests as a regular part of the program
3. Develop a zoning and regulation system that allows for sustainable subsistence, cultural, and recreational use by end of 2011.
4. Undertake feasibility planning for all candidate income generating activities by end of 2012. (e.g. mariculture, tourism, commercial resource harvest). Note: Any income generating activity that is permitted by the Board must be compatible with the other biological and socioeconomic goals and objectives of this plan.
5. Develop and initiate a socioeconomic monitoring plan that identifies key socioeconomic questions that are important to the effective management of Helen Reef by mid-2012. Key questions include: value of the reef to community members, ways in which community members use the reef, the amount and type of fishing that takes place, the level of satisfaction community members have with the management strategies that have been put in place to encourage socio-economic benefits, and other factors as needed by mid-2012.
6. Develop and disseminate to the community a summary of management approaches used to enable socioeconomic benefit by mid-2012.

**3. Program Management Goal: For the Management and Administration of the Helen Reef Area to be efficient, credible, transparent, effective, and adaptive.**

**Objectives**

1. Annually, the majority of People of Hatohobei attend community meetings and have access to program information and a means by which to provide input to the program.
2. For the program to develop strategic alliances with key National, State Governments, and International partners that can help advance the goals of this plan by 2012.
3. To develop and implement transparent and effective management operational procedures with measurable indicators that will be developed for the program) by the end of 2012.
4. To maintain an active and engaged board that understands their responsibilities and advocates for the Helen Reef Program.
5. Develop and implement a monitoring and evaluation program that measures the effectiveness of the management activities and enables adaptive management by mid 2012.

**Actions**

1. Develop and maintain procedures to regularly provide information on the program to the community and solicit their feedback, such as: semi-annual briefing and input sessions for the community to learn about and contribute to the program.
2. Develop MOUs with partners, as useful, and schedule of regular meetings with key partners for strategic alliances by end-2012.
3. Establish an advisory committee of outside experts that can help to advise and support the Helen Reef Management Board and staff by end 2012.
4. Develop Management Operational Procedures (policy and procedures, reporting procedures, training need assessment, development plan, accounting system, orientation, recruiting, succession, evaluation, adaptive management plan, staffing, (note: use workshop comments to develop policies and procedures)
5. Establish a detailed work plan for the program and each staff member and to include quarterly reporting showing progress status relative to the work plan by mid-2012.
6. Develop regular training program for the staff.
7. Create and implement an institutional sustainability plan including all necessary capacity building and training programs for staff and board members (plan should be created by mid-2012).
8. Continually carry out needed outreach and policy work to ensure Hatohobei retains authority over Helen Reef.

9. Develop and use process and impact indicators to include in the program work plan by mid 2012 and use them at least once quarterly in reviewing program progress Reef and its management.
10. Helen Reef Board annually adjust program goals, objectives, and activities as needed based on regular review of process and impact indicators in the program work plan (ongoing).
11. Create and implement board recruitment, succession, orientation, and development plan by mid-2012).

#### **4. Financing Goal: For the program to be financially independent and sustainable by 2016.**

##### **Objectives:**

1. The Helen Reef Staff and Board are able to raise the needed financial support annually to operate the full conservation and sustainable development program at Helen Reef.
2. The Helen Reef Board will have developed and practiced clear financial policies and procedures by the end of 2012.
3. For the Helen Reef Program to continually access State and National sources of funding for the operation of the Helen Reef Resource Management Program.
4. By 2014, the Helen Reef Program will have developed income generation activities for the community and to help capitalize the Helen Reef Endowment.
5. For the Helen Reef Board and Staff to raise 2 million USD in endowment for the long term sustainable financing of the Helen Reef Program by 2016.

##### **Actions:**

1. Train staff and Board in Fundraising and proposal writing skill by end 2012.
2. Develop and implement a Fundraising Plan with key partners.
3. Seek funding from donors for next 5 years, while developing sustainable income streams (such as capitalizing the Helen Reef Endowment).
4. Helen Reef Staff will develop financial policies and procedures to be approved by the Helen Reef Board by mid 2012.
5. Staff will implement the program activities in accordance with the approved financial policies and procedures by the end of 2012.
6. Maintain PAN membership to ensure the financial needs of the Helen Reef Program are met.
7. Explore feasibility of dive, sport fishing, yacht, and other tourism to Helen Reef by end of 2013. If feasible, have full scale implementation in place by end of 2015. (develop brochures, and other marketing materials to promote Helen Reef as Dive site, establish visitor fee schedule and plan for use of funds.

8. Explore the feasibility of mariculture programs at Helen Reef or other income generation activities on Hatohobei to support the long term financing of the Helen Reef Program.
9. Establish a trust fund (endowment) either independently or through the Micronesian Conservation Trust by end of 2012.
10. Develop and implement a fundraising plan for the capitalization of the Helen Reef Endowment.
11. Work with OneReef to implement the Marine Conservation Agreement to provide a reliable and trusted gateway to external donors (endowment and non-endowment alike).

**5. Enforcement and Compliance Goal: To ensure 100% Protection of Helen Reef from Infractions of Resource Regulations**

**Enforcement and Compliance Objectives**

1. To continually maintain an enforcement system that ensures all illegal vessels are intercepted as quickly as possible.
2. To always ensure complete compliance of regulations by visitors to Helen Reef.
3. Improve Officer and visitor **SAFETY** by ensuring regular safety trainings, an emergency fund, and adequate equipment and maintenance.
4. Increase the **cost-effectiveness** of supplying staff by establishing a fully equipped support station on Hatohobei, with associated boat, before the end of 2014.

**Actions:**

1. Maintain year round enforcement surveillance of Helen Reef.
2. Continually operate the enforcement program including training and provisioning of Enforcement Officers.
3. Regularly discuss needs and ways to improve the enforcement program with Enforcement Officers (at least semi-annually).
4. Update the surveillance and enforcement plan (SOP) by mid 2012.
5. Provide incentive program for Enforcement Officers such as bonuses, school scholarships, etc. by end of 2012.
6. As needed recruit and train new Enforcement Officers. Maintain at least 8 law enforcement officers for the program at all times. (On island: 4 minimum Conservation Officers, with other supporting people to help with other tasks).
7. Establish and implement a safety and health protocol for the Enforcement Program.
8. Formalize a partnership with the Ministry of Justice to ensure National support in enforcement.
9. Create and provide awareness materials to all visitors on the ecology and regulations of the Helen Reef Management Area.
10. Establish a Ranger Station on Hatohobei Island with an associated boat by the end of 2014.

11. Improve Ranger station on Helen (relocate to wider land and/or climatize by building the next station on an elevated platform on pilings (or floating platform, as an interim solution until the airport is built.) Start design process and fundraising now.

**6. Awareness and Education Goal: the Hatohobei community, stakeholders, and supporters are familiar with and supportive of the goals and objective of the Hatohobei /Helen Reef Management Area**

**Education and Awareness Objectives:**

1. All People of Hatohobei have access to an opportunity to visit and learn about Helen Reef at least once every year.
2. To ensure that majority of the Hatohobei community members, users, and supporters have received information on the HRRMP at least annually.
3. Ensure that all visitors to the area are made aware of the fragility of the ecosystem and regulations of the area through awareness materials and/or presentations annually.

**Actions:**

1. Compile and develop materials on the cultural and natural history of Helen Reef by the end of 2012.
2. Hold youth summer camp at Helen Reef annually.
3. Establish a Community and Learning Center for People of Hatohobei by end of 2014.
4. Annually provide the Legislature, Executive Branch, Consul of Chiefs, Association of Governors, and other important and interested Organizations with awareness materials and briefings highlighting the importance of the Helen Reef Management Program (consider annual newsletter).
5. Prepare media articles (including local paper) at least semi-annually on Helen Reef and the progress of the program in conserving the area.

**VI. Management Policies: Zoning, Regulations, and Penalties**

The Zoning and Regulations for Helen Reef were developed by the Helen Reef Management Board with the assistance of the Helen Reef Management Staff and CCN staff. The goal of this Zoning and Regulation Plan is to encourage the recovery and maintenance of important marine resources of Helen Reef while also providing fishing and other social benefits to the people of Hatohobei State and their visitors. The zoning approach maintains approximately 70% of the reef as a “no take area” to help ensure there is sufficient habitat for species recovery. The plan also recognizes that the people of Hatohobei want to use marine resources and as a result provides for their subsistence use. Approximately 30% of the Reef is available to regulated fishing as specified below. Finally, the plan also allows for tourism and recreation to further benefit the people of Hatohobei. (See map in Annex 5).

## Zones and Regulations

The Board has concluded that zones should not be permanent. Should community and scientific findings conclude that certain zones need special attention, the Board should be able to meet the satisfaction of both the local and scientific community. Thus, Zoning will be determined and revised, if necessary, every three years. Upon acceptance of the updated management plan, the proposed new zoning scheme will be reviewed and endorsed by the Hatohobei State Government.

Through this updated Management Plan, the positioning of the zones at Helen Reef and some of the regulations have been adjusted to improve overall sustainability and community benefit while maintaining high priority on biodiversity conservation.

Previously Zone 1 constituted approximately 70% of the reef including all of the West side of the reef and 20% of the Southeastern side. Zone Two included approximately 30% of the reef in the Northeast section, including approximately half of Helen Island.

With the change Zone 1 (no take) will constitute 70% of the reef, both Western and Eastern sides from the Southern most area of reef heading northward. Zone 2 (open to regulated fishing) will constitute approximately 30% of the reef both Western and Eastern sides from the Northern most area of the reef headed southward until it meets the boundary with Zone 1. Zone 2 will include Helen Island to make subsistence fishing more feasible. Essentially the reef will be divided laterally (with a East to West Boundary) putting the southerly 70% into full no take and the northerly 30% into regulated fishing.

(See map in Annex 5).

**Zone 1: No Take Area: No Harvest of Any Marine Life Allowed:** The proposed area is designed to allow for the recovery and maintenance of marine life as well as to provide sustainable stocks to spill over into Zone 2 where people can fish. This area is for the long-term maintenance of the reef ecosystem (including ecosystem functioning, keeping all the various 'parts' of the reef healthy) and abundance of key populations (e.g. trochus, grouper). Non-consumptive uses would include navigation (in and out of the channel), recreational snorkeling, diving, and monitoring.

**Zone 2: Harvest Area: Harvest of Marine Life for Subsistence Use Only. No Commercial Fishing Allowed:** Zone 2 will be reserved for fishing for Hatohobei State events and for subsistence fishing only. Fishing in Zone 2 is subject to the regulations specified below. Fishing for provisioning of the State Supply vessel for crew and passengers will occur from this zone. Fishing and collection of marine life will be open to all available species, except those species listed on the regulated species list (see below). Commercial fishing will not be allowed.

## **Regulations:**

1. Zone 1 is a complete no take area out to one mile from the reef.
2. Zone 2 is open to fishing for subsistence.
3. No nets other than cast nets are allowed.
4. Traditional fishing methods (e.g. pahupoh) are allowed but must be authorized and supervised by the Helen Reef Management Staff.
5. The entire reef is open to non-consumptive uses including navigation, recreational snorkeling, diving, and monitoring.
6. Research at the Reef may be considered but must be approved and permitted by the Helen Reef Management Board.
7. All National and State species regulations will apply at Helen Reef.

## **Regulated Species:**

- |                                                           |                                                                             |
|-----------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>1. <i>Napoleon Wrasse</i></b>                          | Follow the National Regulations. No take (insert National regulations here) |
| <b>2. <i>Bump-head Parrot Fish</i></b>                    | Follow the National Regulations. No take                                    |
| <b>3. <i>Grouper</i></b>                                  | Follow National regulations                                                 |
| <b>4. <i>Lobster</i></b>                                  | Follow National Regulation size. No take of female with eggs.               |
| <b>5. <i>Trochus</i></b>                                  | Allowable harvest size is 3" diameter or greater.                           |
| <b>6. <i>Sea Birds</i></b>                                | Follow National Regulations. No take.                                       |
| <b>7. <i>Giant Clam</i></b><br>less than 2 ft. in length. | Can only take up to 5 per person per year of those                          |

- |                                       |                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>8. <i>Sea cucumber</i></b>         | No take to Koror until further study                                                                       |
| <b>9. <i>Hawksbill Turtle</i></b>     | No take                                                                                                    |
| <b>10. <i>Green Turtle-</i></b>       | In accordance with National law                                                                            |
|                                       | State Regulation: Take of only 6 turtles annually for State Functions in accordance with the national law. |
| <b>11. <i>Other Sea Turtles:</i></b>  | No take                                                                                                    |
| <b>12. <i>Coral:</i></b>              | No take                                                                                                    |
| <b>13. <i>Sea Shells:</i></b>         | No take                                                                                                    |
| <b>14. <i>Other collectibles:</i></b> | No take                                                                                                    |

**Penalties:**

Criminal Penalties:

(a) Any person who violates any of the regulations under section VI of this Plan shall, upon conviction, be subject to a fine of not more than \$500.00 or sentenced to serve up to 90 days in jail, or both.

(b) Any person who is found by the Supreme Court in a civil proceeding to have committed an act prohibited by this Act, his employer, principal, superior, or supervisor if the violation was committed as part of a commercial operation or enterprises, and any person who aids or abets in such violation, shall be liable to Hatohebi State for a civil penalty, which shall not exceed \$200,000.00 for each violation.

(c) In determining the amount of such penalty, the Supreme Court shall take into account the nature, circumstances, extent, and gravity of the prohibited acts committed and, with respect to the violators, the degree of culpability, any history of prior offenses, and such other matters as justice may require.

(d) The Attorney General and Special Prosecutor of the Republic of Palau are authorized to initiate all civil proceedings under this section and to recover the amount assessed as a civil penalty.

(e) All civil penalties collected pursuant to this Plan shall be deposited in the Helen Reef Management Account for management purposes.

## **VII. Awareness and Education**

Awareness Raising and Education are important mechanisms through which to achieve the management goals and thus the strategic objectives of the Helen Reef Conservation Area Management Plan. As such Education comprises an entire goal of the Helen Reef Management Plan. The goals, objectives, and actions for Education and Awareness raising are presented previously in this plan.

The highest priority audience for awareness raising and education is the local community, with other audiences including: Palauan decision makers, donors, national and international partners.

For the HRRMP, Awareness Raising is focused on ensuring that key stakeholder groups are aware of and supportive of the management activities at Helen Reef. Educational efforts are focused on providing more detailed learning opportunities for focal stakeholder groups, especially community members.

Awareness is raised by involving key stakeholders in planning consultations, holding periodic briefings both in the community and for larger audiences, publishing media articles, and briefing key people individually.

Educational efforts include training of community members to play key roles in the program such as participate in monitoring, holding summer camps for youth, and preparing and sharing lessons learned documents such as program reports.

