



Port Honduras Marine Reserve  
Annual Report 2003

**That the water and land resources of southern Belize be environmentally healthy, economically sustainable and culturally beneficial for present and future generations.**

**Vision of the Toledo Institute for Development and Environment**



**Punta Negra Village**

**To promote the sustainable development of the Toledo District by fostering the efficient and effective management of its natural resources, conducting relevant research and by providing training and advocacy in order to preserve our natural heritage for present and future generations.**

**Mission of the Toledo Institute for Development and Environment**

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## Words from the Manager

It is my great pleasure to present the Port Honduras Marine Reserve 2003 Annual Report. Through the ups and downs, the struggles, and stories of success, it has indeed been a very interesting year for the Port Honduras Marine Reserve (PHMR). Since acquiring its protective status in the year 2000, PHMR has come a long way.

This year, patrolling efforts continued within the Reserve which resulted in the confiscation of 15 gill nets. Significant strides were made in the area of research with the completion of the PHMR Baseline Study. Based on the results of the study, a long term monitoring strategy will be developed for the reserve. PHMR is also witnessing a steady increase in the number of visitors. Throughout the year, the rangers also ensured that communities were involved in all the different types of activities such as training and research.

The PHMR rangers made an extra effort to bring awareness about the reserve to a wider audience by hosting educational school trips, being guests on the Toledo Institute for Development and Environment (TIDE) local radio show and posting information on the TIDE website.

This report summarizes our achievements for the year 2003 and is dedicated to the many supporters who have assisted us in helping to conserve and transform the Port Honduras Marine Reserve into what it is today. Special thanks to the Fisheries Department, PHMR Advisory Committee, OAK Foundation, The Nature Conservancy, Mesoamerican Barrier Reef Systems and Coastal Zone Management Authority and Institute. Special mention must be made to the villagers of Monkey River and Punta Negra.

Dennis Garbutt  
Manager  
Port Honduras Marine Reserve

## About TIDE

The Toledo Institute for Development and Environment (TIDE) is a non-governmental organization (NGO) founded in September 1997 to meet the growing environmental and development needs of the Toledo District, the most southern district of Belize. The Toledo Institute for Development and Environment was conceived as a local initiative in response to the negative environmental effects from activities such as manatee poaching, illegal fishing, illegal logging and destructive farming methods.

### TIDE's goal

The organization has been hard at work over the past six years to achieve its goal of improving organization's capacity to enable it to promote the protection and responsible management of Toledo's natural resources while simultaneously fostering programmes that will create and promote sustainable alternative economic opportunities for resource users who have traditionally depended on these natural resources for their livelihoods. These alternatives accomplish two goals: instilling a sense of ownership in our common resources while conserving them for future generations.

### Our approach

As part of its expansive conservation programme, TIDE employs several conservation methods from natural and social sciences which fall under five strategic objectives:

1. **Protected Areas Planning and Management**  
To protect conservation targets by promoting and leading the planning and management of protected areas in the target area.
2. **Promotion of Sustainable Development**  
To foster integrated conservation and development initiatives that generate opportunities for the residents and lead to the sustainable development of the target area.
3. **Research and Monitoring**  
To maintain the biodiversity and integrity of the ecosystems through continuous research, monitoring and appropriate interventions.
4. **Environmental Education and Outreach**  
To expand and enhance the knowledge base on target area's natural resources to promote its protection and sustainable use.
5. **Institutional Development**  
Improve TIDE's organizational capacity to accomplish its mission.

## Where we work

Near to its inception, TIDE identified what is now known as the Maya Mountain Marine Corridor (MMMC) as a high priority conservation action site. The MMC is a magnificent natural area covering almost one million acres of land and 1000 square miles of sea. The MMC extends from the crest of the Maya Mountains in southwestern Belize to the southern end of the Belize Barrier Reef System. Within this area, the more significant conservation activities revolve around the efforts in Port Honduras Marine Reserve, Paynes Creek National Park and TIDE's Land Initiative.

## Organizational structure

Initially started by volunteers, TIDE has now grown to include the Executive Director who manages the organization and 18 other paid staff. The organization also has a policy making body – A Board of Directors – comprised of individuals from a wide cross-section of the society.

## Awards

In the span of six short years, TIDE has received various local and international awards. These include:

Government of Belize

Belize Tourism Board's Environmental Organization of the Year (1999)

The Nature Conservancy

Clifford Messinger Award for Achievement in Conservation (2000)

United Nations Development Programme

Equator Initiative Award (2002)

## About PHMR

### Introduction

Along the coast of the Toledo District lies an embayment on a wide continental shelf called Port Honduras. Seven watersheds, five of which are major rivers, empty into Port Honduras carrying nutrients to drive primary productivity along the coast. Port Honduras plays a vital role in linking uplands with the sea via rivers, estuaries and coastal lagoons and therefore, the area is critical for the reproduction of a great diversity and abundance of commercially important resources.