The awareness and education efforts of the program are targeted in hopes of generating the following from our target audiences:

- 1. Appreciation for the Importance of Helen Reef and Marine Conservation:** Helen is an extremely important place both to the local community and in terms of its global biodiversity. Yet it is little known in Palau and internationally. The awareness raising efforts of the program are working to bring attention to this important reef both locally and internationally.
- 2. Support for the Program Effort:** This support includes community and government support to help continue the program effort, financial support from donors, in-kind support from partners such as Ministry of Justice, PCS, and PICRC.

- 3. Participation in Program Activities:** Participation in program activities provides benefits both to the program and to the participant. Our highest priority in terms of participation is to provide opportunities for community members (particularly youth) to become actively involved in the program. This will not only help to continue support for the effort but will also provide educational opportunities and important life experience for our community members. Participation opportunities include: helping with biological monitoring, participating in summer camp, and participating in community meetings about the program.
- 4. Compliance with the Zoning and Regulations Governing the Reef:** Visitors to the Reef need to be aware of the zoning and regulations in order to comply. A part of education and outreach effort is focused on ensuring all visitors have clear easy to understand information about the reef and the rules that govern it.

Education and awareness raising is provided through the production and distribution of printed material, audio-visual presentations, face-to-face contact, and educational displays such as at the HRRMP display board in Echang and other such public access points. Education of the general public is a lower priority for the program; however, some of the same materials that are used to educate our primary audiences can also be used for general public education.

## **VIII. Enforcement of Plan**

It is the responsibility of the Helen Reef Management Board and Staff to pursue the objectives of the plan and the responsibility of the Hatohebei State Conservation Officers to enforce the zoning and regulations.

Section IX of this management plan outlines the responsibilities of the Hatohebei State Government and the Helen Reef Resource Management Program for law enforcement in the Helen Reef Conservation Area. A series of enforcement objectives and actions have been developed as part of this management plan and are presented above. Based on these objectives, the program maintains year round surveillance at Helen Reef to ensure 100% enforcement of the regulations. This is the highest priority objective of the program. Fortunately, the program has been extremely successful in achieving this objective.

Over the last decade as a result of ongoing surveillance and enforcement, the number of illegal fishing boats entering the reef has been greatly reduced. When the program started, three to four boats came to the reef every month. Now the number is approximately three or four per year. We believe this great reduction in numbers has resulted from information about enforcement at Helen Reef spreading in the main fishing hubs of Southeast Asia. When a boat is turned away from the reef, the fishermen will often later share information with their colleagues and employers. Since most boats originate from a few countries within the region, the information spreads quickly.

The result has been considerable success in reducing the number of illegal boats attempting to fish on the reef. The management plan now provides guidance for the program to ensure that it maintains this success and achieves 100% enforcement of the regulations at the reef.

In addition to the enforcement objectives and actions, the enforcement procedures of the Conservation Officers are guided by a Standard Operating Procedure (SOP) (see Appendix 3). This SOP provides instructions on how to conduct patrols, how to board vessels, how to prepare reports. All Enforcement Officers are fully trained in enforcement techniques and safety by the National Ministry of Justice. In addition all receive training in the SOP before they are deployed at the Reef.

## **IX. Roles and Responsibilities**

The infrastructure for efficient management of the HRRMP is mostly in place, with day to day management carried out by the Program Manager and overall guidance and vision-setting by the Management Board. The Program also receives valuable assistance from valuable local and international partners.

The Roles and Responsibilities of the Program Board and each of the Program Staff members are outlined in full in APPENDIX ONE: TERMS OF REFERENCE FOR MAJOR PROGRAM GOVERNANCE, STAFF, AND PARTNERS

There is always room for growth. For instance, the Management Board should have training to better focus on the strategic goal-setting and overall performance evaluation of the Program. Similarly, the Program Manager should be encouraged to follow up with other National and Regional initiatives for developing leadership abilities. These might include training with other local conservation agencies and through association with the Micronesian Leaders in Island Conservation and other capacity-building exercises.

While the Program staff are sufficiently trained to implement the program, they will need ongoing training in a variety of fields, particularly related to report-writing, maritime enforcement, rules of engagement, seamanship, CPR and first aid, and biological resource monitoring.

The duties and responsibilities of the Helen Reef Management Board and Program staff as outlined in APPENDIX ONE provide the structure within which the Program so that activities can be carried out in a timely and professional manner. It is imperative that the roles and responsibilities of the management entities are adhered to for the successful implementation of program initiatives.

## **X. Partnerships and Conflict Resolution**

## **Partners**

The Helen Reef Resource Management Program has built strong partnerships with local and international organizations to assist with the on-going conservation of the protected area. Partners have been identified according to their ability to support the goals and objectives of the Management Plan. These include the Palau Ministry of Justice (MOJ), the Palau Conservation Society (PCS), the Micronesia Conservation Trust (MCT), Packard Foundation, OneReef (NE), the Locally Managed Marine Area Network (LMMA), Hatohobei Organization for People and the Environment (HOPE), Conservation International (CI), the Nature Conservancy (TNC), Bureau of Marine Resource, Palau International Coral Reef Center (PICRC), and many others. One of the HRRMP's longest standing partners was the Community Conservation Network (CCN). Unfortunately CCN ceased its operations in 2009; however, we remain engaged closely with CCN's former principle staff members. Please see APPENDIX TWO for a full list of program partners, their expertise, and areas for collaboration.

## **Conflict Resolution**

The HRRMP has established a conflict resolution policy for addressing any conflicts that arise with program partners, staff, vendors, or other entities. This is the same policy utilized by HOPE and is outlined below. For conflicts that arise within the community, a more traditional consultative process working toward resolution of the conflict is pursued. In cases where conflicts involving decisions cannot be resolved, the Board uses a simple majority voting process.

## **HRRMP Conflict Resolution Approach**

### **Rationale:**

HRRMP recognises the importance of having a policy and set of procedures relating to resolution of any conflicts and/or any complaints that are made against the program itself or people working for or are affiliated with the program.

### **Purpose:**

To have a fair policy and set of procedures for situations where conflicts and complaints cannot be resolved between the parties themselves.

### **Procedures:**

These procedures are to be worked through step by step. At the completion of each step, if both parties are satisfied, the procedures can be ended. If parties are not satisfied, continue to the next

step. At any point of intervention, all parties have the right to have their superiors and/or advocate and/family support present. The complaint will remain confidential to the parties involved. This grievance procedure will be exercised in a way to ensure any person/organisation complaining has the opportunity to be heard and treated fairly.

**Step 1.**

Approach the person/organisation directly about the problem.

**Step 2. If not satisfied:**

Give a written description of the grievance to the chairperson of the Board. The chairperson will notify the person/organisation making the complaint that the complaint has been received. This written grievance is a private document and will be seen only by the directors, the independent mediator and the person/organisation the complaint is directed at.

**Step 3.**

The board of directors will read and discuss the complaint at their next meeting.

**Step 4.**

The person/organisation complained about will be notified of the complaint and will be given an opportunity to read the written complaint and respond to the Board. If the board is unable to resolve the complaint at this stage, it will move to Step 5.

**Step 5.**

The board will bring in an independent mediator to enable both the person/organization making the complaint and the person/organisation the complaint is against, to be heard. The person/organization making the complaint will be given two dates to choose from and the meeting will take place within two weeks of the board meeting.

**Step 6.**

If mediation is not successful, three members of the board, including the chairperson, will meet with both parties together with an independent mediator as facilitator. From this meeting the three board members will make a final decision and direct any action to take place. This meeting will happen within two weeks of the previous meeting. Again, the person/organisation making the complaint will be able to have two dates to choose from for the meeting.

## **Step 7.**

The three board members will report the decision to the Board, the person/organization making the complaint and the person/organization complained against within one week of the previous meeting.

## **XI. Measuring Success: Monitoring and Research**

Biological and socioeconomic monitoring are high priorities for the Helen Reef program. Applied scientific research at Helen is also important but is a lower priority for the program.

Over the last five years, the HRRMP has developed thorough biological monitoring program. Socio-economic monitoring began in 2010 with the execution of a Sem-Pasifika Socio-economic Monitoring training.

### **Biological Monitoring Plan**

The Helen Reef Resource Management Program has prepared a monitoring plan for the following key species as indicated by community to be of significance importance: (Green Turtles, Hawksbill Turtles, Groupers, Humphead Wrasse, Bumphead Parrotfish, Sea Cucumbers, Clams, Trochus, and seabirds. The HRRMP has also developed monitoring approaches or other indicators to provide useful information on changes in the area that have occurred since the initiation of the management program. This is extremely important to help with adaptive management of the program. The monitoring is currently carried out by HRRMP staff and community members that have been trained in biological monitoring techniques.

In addition, the program has also established a periodic biological survey program that is carried out by community members with the assistance of outside scientists. The first survey was undertaken in 2000 and 2001. The program is targeting carrying out a follow up survey with outside scientists in 2012. This will be dependent on funding availability as the first survey cost over \$60,000.

### **Socio-economic Monitoring:**

The HRRMP initiated formal socio-economic monitoring in 2010. The staff of the program were trained in the NOAA SEM-Pasifika approach and carried out a full survey through extensive interviews with community members. The survey focused primarily on community members level of benefit from and satisfaction with management at Helen Reef. The survey revealed that community members did not feel they receive sufficient benefit from the management of the reef and as a result the zoning and regulatory scheme has been changed to protect 70% of the reef in no take but allow for more open sustainable community fishing in 30% of the reef. The intent is to undertake follow up socio-economic monitoring at least once every three years.

### **Biological Research:**

Biological Research is of lower priority to the program than biological and socio-economic monitoring. However, the program will pursue a research program if there are sufficient financial and human resources. The Helen Reef Conservation Area could provide opportunities for a wide variety of research programs investigating aspects of the coral reefs, large endangered marine fauna, avifauna ecology, breeding and migration, and even cultural and environmental history.

There are currently large gaps in the knowledge of the marine and avian communities, species and ecosystem processes in the Helen Reef Conservation Area, particularly the complex ecological processes and inter-linkages within the coral reef ecosystems and the lagoon. One of the key gaps in knowledge and research is in the geological origins of the Conservation Area. Another is knowledge of species and ecosystem processes of the coral reefs.

The primary goal of this component of the program is to encourage research that will improve knowledge of the values of the Helen Reef Conservation Area and inform its management. The research component will also allow for research that could also be of intrinsic benefit to science and humanity, provided these do not impact negatively on the values of the Conservation Area and ensuring that information from research is made available to managers of the Helen Reef Conservation Area.

The Helen Reef Resource Management will prepare a research plan by the end of 2012 to include areas of priority research required for management. Research which involves the killing, injuring or taking of endangered species should be assessed on a case by case basis and should only be allowed under permit to be issued by the Management board with the approval of the Governor.

## **XII. PROGRAM COSTS AND FUNDRAISING PLANS**

One major goal of the HRRMP is to adaptively manage the program to reduce its financing requirements while still achieving the primary objectives. As part of the process, the HRRMP Staff and Board have identified the priority objectives of the program that must be met in order for the program to meet its overall goal. Currently, the highest priority objective is maintaining the 100% surveillance of the reef and preventing all illegal fishing activities on the reef. The second priority is to ensure that community members benefit from sustainable use of resources on the reef, the third is effective monitoring, and the fourth is to ensure sufficient outreach and awareness raising. By understanding the core objectives, the program can identify various budget scenarios. These include a fully funded program, a comfortable level of funding, a basic level of funding, and a bare bones level. If the program budget goes below the barebones level, it will not be able to meet its core objectives and therefore may need to be shutdown or redesigned.

## **ESTIMATED CORE PROGRAM COSTS**

### **Conservation Officer Salaries (65,265 USD)**

The Program supports a minimum of eight full-time Conservation Officers typically with two at a rank of Senior Conservation Officers. The total annual budget of these staff is 65,265 USD.

### **Administration Salaries and Expenses (78,540 USD)**

The Helen Reef Resource Management Program currently employs a Program Manager, a Deputy Program Manager, an Administration Assistant, and an Education Officer to manage the day-to-day aspects of the Program and implement the long-term goals and objectives as laid out by the Management Board. The costs of employing this staff is approximately 50,380 USD annually.

Office rent, phone, and other expense run approximately \$21,160 annually. Annual audit is required and outsourced at approximately \$5,000 annually. The activity for the Education and Awareness program includes printing and outreach is approximately 2,000 USD.

### **Fuel (20,000 USD)**

In the past, the State ship, The Atoll Way required approximately USD 16,000 in diesel and lubricants for each trip to the Southwest islands. Due to the great expense of operating this vessel, the State sold it and is now raising funds to purchase a double hulled sailing catamaran. The program now charters a sailboat at price of approximately \$5,000 per trip and program anticipates to operate four trips a year to resupply the ranger station which will be approximately 20,000 USD.

### **Fuel, Maintenance, and Supplies (Helen Reef) (12,000 USD)**

These costs include the costs of fuel for patrolling Helen Reef and Hatohobei Island, and maintaining the Station on Helen Reef. Fuel costs average USD 500 per month with an additional USD 500 in maintenance and supplies. This totals approximately USD 12,000 per annum.

### **TOTAL ESTIMATED BASE BUDGET: 175,805 USD annually**

This 175,805 USD is the core cost needed to operate the basic program functions focused on achieving the main goal of 100% compliance with the zoning and regulatory scheme. Additional funding is needed to be able to carry out additional program objectives such as socio-economic

and biological monitoring. A program total of 200,000 to 235,000 USD annually provides a more comfortable budget to be able to pursue the majority of the management plan goals. Periodic capital costs such as purchasing a new vessel, updating equipment, or renovating the enforcement station on Helen or building a new enforcement station on Hatohobei require additional funding.

## **Fundraising**

The HRRMP continues to fundraise on an ongoing basis in order to meet the program needs. Major donors including the Packard Foundation, the Marisla Foundation, the MacArthur Foundation, the Micronesia Conservation Trust, the Palau Protected Area Network, the U.S. Fish and Wildlife Service, NOAA, and the Department of Interior, the Nature Conservancy, and several others.

The hope is that in time funding from the PAN, and Hatohobei State, and a small set of long-term donors including its anticipated endowment will be able to ensure the Helen Reef Conservation Program sustainability.

## **APPENDIX ONE: TERMS OF REFERENCE FOR MAJOR PROGRAM GOVERNANCE, STAFF, AND PARTNERS**

### **MANAGEMENT BOARD DUTIES**

#### **Major Functions**

The Board's main focus is to ensure that the Program provides mission-related results to the community to fit with the HRRMP's values and ethics. The Board should provide these results by governing, guiding, leading, and accomplishing this by acting as ambassadors from the community to the organization, and vice versa. In addition to needing a clear idea of the board's role in the organization (day to day management is the not Board's role, for instance), the Board must establish a clear set of rules in writing to define which decisions belong to the staff, and which belong to the Board.

#### **Specific Roles and Responsibilities**

1. Ensuring that the HRRMP provides mission-related results to the community in a way that fits with the HRRMP's values and ethics.
2. Liaising with the greater Hatohobei community and representing the community with regard to Program activities and public interests;

3. Meeting at least once a month to assess program activities and future program developments and improvements;
4. Advocate for the program including fundraising and raising the awareness about the program of key decision stakeholders;
5. Reviewing written reports on program activities and/or progress updates;
6. Approve annual Helen Reef work-plan which will be implemented by the Program Manager;
7. Hire the Program Manager and oversee major management decisions;
8. Approve Management Plan, Zoning and Regulations, and review and update annually.

## **PACKARD, CONSERVATION INTERNATIONAL AND ONEREEF DUTIES**

### **Major Functions**

Conservation International and OneReef provides outside advice and guidance when requested by the program Manager or Management Board, and assumes the fiscal responsibility for the Program in the interim period as the Program evolves into an independent organization with the ability and resources to undertake the proposal writing, accounting and reporting commitments required by donor agencies.

### **Specific Roles and Responsibilities**

1. Work with the People of Hatohobei to design and develop a CCA for Helen Reef.
2. Work with the People of Hatohobei on fundraising and partnership efforts to ensure continued program implementation while working toward the CCA.
3. Work with the People of Hatohobei to explore possible links to other CCA's that may emerge in the region, involving, for example, peer-to-peer learning, shared monitoring expertise, and other successful practices and approaches developed under the CCA for Helen Reef.

## **PROGRAM MANAGER DUTIES**

### **Major Functions**

The Program Manager will work with the Hatohobei community, Hatohobei State Government, and other relevant stakeholders, to promote the Helen Reef Resource Management Program at various levels, including local, national, and regional. He/she will assist in the development of relations with potential partners, as well as maintain current program systems and relationships

with existing partners, in the context of program implementation, the sourcing of funds, capacity building, dissemination of data and information, and the monitoring and evaluation of the HRRMP.

### **Specific Roles and Responsibilities**

1. Developing and implementing monthly, quarterly, and annual budgets, work-plans, and prioritized actions as necessary
2. Play the lead role in meeting strategic goals and objectives of the program
3. Carrying out all day-to-day decision-making with regard to the implementation of the HRRMP.
4. Ensuring that Program staff carry out the activities as stated in their contractual Terms of Reference;
5. Providing for the timely and efficient use of material and financial resources to achieve program goals and objectives;
6. Developing and pursuing multi-year fundraising strategies;
7. Conducting regular consultations with local communities, collaborators, and regional colleagues to ensure that the work of HRRMP is adaptive and responsive to the needs and desires of stakeholders;
8. Ensuring Program staff receive adequate training to better enable them to implement the Program initiatives;
9. Promoting the appropriate level of participation of the Helen Reef Program within national and international initiatives (e.g. LMMA, PIMPAC, International Sea Turtle Society)
10. Providing reports to meet grant contractual agreements including financial reports (with the assistance of CCN's finance advisor) and updates on program deliverables.

### **DEPUTY PROGRAM MANAGER / FISCAL OFFICER**

#### **Major Functions**

Working with the Management Board, the Hatohobei community, Hatohobei State Government, and other relevant stakeholders, help to promote the Helen Reef Resource Management Program at various levels, including local, national, and regional. Assist in the development of relations with potential partners, as well as maintain current program systems and relationships with existing partners, in the context of program implementation, the sourcing of funds, capacity

building, dissemination of data and information, and the monitoring and evaluation of the HRRMP.

Enforce all laws of Hatohobei State, and conform his conduct to such Rules and Regulations of the Bureau of Public Safety and any future amendments as may be reasonably applicable, and to the terms of any Memorandum of Understanding as entered into between the State and the National Government concerning the enforcement of State or National laws in Hatohobei.

### **Specific Roles and Responsibilities**

The responsibilities and specific assignment of duties of this position cover the complaint operation and implementation of the HELEN REEF CONSERVATION AND MANAGEMENT PROGRAM, PALAU. As DEPUTY PROGRAM MANAGER/FISCAL OFFICER, duties/responsibilities/oversight will include:

1. Assist Program Manager dealing with relevant stakeholders to establish clear direction, strategic goals, and objectives for community-based conservation and resource management programs.
2. Work together with the Program Manager to play the lead role in meeting strategic goals and objectives collaboratively set by the Management Board and other program partners.
3. Developing multi-year fundraising strategies and goals and implement programs to ensure the continued financial viability and sustainability of the Helen Reef Program and community conservation support program, in general.
4. Maintain and implement payroll system for the Helen Reef Program Staff.
5. Locate appropriate Auditing institution to audit Helen Reef Program for effective and efficient performance.
6. Managing financial resources and program staff if applicable, with responsibility for performance management, training, and career development for local individuals.
7. Assist the Program Manger in supporting field activities and training, including resource monitoring, equipment maintenance, and logistical planning.
8. Assist the Program Manager in developing and implementing monthly, quarterly, and annual budgets, work plans, and prioritized actions and monitoring activities as necessary.
9. Assist the Program Manager in conducting regular consultations with local communities, collaborators, and regional colleagues to ensure that the work of HRRMP is adaptive and responsive to the needs and desires of stakeholders.
10. Maintaining and managing information and knowledge of the program with the assistance of others to ensure the achievement of program information goals, especially as related to program monitoring and assessment.
11. Assist Program Manager leading in compiling socio-economic data for the community that is relevant and necessary for the measurement of success of the Helen Reef Program.

12. Work with the Program Manager in developing program proposals and negotiating with local resource owners, stakeholders, donors, and national and state government representatives to achieve program goals.
13. To assist the Program Manager communicating with a wide range of people in order to develop, negotiate, implement, and/or promote programs and programs.
14. Carrying out incidental tasks as may be required from time to time, and with the concurrence of the HRRMP, that may include representing the HRRMP and partner networks and institutions in program activities and events, and other general matters related to the smooth implementation of the Helen Reef Resource Management Program.
15. Assist the Program Manager as a liaison between the Management Board and Program staff, partners, donors, stakeholders and other involved parties.
16. Operates the HELEN REEF RESOURCE MANAGEMENT in a sound and prudent fiscal manner for short- and long-term financial health.
17. Maintain internal financial reports sufficient to monitor the financial activity of HELEN REEF RESOURCE MANAGEMENT in accordance with all other financial policies.
18. Maintain internal controls as defined by the standards of the American Institute of Certified Public Accountants to provide reasonable assurance on the reliability of financial reporting, effectiveness and efficiency of the operation, and compliance with applicable laws and regulations.
19. Maintain internal controls as defined according to the generally accepted accounting principles (GAAP) audit requirements.
20. Will accurately prepare and file on a timely basis all reports, fees and documentation required by national and state government.
21. Will settle payroll and other debts in a timely manner.
22. Will aggressively pursue receivables after a reasonable grace period.

## **ADMINISTRATIVE ASSISTANT DUTIES**

### **Major Functions**

The Administrative Assistant will assist the Program Manager to maintain current administrative and financial records and book-keeping for the Helen Reef Resource Management Program, and will assist in providing logistical support to the enforcement division based on Helen Reef, including provisioning, supplies, communications, and finances.

### **Specific Roles and Responsibilities**

1. Maintaining and implementing the payroll system for Program Manager, Administration Assistant, Conservation Officers, Senior Conservation Officers and other Program Staff;
2. Maintaining current life and accident insurance for all Program staff members;
3. Assisting the Program Manager in dealing with relevant government offices and departments to maintain open lines of communication, achieve strategic goals, and objectives for community-based conservation and resource management activities;
4. Collaborating with the Program Manager to manage financial resources and program staff where applicable;
5. In partnership with the Program Manager, developing and implementing monthly, quarterly, and annual budgets;
6. Maintaining and manage information and knowledge of the program with the assistance of others to ensure the achievement of program information goals, especially as related to program finances, permits, fees and legal compliance;
7. Ensuring that the Helen Reef Program and other HRRMP programs complies with HRRMP and procedures and external legal regulations;

### **AWARENESS AND EDUCATION COORDINATOR**

#### **Major Functions**

Responsible to promote and raise education and awareness and understanding of the importance of conservation management of natural resources at Helen Reef to mainly key stakeholders, including community members, partners, and visitors.

#### **Specific Roles and Responsibilities**

The responsibilities and specific assignment of duties of this position cover the compliant operation and implementation of the HELEN REEF CONSERVATION AND MANAGEMENT PROGRAM, PALAU. As EDUCATION AND AWARENESS OFFICER, duties/responsibilities/oversight will include:

1. Develop a video documentaries on the Helen Reef program for education and awareness purposes;
2. Develop periodic summary reports on progress of HRRMP to the community through meetings, local media, newsletter, brochures, and internet;

3. Share stories of the Helen Reef program successes with the Hatohobei community through meetings and local media, and publishing of periodic articles;
4. In collaboration with the Program Manager and staff develop and implement monthly, quarterly, and annual report;
5. Maintain and manage information and knowledge of the program with the assistance of others to ensure the achievement of program communication goals and objectives;
6. Ensure that the Helen Reef Program and other HRRMP programs complies with HRRMP procedures and external legal regulations;
7. Develop and disseminate education and awareness materials about Helen Reef Resource Management program to community members and stakeholders.
8. Carry out incidental tasks as may be required from time to time with the concurrence and directives of the HRRMB and the management.
9. Conduct community outreach program about the Helen Reef Management Program.
10. Develop Helen Reef program website to promote the program to interested investors and donors.
11. Conduct talk show at the local radio broadcast and television stations about the Helen Reef program.
12. Coordinate and assist with the Hatohobei Summer Camp activities in Koror and Helen Reef.

## **CONSERVATION OFFICERS**

### **Major Functions**

The Conservation Officers will uphold all laws of Hatohobei State, and conform their conduct to such Rules and Regulations of the Bureau of Public Safety and any future amendments as may be reasonably applicable, and to the terms of any Memorandum of Understanding as entered into between the State and the National Government concerning the enforcement of State or National laws in Hatohobei.

### **Specific Roles and Responsibilities**

1. Participating in regular data collection on natural resources of Helen Reef, including but not limited to marine turtle, bird, fish, and invertebrate populations.
2. Carrying out routine patrols, and implementing surveillance and deterrence activities on and around Helen Reef during rotation periods at the Helen Reef Station.
3. Carrying out incidental tasks and participating in training and other work activities as may be required from time to time.
4. Supporting the communications and logistical needs of the Helen Reef Station when on rotation back in Koror, at the Helen Reef Resource Management Program workplace.

5. Ensuring that the Helen Reef Program complies with Hatohobei State, National and HRRMP policies and external legal regulations.
6. Assist in the sustainability aspects of the Helen Reef Program.

**SENIOR CONSERVATION OFFICERS**

**Major Functions**

The Senior Conservation Officers will uphold all laws of Hatohobei State, and conform their conduct to such Rules and Regulations of the Bureau of Public Safety and any future amendments as may be reasonably applicable, and to the terms of any Memorandum of Understanding as entered into between the State and the National Government concerning the enforcement of State or National laws in Hatohobei. In addition, and in their capacity as Senior Officers of the HRRMP Law Enforcement Division, they shall supervise the activities and actions of subordinate officers, maintain records of all police activities while on duty, and maintain the efficient and coordinated operation of the Law Enforcement Unit under their care.

**Specific Roles and Responsibilities**

In addition to the tasks required of the Conservation Officers, the duties and responsibilities of the Senior Conservation Officers will also include:

1. Supervising the activities and actions of subordinate Conservation Officers under their care.
2. Assuming responsibility for timely and accurate reporting and adequate maintenance of records regarding all aspects of law enforcement as required by the HRRMP, particularly with regard to vessel interceptions, boardings, apprehensions, arrests, evidence seizure, case handling and small arms use.
3. Maintaining and securing any small arms allocated to the enforcement unit at all times.
4. Reporting in a timely manner on all aspects of enforcement with respect to Helen Reef.
5. Assist in the sustainability aspects of the Helen Reef Program.

**APPENDIX TWO: POTENTIAL PARTNERS**

<b>National Partners</b>	
<b>Partners</b>	<b>Area of expertise and potential collaboration</b>

Palau International Coral Reef Center (PICRC)	<ol style="list-style-type: none"> <li>1. Participation in monitoring and in research on key questions</li> <li>2. Use of the research and meeting facility</li> <li>3. Education of community members and local and regional partners about the protection of Coral Reefs</li> </ol>
Palau Conservation Society (PCS)	<ol style="list-style-type: none"> <li>1. Education of community members and local and regional partners about the protection of Coral Reefs</li> <li>2. Develop of a socioeconomic monitoring plan that tracks human use of the reef</li> <li>3. Assistance in monitoring and bird survey</li> <li>4. Participation in monitoring and in research on key questions</li> </ol>
Coral Reef Research Foundation	<ol style="list-style-type: none"> <li>1. Monitoring and research</li> <li>2. Coral taxonomy</li> </ol>
Bureau of Marine Resources (BMR)	<ol style="list-style-type: none"> <li>1. Assistance turtle monitoring</li> <li>2. Development of hatchery</li> <li>3. Development of aquaculture</li> </ol>
Palau Community College –Community Research Extension and Continuing Education	<ol style="list-style-type: none"> <li>1. Participation in monitoring and in research on key questions</li> <li>2. Training in administration</li> </ol>
Ministry of Education	<ol style="list-style-type: none"> <li>1. Incorporate educational materials into school curriculum, one day a year present on Helen</li> </ol>
Hatohobei State Government	<ol style="list-style-type: none"> <li>1. Governance</li> </ol>

	<ol style="list-style-type: none"> <li>2. Staff time</li> <li>3. Funding</li> </ol>
Ministry of Justice	<ol style="list-style-type: none"> <li>1. Enforcement and enforcement training</li> </ol>
Office of the Attorney General	<ol style="list-style-type: none"> <li>1. Prosecution of violators</li> <li>2. Approval of enforcement Standard Operating Procedures</li> <li>3. Review of key documents and legal advice</li> </ol>
Palau Protected Area Network	<ol style="list-style-type: none"> <li>1. Protected Area standards and sustainable financing</li> </ol>
Division of Wildlife	<ol style="list-style-type: none"> <li>1. Enforcement training</li> </ol>
<b>International Partners</b>	
<b>Partners</b>	<b>Area of expertise and potential collaboration</b>
Micronesia Conservation Trust	<ol style="list-style-type: none"> <li>1. Technical advice, organizational development training, and funding</li> </ol>
The Nature Conservancy	<ol style="list-style-type: none"> <li>1. Technical advice</li> <li>2. Support on Research</li> <li>3. Potential funding support</li> </ol>
Pacific Islands Protected and Managed Area Community	<ol style="list-style-type: none"> <li>1. Training for Marine Protected Area.</li> <li>2. Support on socioeconomic monitoring</li> </ol>
Locally Managed Marine Area Network	<ol style="list-style-type: none"> <li>1. Support on socioeconomic monitoring plan that tracks human use of the reef</li> </ol>
U.S. Fish and Wildlife Service	<ol style="list-style-type: none"> <li>1. Enforcement training and funding</li> </ol>
U.S. Department of Interior	<ol style="list-style-type: none"> <li>1. Funding</li> </ol>

Society for the Protection of Spawning Aggregations (SPSA)	1. Monitoring of spawning and aggregation
University of Guam	1. Participation in monitoring and in research on key questions
Guam Department of Natural Resources – Enforcement Division	1. Enforcement Training and Support
Packard Foundation	1. Technical advice and funding
Marisla Foundation	1. Technical advice and funding
NFWF	1. Funding
OneReef	1. Technical advice and funding
Conservation International	1. Technical advice and funding

**APPENDIX THREE: ENFORCEMENT STANDARD OPERATING PROCEDURE (SOP)**

**HATOHOBEL STATE  
CONSERVATION OFFICER  
DETACHMENT**

**PLEASE NOTE THIS SOP WILL BE UPDATED IN MID 2012**

**STANDARD OPERATING PROCEDURES**



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HATOHOBEL STATE  
CONSERVATION OFFICER DETACHMENT  
HELEN REEF STANDARD OPERATING PROCEDURES

**(EDITION 1)**

**OUTLINE**

Helen Reef Conservation Officer Detachment Standard Operating Procedures (SOPs) is promulgated for guidance and direction where appropriate.