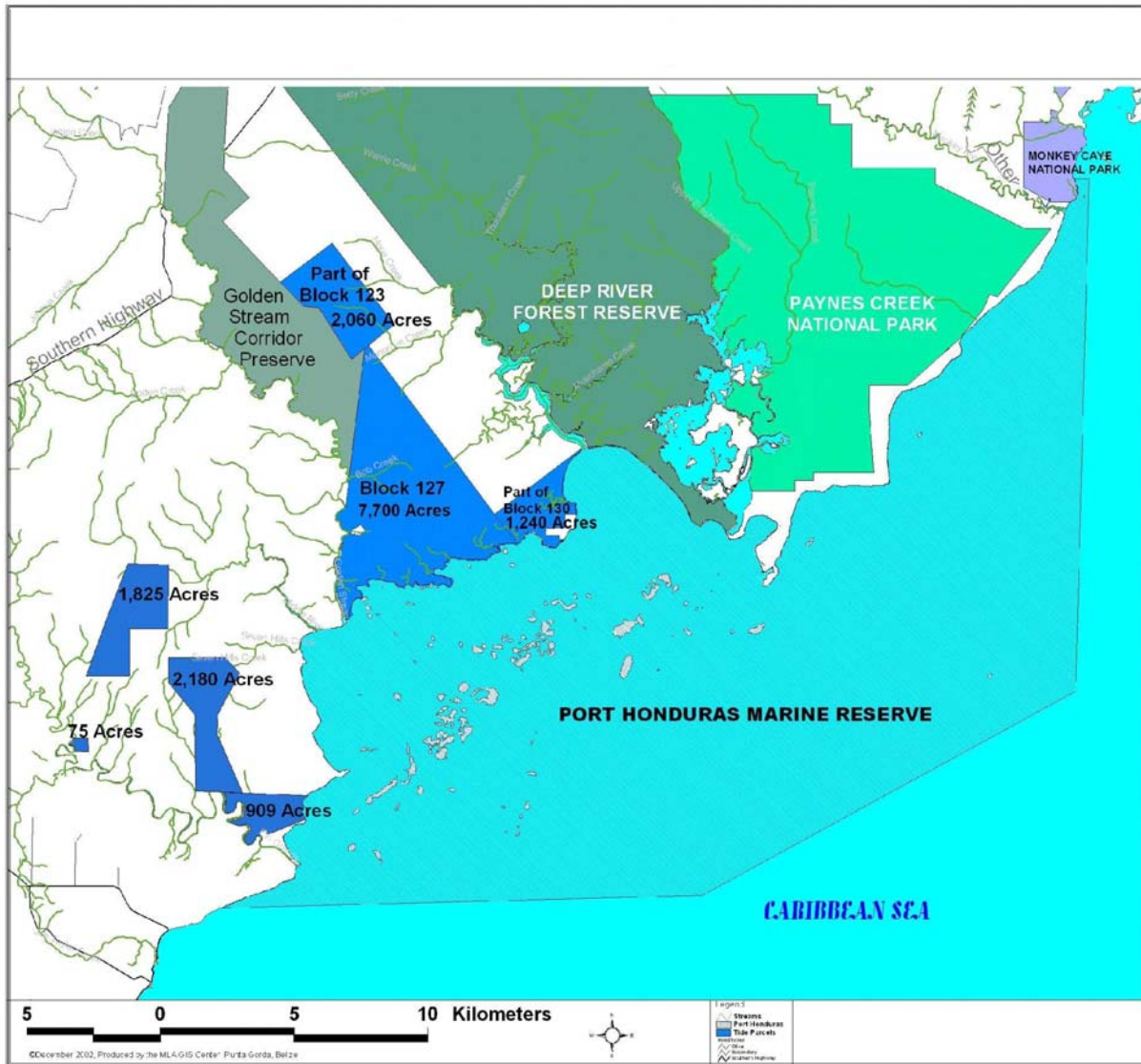
Two rapid ecological assessments (REAs) in the early 1990's revealed that Port Honduras served an extremely important ecological function due to its turbid water quality which indicated that much of the sediment from runoff is confined within the coastal basin allowing for appropriate water quality for coral growth offshore. The REAs also revealed that the large mangrove area on the coast, significant seagrass beds, large areas of substrate and reef environments all contribute to the value of Port Honduras as critical habitat for fisheries productivity and diversity, including most of the commercial species.