These SOPs have been developed to give guidance to the Helen Reef Conservation Officers allowing them to go about their duties with more effectiveness, efficiency and safety.

Nothing in these orders supersedes any instruction from a higher authority. If any inconsistency is found, these orders are to be disregarded to the extent of the inconsistency only, the instruction of the higher authority is to be followed and the inconsistency reported.

**AMENDMENT and CORRESPONDENCE**

Amendment of these SOPs will take place as the need arises and will usually take the form of an amendment to the applicable intranet site (if available), an email or computer disk and hardcopy. Any advice, errors or omissions, or any correspondence concerning these SOPs should be addressed to:

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## Distribution List

### 1 Hardcopy + 1 x 3.5" Disk to each of:

Minister of Justice, Republic of Palau  
Minister of Resources and Development, Republic of Palau  
Governor of Hatohobei State  
Director, Bureau of Public Safety  
Director, Bureau of Immigration  
Director, Bureau of Marine Resources  
Coordinator, Marine Environmental Enforcement Response Team  
Chief, Fish and Wildlife Division  
Chief, Marine Law Enforcement Division  
Base Commanding Officer Division of Marine Law Enforcement  
Commanding Officer PSS PRESIDENT H.I. REMELIIK  
RAN Maritime Surveillance Adviser for Palau  
Palau Maritime Authority  
Koror State Rangers  
Manager, The Nature Conservancy  
Palau Conservation Society

<b>CHANGE No.</b>	<b>DATE</b>	<b>INSERTED BY</b>	<b>SIGNATURE</b>	<b>DATE</b>
<b>Original</b>	<b>31 July 2003</b>			
<b>1</b>	<b>25 Mar 2004</b>	<b>M Guilbeaux</b>		

**CHANGE INSTRUCTIONS  
FOR  
HELEN REEF CONSERVATION OFFICER DETACHMENT  
STANDARD OPERATING PROCEDURES  
(HRCODSOP)**

1. Change to HRCODSOP is enclosed (both paper and 1 x 3.5 computer disk). 'Change bars' in the margins of pages highlight the changes, except where whole chapters have been re-issued.
2. Future changes to this publication will be provided in electronic form only.

REMOVE	INSERT

**INTRODUCTION**

1. Supervising Officers and Rangers serving in the Helen Reef Conservation Officer Detachment are responsible to the Governor of Hatohobei State and assume the duties of upholding and enforcing the laws of Hatohobei State.
2. They are also empowered to support and enforce Palau's National and Hatohobei State laws through a Memorandum of Understanding signed by each Supervising Officer and Ranger and the Ministry of Justice, Republic of Palau.
3. The protection of Palau's marine resources is vital to ensure sustainability of future generations to come. To achieve this goal successfully it requires constant surveillance and inspections of the Helen Reef Marine Protected Area and associated areas to deter illegal fishermen and personnel who intend to engage in illegal activity.

4. With well-planned surveillance techniques and constant vigilance, the Helen Reef Marine Protected Area will remain a safe and pristine environment for the people of Hatohobei and visitors to experience and enjoy.



## CHAPTER 1 - GENERAL

### *Detachment Nomenclature and Rank System*

1.1. The Helen Reef Conservation Officer Detachment (HRCOD) is comprised of two Supervising Officers and four regular Rangers. Standard Naval and other Maritime Patrol terminology refer to the commanding officer as the CO, and for the sake of consistency, the Supervising Officers of the HRCOD will be referred to as COs.

### *Responsibilities*

1.2. **Vessels in Distress Note:** The Helen Reef Conservation Officers are obliged (under international Law of the Sea protocols) to render assistance to any vessel sinking or in distress, *regardless of its type or nature of operations.*

1.3. If required to render such assistance Supervising Officers should seek immediate guidance from Office of the Governor/Ministry of Justice as to how to proceed further.

### ***Orders***

1.4. Orders from enforcement authorities (e.g., Hatohobei State Governor, Chief of Marine Enforcement) are to be read and understood by all members of the HRCOD within 72 hours of arriving at the Helen Reef Station. These orders are to be read in conjunction with any other orders or instructions issued by higher authorities.

### ***Identity Tags***

1.5. Personal identification (ID) tags should be worn at all times while at sea and by all personnel at all times in the event of any hostilities. COs are to ensure the ID tags are mustered periodically and checked for accuracy and legibility.

### ***Dress Standards***

1.6. A high standard of dress is required at all times. Clean and tidy uniform displays professionalism and engenders pride in the critical task you are performing.

### ***Alcoholic Beverages***

1.7. Embarkation or trading in alcoholic beverages is strictly prohibited. All loan, transfer, gift or barter of spirits or intoxicating liquor, or unauthorised embarkation of such liquor onboard the HRCOD Patrol Craft is prohibited.

### ***Flammable Fluids***

1.8. Lighter fluids and gases are not to be stowed in lockers or enclosed spaces within the HRCOD Patrol Craft.

### ***Work Planning***

1.9. CO's are to plan work lists with respect to planned maintenance requirements, defect rectification and cleaning duties.

## **CHAPTER 2 – SURVEILLANCE PREPARATIONS & ROUTINES**

### ***General***

2.1. In addition to the many other duties of the HRCOD, the Helen Reef Program also involves surveillance and deterrence of illegal fishing activities, Suspected Illegal Entry Vessels and illegal immigrants.

2.2. CO's and Rangers are required to participate in the National Surveillance Program, incorporating the policing of the Palau Exclusive Economic Zone/Fishing Zone for breaches in Fisheries, Customs, Immigration, Quarantine and Environmental Laws. As such, you should be prepared for operations against:

- a. Large Foreign Fishing Vessels (FFVs) operating individually or as part of a fleet;
- b. Smaller FFVs from Indonesia and Philippines;
- c. Suspected Illegal Entry Vessels (SIEVs);
- d. Suspected Illegal Immigrants; and
- e. Smugglers.

#### ***Daily Boat Checks***

2.3. In order to be prepared for sea at all times, the daily checks of the HRCOD Patrol Craft are to include:

- a. Engine trial/test (motor is to be run);
- b. Check fuel level;
- c. Battery inspection;
- d. Navigation light test; and
- e. Equipment inspection.

#### ***Tow Lines and Bridles***

2.4. Surveillance Patrols may result in the necessity to tow another vessel; as such the following equipment should be carried to manufacture tow lines and bridles as required:

- a. 20mm berthing plaid, or additional berthing lines for towing; and
- b. 20mm plaid for bridles.

#### ***Additional Lifejackets***

2.4 Whenever possible, additional lifejackets are to be embarked prior to operations likely to involve the towing of vessels, or carriage of crews of distressed vessels.

#### ***Radar Surveillance Equipment***

2.5 The Helen Reef Program has an enhanced surveillance capability with a Furuno Radar which has the following detection capabilities:

- a. Large steel hull vessels (container ships) out to 30-40 nautical miles (nm),
- b. Smaller fishing vessels/longliners out to 20-30 nm; and

c. Indonesian fishing vessels/Filipino bancas around the reef only < 15 nm.

2.6 The Furuno Radar (FR 8521) is rated to 64 nm. It has a 6.5 ft array, and is mounted on a 70 ft tower.

2.7 The unit operates on 115V AC and is powered by a generator.

### ***Radar Surveillance Routines***

2.8 To ensure vigilance and recording of the maritime traffic in and around Helen Reef and Hatohobei Island, a radar watch should be operated on four mandatory occasions each day. The radar should be turned on for 15-20 minutes at 0600, 1200, 1800 and 0001, all contacts should be recorded in the Radar Surveillance Log and plotted on the Helen Reef Chart. Consideration should be given to reporting and/or investigating any contact/s that may be suspicious in nature or committing an offence. The radar may be operated on any other occasion required if confirmation of sighting/s is required.

2.9 All reports of suspicious vessels or any vessel that is considered to have/about to commit an offence should be forwarded to the Marine Law Enforcement Division on the Communications Frequencies and/or telephone contact numbers in Chapter 7, Paragraph 7.6.

2.10 By reporting contacts to the Marine Law Enforcement Division (MLED), the MLED Vessel Monitoring System (VMS) Officer will be able to confirm almost immediately if the contact is licensed to fish in Palau waters, the name of the vessel, call sign and side number of the vessel.

**Note: Only fishing vessels licensed to fish in Palau waters can be tracked by VMS.**

2.11 The MLED Operations Officer will provide guidance on what action you should take in the event the contact cannot be identified on VMS. When passing information to the MLED Headquarters/Operations Room by HF or VHF, the Vessel Reporting Procedures (VRP) in Chapter 7, Paragraph 7.5 is to be used. The VRP allows all positions, courses and speeds to be encoded/decoded and in the event that other vessels/illegal operators are listening in on the same frequencies, they will not be able to understand the information passed.

### ***Physical Surveillance Equipment***

2.12 The HRCOD is currently equipped with:

- a. A 17 ft fibreglass skiff with a Yamaha 50 hp 4-stroke engine,
- b. VHF radio,

- c. GPS
- d. Depth/echo sounder,
- e. Bullhorn; and
- f. Safety equipment (life jackets, first aid kit, fire extinguisher, paddles).

2.13 Each Officer is equipped with:

- a. Utility belt,
- b. Handcuffs,
- c. Extendable ASP Baton,
- d. Flashlight holder/flashlight; and
- e. A handheld VHF radio to keep in touch with the HRCOD Patrol Craft.

**Note: In future months, it is intended for the Helen Reef Program to acquire a 27 ft. fibreglass catamaran. This will also be appropriately fitted with navigation, communications, law enforcement and safety equipment including EPIRB.**

*Physical Surveillance Routines*

2.14 The reliance on radar alone will not be sufficient to monitor the movement of personnel and vessels in and around the Helen Reef Area. It must be understood that radar does not always reflect wooden objects and is also affected by weather. Therefore it is a requirement to conduct physical surveillance routines to confirm/check vessel contacts and inspect the Helen Reef Marine Protected Area for personnel movement and illegal activity

2.15 Helen Reef should be circumnavigated every second day in the HRCOD Patrol Craft (weather permitting). Timings and direction for these physical checks should always be at different times on each occasion, this will ensure that anyone involved in any illegal activity is unable to confirm/monitor your routine or movements.

2.16 Any Trips to Hatohebei Island should be carefully planned and due consideration given to the weather. Any trip undertaken should be on a case-by-case basis, and as mentioned in the previous paragraph not set to any regular schedule/routine.

### ***Recording and Reporting***

2.17 In order to establish appropriate processes for surveillance activities it is essential that accurate recording/capturing of data be undertaken for ***all*** surveillance activities. The **Vessel Identification and Information Sheet** at Annex A is to be completed for all vessel sightings by the naked eye.

- a. **Radar Surveillance.** A Radar Surveillance Log is also to be maintained and kept with the radar. The following details should be recorded for each occasion of radar surveillance:
  - (1) Date and time of radar sweep,
  - (2) Weather conditions,
  - (3) Latitude and Longitude of all radar contacts,
  - (4) Assessed course/s and speed/s of the contact/s
  - (5) If no contacts are identified, note “No Contacts” in the log,
  - (6) Action taken for any contacts identified (e.g. boat sent to investigate, informed MLED).
  
- b. **Physical Surveillance.** A Physical Surveillance Log is also to be maintained by the CO. The following details should be recorded for each entry:
  - (1) Date and time of surveillance activity.
  - (2) Weather conditions.
  - (3) Impetus for surveillance: was this a routine physical surveillance process or was the physical surveillance prompted by a radar contact, other visual sighting, or request from Marine Law Enforcement Division Headquarters, etc.
  - (4) Any other information or matters of surveillance interest (see paragraph 2.18).

### ***Matters of Surveillance Interest***

2.18 When conducting any physical surveillance checks, it is important to maintain concentration and check anything that ‘does not look right’. The following list of activities/points of interest will assist in this process:

- a. Any activity indicating that an unauthorized entry or landing by sea or air may have taken place.

- b. Vessels or small craft capable of making ocean passage.
- c. Any fishing activity.
- d. Vessels in unusual locations for their type and size.
- e. Rendezvous between foreign vessels and Palau based fishing vessels.
- f. Sighting of vessels notified as MLED Vessels of Interest (VOIs).
- g. Aircraft activity of interest.
- h. Campsites in remote areas.
- i. Foreign fishing vessels whenever sighted.
- j. Discolored water or apparent oil pollution.
- k. Discharge, disposal or incineration of wastes at sea.
- l. Incidents suggesting the illegal import or export of drugs, animals, birds, plants or foodstuffs.
- m. Environmental damage.
- n. Persons suspected to be illegal immigrants.
- o. Suspected Illegal Entry Vessels.
- p. Interference with shipwrecks or the reef.
- q. Damage to navigation aids.
- r. Articles in the water that may constitute a hazard to shipping.
- s. Unusual or suspicious sea, land or air activity.
- t. Any activity, which suggests a possible breach of Palau and/or Hatohobei State law.

**HATOHOBEL STATE GOVERNMENT**

P.O. Box 1017 Koror, Republic of Palau PW 96940

Tel. (680) 488-2218, Fax (680) 488-5149

***Vessel Identification and Information Sheet***

Record Number:		Collector:	
Date:		Time:	
Latitude (degrees):		Longitude (degrees):	
Latitude (minutes):		Longitude (minutes):	
Vessel Name:		Number of Crew:	
Masters Name:		Masters Nationality:	
Company Name:			
Approached by:	National Patrol Boat	Vessel length:	<5 m
	Hatohobei State Officers		5m to 10m
	MV Atoll Way Crew		10m to 20m
			>20m
Country of Origin:	Indonesia	Purpose of Trip:	Commercial Fishing
	Malaysia		Shelter
	PNG		Transit

	Philippines		Scuba Diving
	Japan		Personal Fishing
	Palau		Sightseeing
	Taiwan		Vessel Repairs
	China		Other:
Vessel Type:	Longliner	Fishing Method(s):	Hook and line
	Banca		Cast nets
	Trawler		Long line
	Purse Seiner		Purse seine
	Dugout		Trawl
	Tourist Boat		Blast
	Dive Boat		Cyanide
Outcome:	Departed immediately		Departed next day
	Departed after 3 hours		Did not depart
	Departed after 6 hours		Master/Crew aggressive
	Departed after 12 hours		Gunfire exchanged
Notes:			

## CHAPTER 3 – BOARDING OPERATIONS

### *Foreign Fishing Vessel (FFV) Boarding Operations*

3.1. The following types of boarding operations may be conducted by the HRCOD:

- a. Investigative - where apprehension is not likely;
- b. Boarding to Apprehend - where a vessel has clearly committed an offence or has been reported committing an offence; and
- c. Multiple Boardings - where it is necessary to board several vessels in succession and could be either Investigative or Boarding to Apprehend in nature.

3.2. Consensual boardings of vessels outside the Palau Fishing Zone may occur (e.g. to inquire about ownership of nets inside the fishing zone), but must never be done without the consent of the vessel's master and no search or inspection of papers can take place without the master's approval.

### *Boarding Party Composition*

3.3. The composition of the Boarding Party (BP) will depend upon the nature of the operation. Recommended composition for most circumstances is provided in Table 1.

**TABLE 1: BOARDING PARTY**

<b>DUTY</b>	<b>PERSONNEL</b>	<b>WEAPONS</b>
Boarding Officer	Supervising Officer (CO)	Pistol, Baton
Witness	Ranger	Baton
Communications / Recorder	Ranger	Baton

### *Dress and Equipment*

3.4. Correct Dress for Boarding personnel is:

- a. Police Coveralls or Uniform Shorts/Police T-Shirt,
- b. Head Gear (Police baseball cap),
- c. Non-slip safety footwear,
- d. Webbing (handcuffs, baton, radio holders); and
- e. Lifejacket.

3.5. Boarding equipment is to be standardised for all boarding personnel. The following items are the recommended minimum for boarding members:

- a. Firearm (Supervising Officer only),
- b. Extendable ASP Baton,
- c. Knife (Clasp or boom knives only),
- d. Notebook,
- e. Pens/Pencils, and
- f. Torch/flashlight

3.6. In addition the following items are to be carried:

- a. By the Supervising Officer:
  - (1) Language cards.
- b. By the Communications Ranger:
  - (1) Camera and spare film, and
  - (2) Handheld VHF.

**Personal Safety Note:** In determining the equipment to be carried by Boarding Personnel, the CO must *never* allow the sacrifice of personal safety equipment for convenience or any other reason.

### ***Boarding Brief***

3.7. It may be impractical to conduct a comprehensive Boarding brief prior to each individual boarding operation due to time constraints. As such, it is recommended that a thorough Boarding brief, covering **all** aspects of boarding operations be conducted at regular intervals as determined by the CO.

3.8. A short operational brief that is specific to each individual boarding, should be conducted just prior to each boarding taking place.

3.9. The comprehensive brief should include but not be limited to:

- a. Rules governing the use of force,

- b. General situation based on:
  - (1) description of vessel(s)
  - (2) location of vessel(s) and history of vessel(s) movements
  - (3) recent intelligence/assessment of vessel activity
- c. Tasking (investigate or apprehend)
- d. Execution:
  - (1) single or multiple boarding
  - (2) expected co-operative or uncooperative type of boarding
  - (3) HRCOD Patrol Craft coxswain duties
- e. Administration:
  - (1) Importance of recording evidence/collection of evidence procedures
- f. Communications:
  - (1) with Hatohebi State Office/Ministry of Justice/Marine Law Enforcement Division
  - (2) synchronise watches
- g. Safety brief:
  - (1) weapon safety
  - (2) personnel safety/suspected hazards onboard vessel to be boarded

## **CHAPTER 4 – CONDUCT OF BOARDINGS**

### ***Duties***

4.1. The duties of the Boarding Party (BP) members are outlined in Table 4-I, the list is not exhaustive.

**TABLE 4 – I**

**BOARDING PARTY DUTIES**

<b>PERSONNEL</b>	<b>TASK</b>
CO (Boarding Officer)	Conduct initial investigation on Bridge with Master; examine vessel's papers and determine position. Commence collection of evidence. Initial search by Rangers will allow the CO to quickly witness any evidence
Ranger	Initially secure embarkation point. Then proceed with CO as the communications number.
Ranger	Muster crew on upper deck. Conduct visual inspection of upper deck, then conduct initial search below decks. Any crew-members found below deck are to be directed to the upper deck muster point.
Ranger	HRCOD Patrol Craft Coxswain

4.2. The BP should operate in pairs, where possible, to provide mutual support and as witness support in the event of subsequent legal proceedings. The communications number is to always remain with the Boarding Officer.

***Conduct of Search***

4.3. The Master of the Vessel must accompany the CO (Boarding Officer) when any search is conducted.

***Communications***

4.4. Communications between the Boarding Party and the HRCOD Patrol Craft should be passed out of earshot of the vessels Master and Crew if possible.

4.5. More specific communications detail is provided at Chapter 7.

***Marine Law Enforcement Division/Fish and Wildlife Officer***

4.6. If a Marine Law Enforcement Division or Fish and Wildlife Officer is embarked, the Officer is to be treated as the expert investigator and is to be the primary collector of all evidence. The Officer is to accompany the CO (Boarding Officer), but the CO remains in charge of the boarding.

***Onboard Hazards***

4.7. The Boarding Party must be cautious of hazards that may be present on the boarded/escorted vessel. Typical hazards that may exist include:

- a. All vessels:
  - (1) sharp items (i.e. fishing hooks, fish gaffs, knives, wooden splinters),
  - (2) bights in lines,
  - (3) slippery decks,
  - (4) weak or rotten railings,
  - (5) freezers, and
  - (6) communicable diseases (particularly those carrying illegal immigrants);
  
- b. Foreign Fishing Vessels:
  - (1) combination of low water-line/instability/no railings,
  - (2) Sodium Cyanide; and
  - (3) explosives.

***Multiple Boarding Procedure***

4.8. Occasionally there might be a requirement to board multiple vessels in rapid succession. The aim of the multiple boarding procedure is to:

- a. Permit the boarding of all vessels present in an efficient and timely manner;
- b. Ensure the integrity of the recording of evidence; and
- c. Maintain a high level of safety for all personnel, vessels and equipment involved in the boardings.

4.9. The CO (Boarding Officer) must assess the degree of compliance expected from the vessel/s when deciding to conduct multiple boardings. When belligerent or recalcitrant behaviour is encountered during the conduct of boardings, safety of personnel (own/other vessel) must always override all other considerations. The CO must be aware, however, that belligerent or recalcitrant behaviour in one vessel can quickly spread to others unless the offending vessel is quickly segregated and the situation recovered.

## **CHAPTER 5 - COLLECTION OF EVIDENCE**

### ***Foreign Fishing Vessel Prosecution***

5.1. To successfully prosecute a FFV the prosecutor needs to establish the following facts:

- a. The vessel is a foreign vessel;
- b. The vessel was inside the Palau Fishing Zone;
- c. The vessel was by definition fishing or had intended fishing; and
- d. The vessel did not have a license to fish in Palau waters.

### ***Evidence***

5.2. Hearsay evidence or conclusion drawn by the COs or Rangers is not admissible as evidence in Court. The Boarding Party will need to establish the above facts by observations and not by hearsay or by conclusions drawn.

### ***Observations and Evidence Recording***

5.3. Prior to Boarding all members of the Boarding Party should record the following observations in their notebooks:

- a. Weather conditions/sea state,
- b. Whether the vessel is making way or stationary,
- c. The state of fishing gear (deployed, inboard, hauling or setting),
- d. Crew activity (washing decks, ditching product overboard), and
- e. Type and size of their catch.

5.4. During the boarding all members of the Boarding Party should record the following observations:

- a. Vessel's activity at the time of boarding, and
- b. In the case of fishing vessels:
  - (1) status of the decks (i.e. wet, fresh fish on the deck, blood),
  - (2) status of fishing gear (wet nets or lines, baited lines and any gear missing); and
  - (3) other salient information (i.e., shark rattles, anchor covered in mud).

5.5. It is important that observations recorded include the basis for any evidence. For instance, fish may be determined to be fresh because the observer handled the produce to ascertain the texture, or may have seen the produce moving.

### ***Vessel Position***

5.6. The CO should use the GPS to record the vessels position in latitude and longitude. The CO can then provide evidence concerning the vessels position at that time. If this documentation is not done, the CO's evidence is hearsay and unacceptable in a Court of Law.

5.7. If available, a range and bearing taken from the Helen Reef Radar Station will also provide adequate evidence to substantiate the vessel's position in the Courts. Observations/estimation of the current may also be very important.

### ***Boarding Party Notebooks***

5.8 Generally, the only reference material an individual may use when giving evidence in a Court of Law

is from their notebook. As legal documents, notebook pages are not to be removed or used as a scribble pad. Notes are to be clear and detailed as personnel may be required to give evidence many months later using these notes as a reference. Any photographs taken are to be recorded in the photographer's notebook.

### ***Photographic Evidence***

5.9 Photographic records also provide important evidence for the prosecution of errant vessels. Any photographs taken are to be recorded in the notebook. Photographs should document:

- a. The vessel involved, particularly the:
  - (1) seaworthiness,
  - (2) navigation outfit,
  - (3) communications outfit,
  - (4) masters profile; and
  - (5) national flag.
- b. Fishing activity:
  - (1) fishing floats and lines (whether inboard or cast),

- (2) status of deck (wet, dry, bloodied); and
  - (3) catch (dead, live, type, freezers).
- c. Other illegal activity; and
- d. Gestures of non-compliance by the master:
  - (1) dangerous manoeuvres made towards the boarding boat,
  - (2) tactics used to deny access to the Boarding Party,
  - (3) sea state, and
  - (4) any incidents of ramming or attempts at ramming.

5.10 A photographic record should commence immediately it becomes evident that a vessel is not willing to comply with instructions to heave to. Photographs should document gestures of non-compliance.

#### *Seizure of evidence*

5.11 Items seized from an apprehended vessel are the personal responsibility of the CO. The items seized are to be listed in duplicate, and signed by the CO and the vessel's Master (where practicable). The items seized remain the responsibility of the CO until either:

- a. The apprehended vessel is handed into the custody of other government authorities, when the items are then passed to the relevant authorities and a receipt obtained; or
- b. The apprehended vessel is allowed to proceed.

5.12 For multiple boardings, it is recommended that all documents and equipment seized from individual vessels be contained separately and marked with the Master's and Vessel's name and if possible a photograph taken with the Master and the evidence. This will reduce the possibility of confusing evidence.

5.13 The following items should be seized for evidence, protection, and/or to prevent escape:

- a. Fishing licences;
- b. Vessels logs and papers;
- c. Navigational charts;

- d. Magnetic compasses;
- e. Crank handles; and
- f. Machetes, knives, clubs, and other weapons.

**Note: It is typical for Indonesian Vessels to have more than one crank handle.**

***Statements***

5.14 A copy of a boarding statement format is provided at Annex A. Statements will be required to be submitted as soon as possible after the event. It is strongly recommended that statements be written within six hours of boarding if possible, otherwise important detail may be forgotten.

5.15 All dates, times and positions should be doubled checked to ensure that no embarrassing mistakes are made.

**POLICE STATEMENT**

**Statement in the Matter of:** HRCOD FISHERIES BOARDING

**Place:** HELEN REEF

**Date:** 31 July 2003

**Title & Name in Full:**

**Date of Birth:**

**Place of Birth:**

**Residential Address:**

**Occupation:**

**Contact Phone No:**

**Statement:**

I, (INSERT YOUR NAME), am currently serving as a CO / RANGER (circle appropriate title) with the Helen Reef Conservation Officer Detachment. I have been a Conservation Officer since (insert date).

(All times are local Palau times)

**(Insert type of ship and area)** INDONESIAN VESSEL – HELEN REEF AREA

Give brief background information – were you told about the vessel or did you find it and when.

**For example: On 30 January I was ordered to proceed to investigate a sighting of a Fishing Vessels operating inside the Palau Fishing Zone north of Helen Island.**

**I did** (*explain what actions you took*):

**For example: I established the position of the Fishing Vessel as: (write the latitude and longitude if available or describe how close to the island the ship was.**

I saw / heard / smelt / felt .....

**The following weather conditions prevailed:**

**Wind:** Westerly at approximately 15 Knots

**Visibility:** 8 Nautical Miles

**Sea State:** 3

**Swell:** Westerly at 1 Metre

**Cloud:** Overcast, 8/10 of the sky was cloud

**Barometer:** 1006.1Hpa

Sign here

Write your name

CO or Ranger

Write the date of this statement

Witness to sign here

Name of Witness

CO or Ranger

Date of signature

## **CHAPTER 6 – APPLICATION OF FORCE**

### ***Resistance***

6.1. The HRCOD should be prepared to conduct the following Boarding Operations:

- a. Level One - Detailing little or no expectation to use force to secure control of a vessel during boarding, (Investigative Boarding).
- b. Level Two - Detailing a low expectation to use force to secure control of a vessel during boarding, with no expectation to use deadly force.

6.2. Resistance encountered during Boarding Operations may include:

- a. Refusal to heave to (passive),
- b. Refusal to start engine (passive),
- c. Pretending not to understand English (passive),
- d. Refusal to answer questions (passive),
- e. Jumping overboard (obstructive),
- f. Ditching or concealing evidence (obstructive),
- g. Providing false information (obstructive),
- h. Faking a lost man/hiding crew members (obstructive/belligerent),
- i. Feigning anger when given instructions (recalcitrant),
- j. Sabotaging engine (sabotage); and
- k. Attempts to scuttle the vessel (sabotage).

6.3. These actions may be encountered at any stage of the Boarding Operation and the Boarding Party must remain alert for any such action at all times. They must also be documented in the Police Officers Notebook.

### ***Use of Force***

6.4. Should members of a Boarding Party be threatened or attacked, they have the right to use force to neutralize the immediate threat to themselves or those whom they have a duty to protect.