In addition to its biological significance, the area was under threat as the Belizean fisherfolk complained of illegal fishing activities within the area mainly by foreign nationals and had attributed the apparent reduction in certain fish stocks and manatee to such activities. In spite of the recent signs of fisheries decline, intact habitats in PHMR could continue to support regionally important fisheries resources, however management intervention would be necessary.

After more than six years of advocacy by TIDE and other local and national groups, in January 2000, the Government of Belize declared Port Honduras a marine reserve. The main purpose of the reserve is the preservation and sustainable use of the biological resources.

### Size and location

The PHMR is an integral part of the Maya Mountain Marine Corridor and is located in southern Belize near the coast just off Punta Gorda Town between Rio Grande Bar and Monkey River Village. It comprises all the coastal wetlands, sea, seabed, and National Lands within the area known as Port Honduras with general boundaries being Rio Grande in the South, Monkey River in the North, the Snake Cayes in the East and the coastal wetlands along the coast.



**Map of areas co-managed by TIDE**

### Biological Characteristics

#### Terrestrial (Flora and Fauna)

The dominant vegetation type in the PHMR area is the mangrove with the dominant species being the Red Mangrove (*Rhizophora mangle*). Red Mangroves serve several important functions including providing a habitat for larval and juvenile fish and invertebrates; preventing and reducing coastal erosion; and filtering runoff from the mainland. Most of the 138 cayes within the PHMR are mangrove cayes without upland communities.



The numerous lagoons within the PHMR is also home to a large population of the West Indian Manatee. A number of bird rookeries, including pelican, frigate bird and sooty terns are noted in the area. Some of the cayes within the reserve seem to always have nesting frigates, herons, pelican, and brown boobies.

## Marine (Marine Habitat, Fish and Fisheries)

Marine habitat types found in Port Honduras are sea grass communities, soft bottom communities, and hard bottom communities. Sea grass communities are found in areas where the water is not too turbid and photosynthesis is not impeded. Sea grass beds form an important part of the ecosystem within the PHMR by providing food and habitat for fish species and epiphytes. The dominant sea grass communities are the manatee grass, (*Syringonium filiforme*) adapted to soft bottom sediment, and the turtle grass (*Thalassia testudinum*) that colonize more stable sediment. Reef and hard bottom communities are found around the Snake Cayes area and outer banks associated with the cayes where the water quality is more conducive to coral reef development.

More than 100 species of fish have been recorded within the PHMR. The most abundant families are the Haemulidae (Grunt), Scaridae (Parrotfish), Acanthuridae (Surgeonfish), Pomacentridae (Damselfish), and Lutjanidae (Snapper). Within PHMR, two of the most valuable fishery in Southern Belize are harvested, the Caribbean Spiny Lobster (*Panulirus argus*) and the Queen Conch (*Strombus gigas*).

## Marine Use

### Fishing

The wide array of fish species found within the Port Honduras Marine Reserve is vital to the local fishery. Local residents fish within the marine reserve on a subsistence and well as on a commercial basis. Residents of Monkey River Village, Punta Negra Village, Punta Gorda Town and the cayes found within the reserve use the area for small-scale commercial fisheries, largely for lobster and finfish. Finfish harvested from the reserve include, lane snapper, mackerel, jack, barracuda, snook and jewfish.

### Tourism

Within the Port Honduras Marine Reserve, recreation and tourism activity is promoted as an alternative non-extractive use of the resources for income generation and to promote ecologically sound practices. These activities include snorkeling, sailing, picnicking and relaxation. Of the cayes that have upland communities, the most attractive beaches are on West Snake Caye, Abalone Caye, South Snake Caye and Moho Caye. In addition, sport (catch and release fishing) and recreational (extractive fishing

for enjoyment but not subsistence) fishing also occur within the reserve. Several sport-fishing guides currently use the PHMR reserve as healthy stocks of targeted species (tarpon, permit, snook, bonefish, barracuda, crevale and horse eyed jack) are prevalent in the reserve and the lagoons in the buffer area of the Paynes Creek National Park.