**Note: When a vessel is apprehended, duty of care extends to protecting apprehended crew-members from the actions of their own crew-members or passengers.**

6.5. All means of self-defence short of the use of firearms should be exhausted first, and firearms should only be used as a last resort.

6.6. Personnel who use force in self-defence must be able to justify their actions at a later date.

6.7. The following principles are to be adhered with:

- a. **Justification** - there must be justification for each separate act of force and such an act should not continue longer than necessary to achieve the immediate aim.
- b. **Prevention not Punitive** - the only object of the use of force is to suppress actual disturbances or in self-defence. Force must never be applied for punitive intent or as a reprisal.
- c. **Minimum Force** - the amount of force used must be the absolute minimum necessary to achieve the immediate aim.
- d. **Legal Obligation** - members of the HRCOD must comply with the law and act calmly and impartially in doing so.
- e. **Evidence** - It is the responsibility of the CO present to record accurate evidence of any incident involving the use of force.

### ***Boarding Party Weapons***

6.8. The following rules apply to Boarding Party members with respect to weapons:

- a. CO's and Rangers must be well practiced in the 9mm pistol and Extendable ASP Baton to Palau Police Academy standards.
- b. Two full magazines of live ammunition are to be issued per weapon, one loaded and one in the ready use pouch.
- c. Weapons are to be holstered and not actioned. Safety catch on.
- d. Weapons are to be proved at the Ranger Station or on the Patrol Craft, *out of view* of the vessel(s) to be boarded, before and after every Boarding Operation.
- e. Weapons are **never** to be fired into the air or the sea to induce an action or reaction.

- f. Weapons (or hand signals indicating the employment of the weapon) are not to be used for threatening gestures unless there is intent to fire.
- g. Weapons are only to be actioned and aimed at a person when there is intent to fire.
- h. The Extendable ASP Baton **must** be issued with the pistol to allow the use of the force continuum.

6.9. A small arms practice is to be conducted for all members of the HRCOD while stationed on Helen Reef and who may be required to undertake Boarding Party duties, as soon as possible after arriving on station. This training is to be recorded in each member's Personal Weapons Training Log.

### ***Warning Shots***

6.10. The procedures for stopping a vessel may vary accordingly to the prevailing circumstances; however, the recommended graduated response, up to and including warning shots, is as follows:

- a. Using loud hailer, state ' You are to stop your vessel I intend to board you'.
- b. Indicate by hand signals to stop, by holding arm upwards with palm facing vessel and fingers splayed.
- c. Single shot from pistol, fired 20 feet ahead of the bow.
- d. Burst fire from pistol, fired 20 feet ahead of the bow.

**Note: At no time should the pistol be fired into the hull or superstructure of the vessel. Ricochets can kill.**

6.11. In all instances the Commanding Officer is responsible for ensuring the subject vessel is not imperilled by ordnance, paying particular attention to ricochet. Sea state and gun platform stability should also be considered when determining use and safe distance for automatic/burst fire.

### ***Stationing***

6.12. During the initial stages of any boarding, the HRCOD Patrol Craft should be positioned on the Starboard quarter of the vessel to be boarded. The CO should be aware of the possibility of gear extending out from a fishing vessel, which in the case of long liners could be in excess of 50 nm.

6.13. A Palau National flag should be hoisted (illuminated at night). All Personnel are to be dressed in the same uniform.

6.14. Once the boarding has been effected, the HRCOD Patrol Craft should lie off the boarded vessel by 10 metres, remaining visible to the CO at all times. The HRCOD Patrol Craft should keep the boarded vessel under surveillance at all times.

6.15. The CO should be mindful when approaching a vessel to be boarded at night that distance between vessels can be deceptive (especially when the vessel to be boarded is unlit).

#### ***Insertion During Underway Boardings***

6.16. Large fishing vessels such as longliners may need to continue making way to ensure they do not foul their gear. In such cases or when the vessel simply refuses to heave to, Boarding Party insertion will have to be conducted with the vessel making way; this is an underway boarding.

6.17. The CO must weigh the following factors in deciding to conduct an underway boarding:

- a. Prevailing weather and sea conditions,
- b. The type and size of vessel to be boarded,
- c. The degree of difficulty of access (i.e. freeboard height, accessibility etc),
- d. Crew numbers,
- e. The expected level of resistance from the crew; and
- f. Any instructions/orders issued by higher authorities.

**Note: The safety of the Boarding Party is always the prime consideration. A vessel should not be boarded if there is doubt of the safety of the Boarding Party.**

#### ***Boarding Party Withdrawal***

6.18. A standard codeword (e.g. **Pilcher**) to initiate evacuation and the evacuation point should be briefed by the CO (Boarding Officer) at the Boarding brief; the evacuation point will normally be the insertion point. If ordered, the Boarding Party should regroup and retreat to the designated evacuation point and depart the vessel via the HRCOD Patrol Craft.

**Note: At no stage should personnel consider jumping overboard as this may render them vulnerable to attack by the vessel's crew and possible attack by sharks.**

## CHAPTER 7 – COMMUNICATIONS

### *Communications Preparations*

7.1. The Communications number is to ensure that:

- a. Visual signalling equipment and navigation lights are in good order and available for use,
- b. The Palau National flag is available for use,
- c. Binoculars are available on the HRCOD Patrol Craft,
- d. VHF radio has been tested and is manned, and
- e. They are fully aware of the operational situation at all times and a good liaison between the HRCOD Patrol Craft and shore parties are maintained,

### *Communications with Merchant Shipping*

7.2. The quickest and most reliable form of communicating with merchant ships is to call on VHF Channel 16; most merchant ships will then change to Channel 6 or Channel 13. VHF Channel 16 should be monitored on the HRCOD Patrol Craft at all times whilst underway or at anchor.

### *Vessel Reporting Procedures*

7.3. To ensure vital positional information is not intercepted by illegal sources when transmitting on HF or VHF radio, it is prudent to encrypt all latitudes, longitudes, courses and speeds data. Listed below is an encode/decode matrix that enables coding of vital information to be passed to the Marine Law Enforcement Division (MLED). This matrix is restricted information and amended as required. A new encode/decode matrix will be passed to the HRCOD whenever an amendment is affected.

7.4. When passing positional information to the MLED, the position, course and speed (PCS) of all contacts are to be encoded as follows:

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
O	P	B	I	G	E	Y	T	H	R

**Example:** To encode the position 7° 04 North 153° 26 East = **TOG North PEIBY East**

7.5. The following Vessel Reporting Procedure (VRP) is to be used for all contact reports to the MLED:

**Helen Reef Conservation Officer Detachment VRP 1-2003**

- a. **Type of Vessel**
- b. **Latitude and Longitude**
- c. **Course**
- d. **Speed**
- e. **Local Time**
- f. **Any other remarks or recommendations**

**Note: A separate report is to be sent for each contact.**

*Call signs Allocated to Palau and the South West Islands*

7.6. The following Table of Call signs has been allocated. It should be understood that not all stations would be monitoring VHF/HF on a 24 hours basis. In the event you cannot make VHF/HF contact then you should consider gaining contact by telephone or any other available means.

<b>Designated User</b>	<b>Call sign</b>	<b>Remarks</b>
Patrol Boat	T8CP	PSS President H.I. Remeliik
Marine Law Enforcement Division Operations Room	T8D40	Tele: 488 5206 (VMS/OPS) 488 5339 (MSA Palau) Fax: 488 5042
Merir Island	T8A34	
Hatohobei Island	T8A35	

Sonsorol Island	T8A36	
Pulo Anna Island	T8A37	
Sonsorol State Office	T8A20	Meyuns
Hatohobei State Office	T8A21	Malakal
Hatohobei State Governor	T8A42	Echang Home
Sonsorol State Governor	T8A43	Echang Home
Oscar (from Merir)	T8A44	Echang Home
Hatohobei State Vessel	T8CH	MV 'Atoll Way'
Merir Island Dispensary	T8D34	
Hatohobei Island Dispensary	T8D35	
Sonsorol Island Dispensary	T8D36	
Pulo Anna Island Dispensary	T8D37	

Peleliu Island Dispensary	T8D38	
Belau Hospital Koror	T8D39	
Helen Reef	T8D41	HRCOD
FSM Operations Room (Pohnpei)	V6P54	Tele: 011 691 320 2384

## CHAPTER 8 – APPREHENDED VESSELS

### *General*

8.1. CO's are reminded they have a duty of care toward any vessel they apprehend and this includes the vessel's crew-members.

8.2. Once a vessel is to be apprehended, a decision whether to tow or escort that vessel to a designated point must be made. Considerations will include the:

- a. State of the vessels propulsion,
- b. Suitability of the vessels structure for towing,
- c. Prevailing and anticipated weather conditions (especially typhoons); and
- d. Potential for Boarding Party fatigue on long passages.

8.3. Generally, if the vessel can maintain a Speed of Advance (SOA) greater than six knots then an escorted passage should be conducted. However, where the distance to port / handover rendezvous is short, it still may be prudent to escort slower vessels.

### *Assessing A Vessel For Tow*

8.4. To enable a thorough assessment, the CO and Ranger should assess the capability/tenderness of the vessel to be towed.

8.5. The assessment should cover:

- a. The structural integrity of the vessel,
- b. The engineering condition of the vessel,
- c. The stability of the vessel; and
- d. Prevailing and anticipated weather conditions.

8.6. **Structural Integrity.** A careful inspection of the vessel, particularly the area in the vicinity of the towing point, should be made to assess the integrity of the vessel. The following checks should be conducted:

- a. Bilge inspection:
  - (1) level of bilge,
  - (2) ingress rate of water into the bilge,
  - (3) condition and effectiveness of fitted bilge pump / baling devices, and
  - (4) viability and effectiveness of embarking a portable pump;
- b. Hull inspection:
  - (1) soundness of timbers (presence of any rot or wood borers),
  - (2) condition of hull fastenings (tree nails or timber dowels, untreated mild steel bolts or nails), and
  - (3) condition of hull caulking (the majority of Fishing Vessels use rolled bark from the paper bark tree and although this appears to be a suitable caulking material, it does not last long); and
- c. Bow and possible towing points for strength and suitability.

8.7. **Engineering Assessment.** The following inspections are recommended:

- a. Steering gear inspection:
  - (1) Type - rope or other,
  - (2) condition of steering gear (worn / rotten), and
  - (3) requirement to lash steering gear for tow;

- b. Engine and drive arrangement inspection:
  - (1) serviceability of engine,
  - (2) condition of stern tube, and
  - (3) option for trailing / securing shaft.

8.8. **Stability of Vessel.** An unstable vessel is liable to founder and sink whilst under tow. In assessing the stability of a vessel, the following should be considered:

- a. The vessel's overall size,
- b. The reserve buoyancy of the vessel (e.g. watertight volume above the waterline),
- c. Stowage arrangements for cargo, stores, equipment and personal effects,
- d. Whether it is possible to improve stability prior to towing the vessel by:
  - (1) Reducing topweight,
  - (2) reducing any free surface liquids,
  - (3) defuelling or removing any other liquids; and
  - (4) ballasting the vessel to make it more stable.
- e. Are there ship stresses that can be avoided or reduced? e.g. shear forces and bending movements can be reduced if the load onboard a vessel is redistributed,
- f. The freeboard of the vessel and whether the vessel has a list or loll,
- g. The beam of the vessel,
- h. The period of roll of the vessel - a large righting moment will produce a rapid roll indicating good stability and a sluggish roll will indicate poor stability; and
- i. The stability of the vessel during movement of the Vessels crew and Boarding Party over the vessel.

### ***Weather Conditions***

8.9. Weather conditions, particularly the size of the sea/swell, will have a bearing on the suitability of a Vessel to survive a tow. Fishing Vessels are designed to ride over waves, yet a tow will tend to pull a Fishing Vessel through the waves, thus the size of the sea/swell is critical.

In addition to prevailing weather conditions, predicted weather conditions (using all available resources) should be carefully studied to assist in making the best possible assessment.

8.10. **Tropical Storms.** Early warning of Tropical Storm activity is vital. CO's are to be mindful of developing Tropical Storms and the danger they pose to Vessels under tow/escort.

## **CHAPTER 9 – DISPOSAL OF UNSEAWORTHY VESSELS**

### ***Unseaworthy Vessels***

9.1. If during the tow or escort concern develops as to the sea worthiness of the vessel under tow or escort, the following options are available in the case of:

- a. Towing:
  - (1) slip tow and commence escort,
  - (2) relocate all crew-members to HRCOD Patrol Craft and continue tow, or
  - (3) relocate all crew-members to HRCOD Patrol Craft and sink the vessel.
- b. Escorting:
  - (1) reduce vessel manning to a minimum and continue escort,
  - (2) relocate all crew-members to HRCOD Patrol Craft and sink the vessel.

**Note:** In the case of any of these options, Palau Government Authorities should be informed as soon as possible.

### ***Disposal of Apprehended and Forfeited Vessels at Sea***

9.2. Disposing of Fishing Vessels or Suspected Illegal Entry Vessels is a dangerous operation requiring careful planning and execution. The decision on the exact method of disposal always remains with CO; however, recommended methods for disposal of these vessels are;

- a. Holing the keel,
- b. Firing into the vessel with machine guns and/or main armament,
- c. Setting fire to the vessel,
- d. A combination of the above, or
- e. Towing the vessel at speed to break it up.

9.3. It is well documented that holing the hull of a vessel and/or firing into them will often leave an air pocket trapped in the vessel's coach house. This air pocket and the inherently buoyant materials used in the construction of these vessels, often results in the vessel partially sinking and creating a hazard to navigation. It is recommended that the coach house roof, or any compartment that adds to buoyancy, be holed on top. If the vessel is beached or anchored in the vicinity of a beach, it is advisable to add weight to the vessel by ballasting the vessel with sand. Success in sinking vessels so configured has been achieved by towing the vessel at speed or attaching a line and manoeuvring to cause the vessel heel over.

## **CHAPTER 10 – ILLEGAL ENTRY VESSELS & ILLEGAL IMMIGRANTS**

### ***IMMIGRATION LAW ENFORCEMENT***

#### ***Introduction***

10.1. The Bureau of Immigration through the Ministry of Justice is the primary agency for enforcing Palau's immigration law and administering the relevant policies and programs. As part of the HRCOD support to the surveillance mission, HRCOD may be requested to:

- a. Locate and identify vessels on the high seas;
- b. Intercept a Suspected Illegal Entry Vessel (SIEV) reported from another source such as the Marine Law Enforcement Division; or
- c. Escort a SIEV or to provide transport services to suspected non-citizens who have been intercepted at sea or who have already landed on Palauan territory.

#### ***Jurisdiction***

10.2. There is a substantial body of international and domestic law and practice relevant to immigration law enforcement. The following is a brief overview of the more important international and domestic law considerations relating to immigration law enforcement in the maritime environment.

#### ***International Law Considerations***

10.3. Both customary and treaty international law principles give a coastal State sovereign authority over its territorial seas, including the right to regulate admission of non-citizens. It is a fundamental legal principle accepted in international law, that, as a natural incidence of national sovereignty, the Palau Government might determine:

- a. Which non-citizens can gain entry to Palau,

- b. The conditions under which such non-citizens are admitted or permitted to remain in Palau; and
- c. The circumstances under which such non-citizens may be deported or removed.

10.4. Accordingly, Palau has a right to refuse entry to any particular individual. It follows then, that coastal nation authorisation must be sought prior to bringing an individual into that nation. There are generally two restrictions on a nation's authority to exclude individuals based on international treaty obligations:

- a. Mariners rescued at sea are brought to the nearest safe port; and
- b. In cases where any vessel is intercepted and there are concerns for the safety of the crew and passengers (vessel's poor seaworthiness or lack of water/food stores), you are guided by Article 98 of the United Nations Convention on the Law of the Sea (UNCLOS). You are to render assistance and deliver individuals to the nearest safe port.

***Encounters with SIEVs and illegal immigrants***

10.5. HRCOD may encounter ships carrying suspected illegal immigrants inadvertently or they may be located and reported by another source (such as Marine Law Enforcement Division) and HRCOD may be requested to investigate. Boarding policies and procedures, including the Use of Force and Boarding Party safety as outlined throughout these Standard Operating Procedures are still applicable.

10.6. If during the course of Boarding Operations, a Search and Rescue (SAR) incident or an investigation of an offshore island or reef, a HRCOD encounters illegal Immigrants who state they desire to enter Palau, the Bureau of Immigration (Ministry of Justice) is to be informed. Directions and guidance on the actions the CO is to undertake will be based on the circumstances of the incident. COs should await these instructions before embarking possible illegal immigrants unless there are safety or health concerns that make immediate action necessary. While safety or health concerns are a top priority, care should be taken to ensure that such matters are not used as a pretext for bringing into Palau people unaffected by such concerns.

10.7. There are a number of different actions a CO may be required to take. The key factors are where the vessel carrying the suspected illegal immigrants is sighted, how much information is known about the vessel before any boarding occurs, where the illegal immigrants may be from, and where they are thought to be going. The following tasking may occur:

- a. Intercept a ship carrying suspected illegal immigrants in the Palau Exclusive Economic Zone (PEEZ) to determine whether there are any safety of life at sea

issues. The master is to be questioned to establish origin, intentions and whether the vessel is carrying human cargo. If the vessel is of Indonesian origin with illegal immigrants embarked then a warning advising the penalties for people smuggling is to be issued to the master and crew. The Boarding Party is to then stand off and pass the information to Palau Government Authorities.

- b. Intercept a vessel carrying suspected illegal immigrants that has entered Palau's territorial waters. Intentions of the people onboard the vessel is to be ascertained and passed to Palau Government Authorities.

***Investigation of Suspected Illegal Immigrants Already Ashore.***

10.8. Where a vessel carrying suspected illegal immigrants has come ashore on Palauan territory, the HRCOD may be asked to pick up the illegal immigrants and bring them to a dedicated position or port of entry. In these instances it is desirable to detain the crew who transported the illegal immigrants as the crew is in breach of the Law for bringing illegal immigrants to Palau without authorisation and may be prosecuted.

***Issuing of a Warning Concerning People Smuggling Penalties***

10.9. When a SIEV is located the following questions should be asked (to the extent language ability permits):

- a. Name and nationality of vessel,
- b. Name and next port of call of the vessel,
- c. Name of master, date of birth and nationality,
- d. Cargo on the vessel; and
- e. Purpose of the voyage.

10.10. If the vessel is an Indonesian origin vessel and it is suspected that the purpose of the voyage is to bring illegal immigrants to Palau, a warning concerning people smuggling penalties should be passed to the SIEV master (this warning is not to be issued to the illegal immigrants). The HRCOD Patrol Craft should then stand off and monitor the vessel.

***Aggressive Behavior***

10.11. If at any time during the SIEV operation it appears violence may occur or threats are made particularly between the illegal immigrants and SIEV crew, the CO (Boarding Officer) has the authority to take control of the vessel and crew if this is necessary to prevent the commission of a crime or provide for the safety of others. The Use of Force continuum should be followed.

### ***Health Concerns and Precautions***

10.12. In the course of personal interaction with illegal immigrants, there is always the risk of coming in contact with individuals who are carriers of infectious diseases. Illegal Immigrants may be carriers of the Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immunodeficiency Virus (HIV), Tuberculosis (TB) or Influenza. Transmission of these infections in most cases is through the exchange of blood or body fluids. The CO should ensure all HRCOD personnel are educated in the risks and dangers involved. Care must be taken in all situations and minimum precautions should include:

- a. **Immunisation:** Personnel who could possibly come in contact with illegal immigrants should have the appropriate immunisations.
  
- b. **Gloves:** Gloves are to be worn:
  - (1) Anytime an illegal immigrant is touched or handled,
  - (2) Anytime personal effects, including clothing of an illegal immigrant are handled,
  - (3) When handling or attending to bedding and ablution facilities used by illegal immigrants; and
  - (4) When feeding illegal immigrants or handling used cutlery.
  
- c. **Personal Hygiene:**
  - (1) Hands are to be washed immediately with soap and water after removing gloves. Gloves are to be used only once and then discarded.
  - (2) For all HRCOD personnel, greater attention should be paid to cleanliness, including washing hands before eating and before coming in contact with the mouth area. Of particular risk are smokers who can transfer infections from their hands to the cigarette to their mouth.
  - (3) If uniform/overalls or other clothing is contaminated with blood, secretions or excreta they should be changed and washed as soon as practicable.

## **CHAPTER 11 – GUIDELINES FOR REPORTING SUSPICIOUS VESSELS**

### ***Guidelines for reporting suspicious vessels - Merchant and Fishing***

11.1. Details of vessels that operate within Palauan waters, and appear suspicious, should be recorded when sighted. In the event the vessel is later reported for conducting illegal activity, your records may be of assistance and should be reported to the Government Authority concerned. A vessels' name is obviously the best form of identification available. However, the following guidelines are to be used for describing a vessel when its name or registration number is not legible or is unreadable.

### ***Reports***

11.2. Notwithstanding the fact that the letters of the ship's name cannot be read, it is still very important to report what can be observed of the vessels name. For instance report the total number of characters and the number of words. Report also, the partly readable characters and indicate their place within the word or name. Try to draw the Chinese, Japanese, Korean, Thai, Cyrillic characters, and describe them if possible.

11.3. The descriptive reports should provide sufficient detail such that the recipient of the information may be able to sketch a good likeness from the details offered.

11.4. The format for the report should be in accordance with the VRP as detailed at Chapter 7, Paragraph 7.5.

### ***Appearance***

11.5. The report should commence with a statement of the general appearance of the ship. Choose from the following categories:

- a. Merchant ships,
- b. Fishing vessels,
- c. Yachts,
- d. Pleasure craft,
- e. Research vessels,
- f. Naval vessels; and
- g. Miscellaneous vessels.

### ***Large and Small Ships***

11.6. The description differs for large and small ships. The small ship report (in the remarks section) should contain:

- a. **Hull profile:** choose from flush, raised bow and stem, stepped down stern and raised stern,
- b. **Mast arrangements:** Indicate position and their relation to bridge structure, if any,
- c. **Bridge house:** Indicate position and relation to amidships,
- d. **Funnel type:** Long, short, none and where in relation to bridge (see Annex A); and
- e. **Special features:** Bow shape, stern shape, boats, radar, aerials, color, flags, and articles visible on deck etc.

11.7. The large ship report (in the remarks section) should contain:

- a. **Superstructure Appearance** - Choose from:

- (1) Large, long superstructure,
- (2) Amidships superstructure,
- (3) Split superstructure; and
- (4) Superstructure aft or nearly aft.

- b. **Hull profile** - Choose from:

- (1) Flush, or
- (2) Raised sections (islands), such as:
  - (a) Raised bow (raised one),
  - (b) Raised amidships (raised two), and
  - (c) Raised aft (raised three).

**(Note: All of these combinations are possible)**

- c. **Sequence of uprights** - Report the sequence from the **front** of the ship:

- (1) M, for mast,
- (2) K, for kingpost,
- (3) F, for funnel; and
- (4) C, for crane.

d. **Length** – Report estimated length of vessel in meters.

***Fishing Vessels***

11.8. Report the features of the fishing vessel as they determine the kind of fishing that is being carried out. Use terms such as, stern ramps, stern gantries, and catwalks (specify if over forward or aft well deck). Report any conveyor belts, mechanical poling devices along the rails, heavy booms with a single conspicuous block at the outer end, large vertical rollers (specify numbers) at the rail or stern, large skiff on stem ramp, racks outboard along the sides or at the stem of the vessel.

***Remarks***

**11.9.** This part of the report allows the observer to elaborate on any aspect relating to the description of a vessel. It is important to keep the information relevant and to the point.

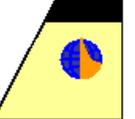
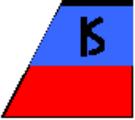
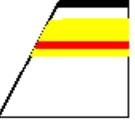
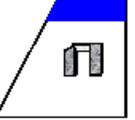
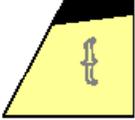
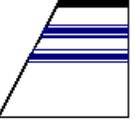
Commercial Vessel Funnels



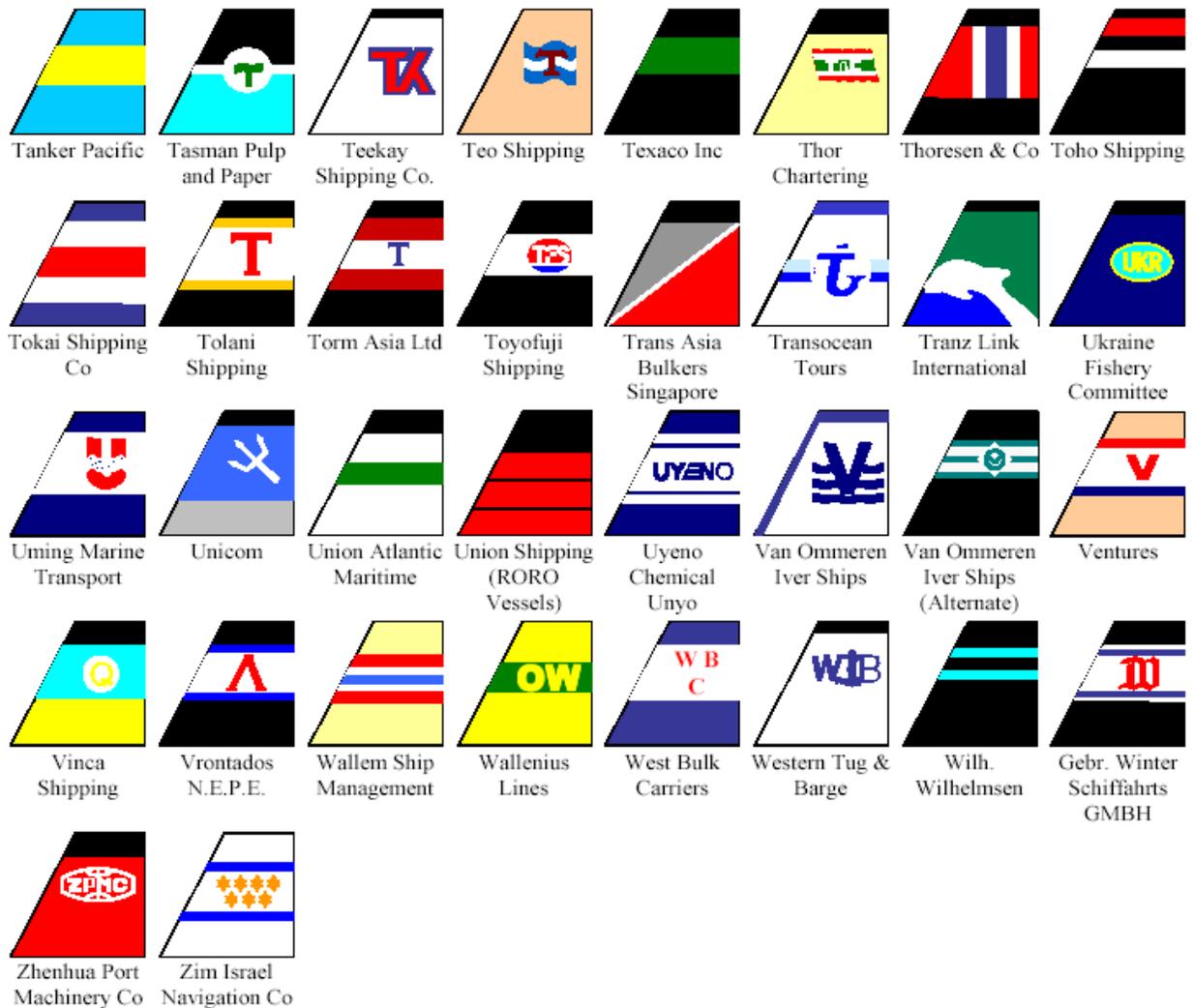
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Deutsche Seetouristik Rostok	Dyvi Ships	Eastwind / Cool Carrier Joint Venture	Eastwind Transport Ltd	ECAM (Owned by Schulch)	Egon Oldendorff	Elite Shipping	Eurasia Shipping
Exmar	Far East Shipping	Fenwick Shipping Services	FESCO Lines	FH Bertling Rederei	First Eastern Ship Management	Gearbulk UK Limited	Grimaldi Group
Hachiuma Steamship Co	Hai Xing Shipping	Hanjin Lines	Hapag-Lloyd AG	Harren & Partner	Helveco Marine	Hinode Kisen Co	Hong Kong Min Wha
Hyundai Merchant Marine	Hyundai Merchant Marine	Ino Marine Service	IMC Shipping Co	Intercontinental Ship Management	Inui Steamship Co	Islamic Rep. of Iran Shipping Line	Island View Shipping
J Lauritzen A/S	Jepsens International	John C Hadjipateras & Sons	Jupiter Maritime Corporation	Kamchatka Shipping	Kawasaki Kisen Kaisha (K Line)	Kyowa Shipping Co	Kumiai Navigation Co
Lasco Shipping	Lihai International Shipping	Lorentzens Skibs A/S	A.P. Moller Maersk	Mainstream Shipping Co	Malaysian Int'l Shipping Corp	Marfret Compagnie Maritime	Marine Ace Co Ltd
MC Marine	MC Marine (Alternate)	MC Marine (Alternate 2)	Mediterranean Shipping Company	Meteor Navigation Ltd	Mitsui OSK Lines	Mobil Oil Corp	Mobil Oil Corp (Alternate)
Naftomar	National Navigation Company	National Shipping Agency	Navix Line	Nedlloyd Lines	Nepline Berhad	Neptune Orient Line	Neptune Shipping

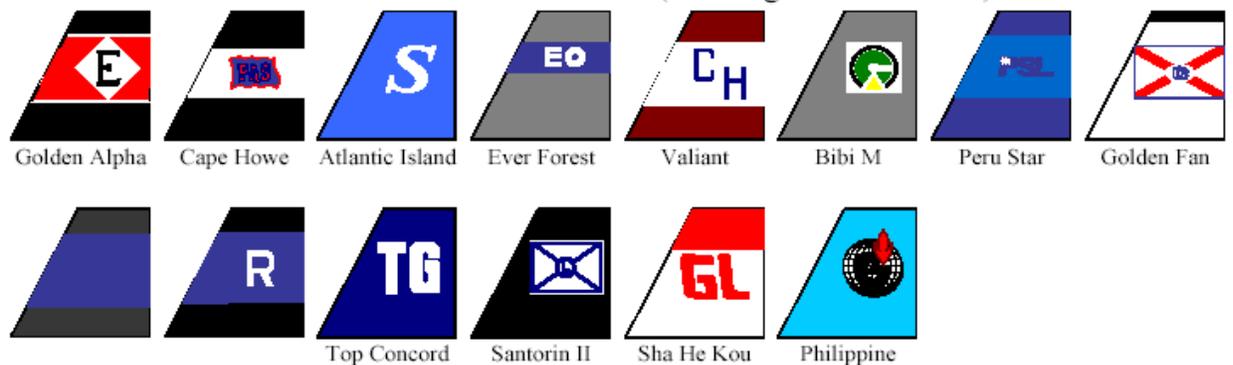
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Niederelbe Schiffahrtsgesellschaft Buxtehude	Nippon Yusen Kaisha (NYK Line)	Nissos Amorgos Shipping	Norden	Nordwelle Navigation	Norwegian Cruise Lines	Novarossiysk	NYK Bulkship (Alternate)
							
Ocean Towing & Salvage	Oceanbulk Maritime	Oceangas	Odfjell Tankers	Olympic Agencies	Omi Marine Services	Orient Overseas Container Lines	Orix Maritime Corp
							
P & O Cruises	P & O Containers	P & O Nedlloyd	Pacific International Line	Pacific International Line (Alternate)	Pacific Orient Sea Transport	Pacific Ship Managers Sdn Bhd	Pacific Tramp Operation
							
Pacific Towing	Pan Malaysian Marine Services	Pan Ocean Shipping Co	Princess Cruises	Queensland Cement Ltd	Queensland Tug & Salvage	Regional Container Lines	Rieber Shipping A.S.
							
Riverside Marine	Royal Caribbean Cruise Line	Ruby Ray Shipping Corporation	Samudera Denholm Ship Management	Sanko Steamship Co	Santana Line	Bernhard Schulte	Seaboard International
							
Seatrade Group	Seatrade Group (Alternate)	Shekou Sea Shipping	Shell Petroleum (Old Style)	Shell Petroleum	Shin-Wei Navigation Co	Shipping Corporation of Polynesia	Shokuyu Navigation
							
Showa Line	Silver Fern Shipping	Silversea Shipping	Sino Marine	Sofrana Unilines	Southern Route Maritime	SovComFlot	Spliethoff's
							
Star Shipping A.S.	Stelmar Tankers	Stolt Parcel Tankers Inc	Sun Enterprises (Owned by Livranos)	Sunny Shor Shipping Finance	Svendsborg Enterprises	Swire Shipping	Tai Cheng Steamship Co

11A-4



**Funnels Identified But No Owner Established (Vessel given - if known)**



#### 4. Annex Four: Helen Reef Monitoring Methods

Monitoring addresses the status of coral cover (live coral, dead coral and others), important commercial fish and turtle populations, and commercially important invertebrate populations such as trochus, clams, and sea cucumbers.

In order to be able to repeat the same study year after year, it is imperative that the reef monitoring surveys are standardized. By being able to compare over years, the management authorities will be able to determine if any changes in substrate or marine resource resources take place. The monitoring makes use of standard AIMS-ASEAN methodologies for target fish and invertebrate (animals without a backbone) counts, and slightly modified Reef Check methods for coral and other substrate status.

Monitoring is carried out at as many stations as possible following the locations delineated in Table I. During each dive surveys are carried out for substrate type, fish abundance and invertebrates. All three surveys have been easily carried out consecutively by teams of four divers using SCUBA gear, resulting in four to five replicates of fish, invertebrate and substrate composition for each depth at each location. Each diver has to lay out a 50 m fiberglass tape measure, calibrated in 1 cm intervals, at depths of 10 m, 5 m or 0-1 m. Typically, survey team members then count fish, then record substrate type, and then invertebrates at one depth (10 m), following which they move shallower (5 m) and repeat the same process. On each dive an additional team member can snorkel and collected data for the 0-1 m range. Fish should be counted first as they move around and cannot be counted in the transect zone if the diver has been there for a long time (i.e. when the fish have been scared / disturbed and leave the area).

It is important to note that the methodology may be altered and adapted in future years to provide additional information as deemed necessary by the community, so long as it can always be compared with previous year's data in a meaningful manner.

**Table I: GPS location data for each survey site, as determined during the 2002 expedition.**

2002 Names	2000 Names	Text location
9	9 (north)	2° 50.53' N; 131° 45.35' E
10	10	2° 52.23' N; 131° 44.65' E
11	11	2° 58.11' N; 131° 48.75' E
15	15 (out)	2° 56.17' N; 131° 46.05' E
19	19	2° 52.37' N; 131° 44.56' E
20	20	2° 52.81' N; 131° 45.33' E

21	21 (out)	2° 51.46' N; 131° 43.75' E
22	22	2° 50.66' N; 131° 45.73' E
28	28	2° 48.08' N; 131° 44.56' E
29	29	2° 50.72' N; 131° 48.58' E
30	30	2° 57.13' N; 131° 50.54' E
31	30 (in)	2° 57.17' N; 131° 49.44' E
32	21 (in)	2° 51.40' N; 131° 44.24' E
33	22 (b)	2° 50.22' N; 131° 45.57' E
34	22 ©	2° 50.53' N; 131° 45.35' E
35	29 (in)	2° 50.70' N; 131° 47.72' E
36	9 (south)	2° 52.29' N; 131° 44.07' E
39	H1/T3	2° 53.36' N; 131° 52.57' E

### **Fish Counts**

The 50m tapes are laid on the reef flat or perpendicular to the shoreline underwater, and the observer must then wait for three (3) minutes for the fish to behave normally after being disturbed during the laying of the tape. After the wait, the observer starts from 0 m and checks an area extending 2.5 m on each side of the tape. This equates to a total of a 5-meter width x 50-meter length, which equals 250 sq. meters, an easy figure to use in calculating average densities. The following animal groups are counted in the fish surveys, after being identified by community members as having significance to Hatohobei people: Groupers (classified as small, medium, and large), humphead wrasse, humphead parrotfish, green turtles and hawksbill turtles. Analysis of fish counts are then carried out by averaging the results of each individual survey, whether the relevant individuals are recorded or not.

### **Substrate**

The substrate (bottom type) is surveyed by direct visual observation to determine the extent of live coral cover. Counts are to be done using the same 50 meter tape starting by recording the substrate type under the marker point at 0 meter, and at every 0.5 meter interval thereafter, stopping at 19.5 meters and then starting again at 25 meters and continuing to 44.5 meters. Each 0.5 m interval represents one substrate sample, including the one at the 0 meter record; the 0.5-meter mark is the second point, and so on down to 19.5 meters for a total of 40 substrate type

counts between 0 and 19.5 meters. Similarly for the 25 to 44.5 meter band, for a combined total of 80 substrate type counts. Substrate is designated as hard coral (HC), soft coral (SC) fleshy seaweed (FS), recently killed coral (RKC), rubble (RB), rock (RC), silt/clay (SL), sand (SD), sponge (SP), and others (OT).

### **Invertebrate Counts**

Invertebrate counts are done on the same 50-meter line after the fish and substrate surveys. In this survey a two-meter band is observed, extending one meter on either side of the 50 m tape resulting in an area of 100 sq. meters of area observed in each sample. This smaller width is used so that the observer can clearly see all the organisms on either side of tape. Occurrences of clams, sea cucumbers, trochus, sea urchins, and crown of thorns are to be recorded. Analysis of invertebrates counts are also then carried out by averaging the results of each individual survey, whether the relevant individuals are recorded or not.

### **Turtles**

Monitoring the populations of nesting turtles is carried out on a daily basis by the Conservation Officers stationed on Helen Reef, with additional in-water surveys carried out during the general natural resource surveys.

### **Birds**

Currently the program undertakes an annual population census of the bird species at Helen Reef. However, the program is also considering the initiation of a daily monitoring program. This would help to better understand the seasonality of the migration of birds that use the island. While it is impractical to count all members of a population, Conservation Officers should keep not on general size of the main resident populations, and the arrival and departure dates, species and numbers of migratory birds.

### **Data Management and Analysis**

Much of the data that is collected during the extensive surveys on Helen Reef can be used to make sound decisions on population sizes, which can be reinterpreted in terms of allowable fishery quotas. Long-term collection of data (over a period of years) can suggest trends in population size, recruitment and mortality, and will assist with decision-making at a community level.

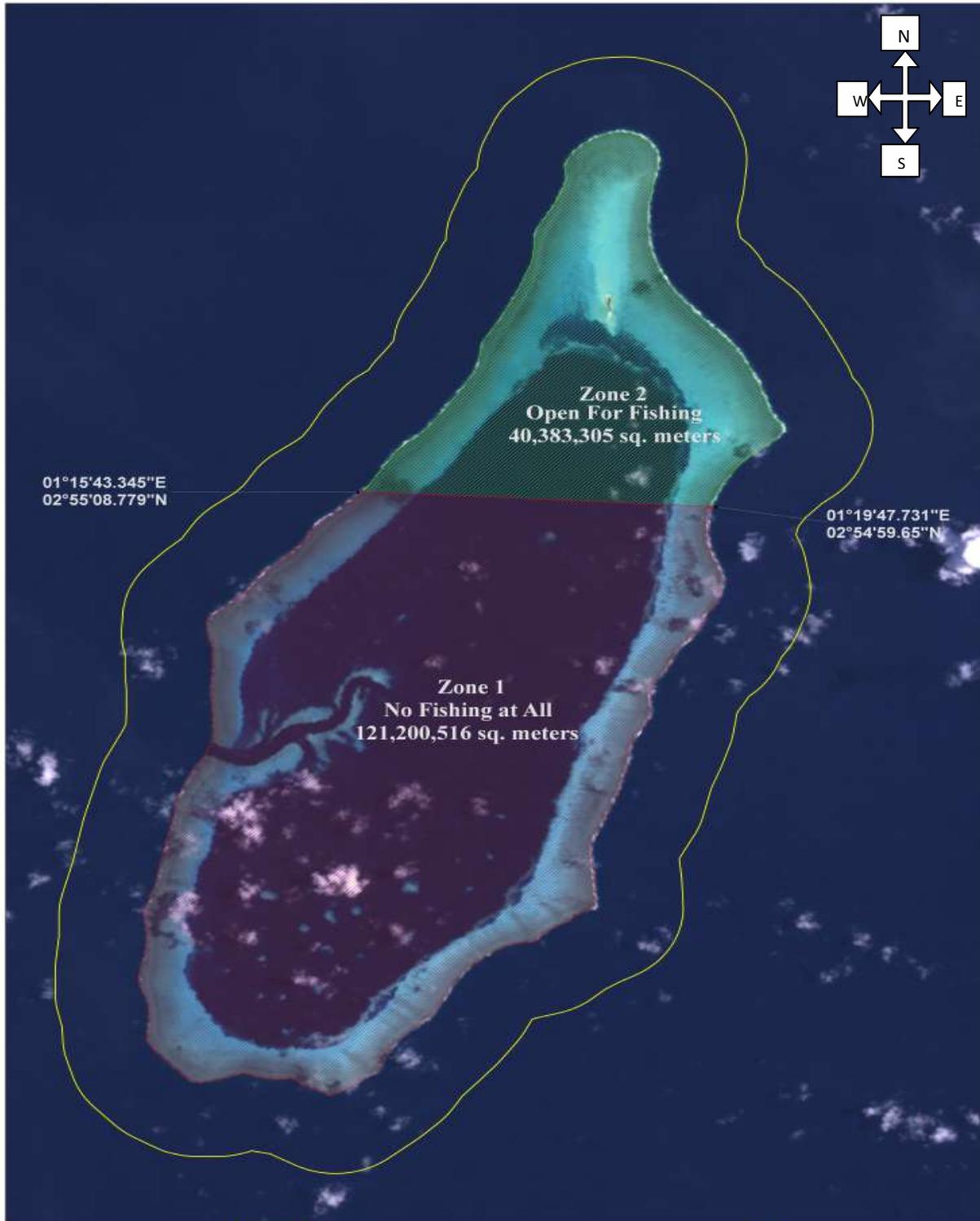
The significance of monitoring and research, including routine population and habitat monitoring, is lost without conscientious data management. In order to maintain population size estimates data in simple, easy to understand electronic formats, the program uses Microsoft Excel for all data storage and analysis.

Data is accurately recorded and referenced to individual survey sheets (identified through a unique numbering system). The average densities of fishes or invertebrates can be used to compare among populations from different years and different sites on the reef. Trends can also

be useful to determine the state of the environment. For instance, steady decreases over time might indicate a problem related to feeding and nutrition, or stresses due to global warming.

For ease of use by the Management Board and the Community, data from each year's monitoring is summarized for each site and each depth. Finally, data needs regular updates into the computer to be useful to managers. Data must be keyed into the computer during the actual surveys, after collecting the data sheets from the diver team. To expect the data to be keyed in at the end of the year is not realistic, as the staff member who gets placed in charge of this will typically be occupied with too many tasks to be able to devote several days (if not weeks) to data entry. Once data is available in electronic format, it is much easier to analyze and store safely.

Annex 5. Helen Reef Resource Management Zoning Map



**Helen Reef**

**Legend**

Helen Reef (1 Nautical Miles)

Scale 1:15,000  
0 495 990 1,485 1,970 2,460 Meters



This map shall not be used for other purposes, including navigation, without the approval of the authority. It is not a guarantee of accuracy and is not a warranty. The authority shall not be held responsible for any loss or damage caused by the use of this map. The authority shall not be held responsible for any loss or damage caused by the use of this map. The authority shall not be held responsible for any loss or damage caused by the use of this map.