**West Snake Cay**

### **Reserve's Strategic Plan and Goals**

The PHMR management strategy is based on five major goals:

1. To protect the physical and biological resources of Port Honduras.
2. To provide education and research
3. To preserve the value of the area for fisheries and other important genetic resources.
4. To develop recreational and tourism services that will enhance the economic and social benefits of the area without causing environmental damage.
5. To strive for sustainable financing

## Zoning Plan and Regulations

For the purposes of the regulation and control of the Reserve, five zones were established:

1. General Use Zone  
To provide opportunities for established uses and activities (e.g. fishing for conch, lobster and finfish) under a stringent monitoring scheme
2. Conservation I Zone  
To provide an undisturbed area for recruitment of species to adjacent areas and to provide an area free from all research and collecting that will allow research and collection
3. Conservation II Zone  
To provide an area free from commercial fishing to prevent fishery stocks from over exploitation and to enhance the value of the area for recreational and tourism activities.
4. Preservation Zone  
To provide areas within the reserve that are preserved in an entirely natural state and to protect areas of particularly fragile habitat or with threatened or rare species.
5. Special Management Area  
Area reserved for special projects

## Legal body responsible for establishing regulations and procedures

Under the Fisheries Amendment Act of 1983, the Fisheries Department is *ultimately* responsible for the establishment and implementation of marine reserves. However, the Fisheries Department entered into a formal agreement for co-management of the PHMR with TIDE. Management of the reserve is delegated to a management committee that TIDE chairs. The role of the PHMR Advisory Committee includes: ensuring regular revision and review of the management plan, commenting on and recommending legislation and regulations, assisting in the development of sustainable financing mechanisms for the reserve and decisions relating to research to be conducted in the reserve. Under TIDE's leadership, the management committee has developed a division in roles and responsibilities, job descriptions and clarity over day-to-day management of the reserve's resources.

## Staff

The PHMR is staffed with a Manager, Dennis Garbutt, who is supported by a Head Ranger, Lionel Martin, 2 full time rangers and temporary rangers. The staff conducts patrols to monitor activities within the different zones and reduce threats to the reserve such as gill net use, illegal fishing and over fishing. The rangers also enhance TIDE's public relations by conducting community meetings and play an active role in research activities being conducted within the reserve. Visitors to the ranger station are also oriented by the rangers on the reserve's educational display rules, facilities, and zoning areas.

To assist the rangers in carrying out these duties, the PHMR is equipped with 2 fiber glass skiffs and a base station on Abalone Caye equipped with a 45 foot tower, kitchen, bathroom, sleeping quarters and a visitor center.



**Port Honduras Reserve Manager, Mr. Dennis Garbutt**



**PHMR Ranger Station, Abalone Caye**

## PHMR Accomplishments 2003

### Patrols and Surveillance

Patrols and surveillance are necessary to assure compliance with the reserve's regulations.

In April, a total of 7 gill nets were confiscated however, no one was arrested.

In June, one individual was charged officially with use of a gill net (a destructive and illegal fishing method) within the Conservation Zone and the capture of an endangered Hawksbill Turtle.

In July, on one of the patrols around the Snake Cayes, two vessels were caught engaging in illegal fishing activities. The four fishermen from these vessels were taken to the Punta Gorda Fisheries Department and later to court where they pleaded guilty for having berried lobster and not guilty for fishing in the Conservation Zone. They were all charge one thousand dollars (\$1000) each for being in possession of berried lobster but not found guilty of fishing within the Conservation Zone.

In September, four Guatemalans were arrested and charged for four different offences including 1) having conchs out of season 2) vessel not licensed for commercial fishing 3) fishing in the conservation zone 4) not having a fisherfolk license. As a result, the boat and engine were confiscated and they were charged \$500 each for fishing in the conservation zone and \$200 per person for each of the other offence bringing the total charges to \$4400. However, in early October, TIDE was informed that the confiscated boat be returned to the owner until after a retrial. The reason for a retrial was never provided and the date for a retrial is yet to be scheduled. It was recommended that the matter be further investigated by the co-managers of PHMR, the Fisheries Department and TIDE.

In November, a special patrol with the Police Force and the Lands Inspector of Toledo was conducted in PHMR. Illegal squatting and fishing activities on and around Tarpon Caye were of major concern, squatters were asked to leave the island and get rid of their illegal fishing gear.

In December, on two separate occasions PHMR rangers confiscated 7 gill nets: 3 gill nets near the Rio Grande, 1 gill net near Punta Negra Village and 3 gill nets near Monkey River Village.

In 2003, a total of 3,120 gallons of fuel were consumed in order to carry out patrols. Overall, this led to the confiscation of 15 gill nets and the arrest of 10 individuals in 4 different vessels, of which one vessel was confiscated by the Courts.

### Setbacks

The PHMR rangers experienced several setbacks in conducting effective patrols such as lack of a functioning communication network and the theft of an outboard engine (Yamaha - 100) in October. Despite TIDE and the Police's investigative efforts, the engines were never retrieved; since then, security measures have been drastically enhanced to minimize the reoccurrence of such unfortunate incidents.

### Recommendations

Due to the high fuel prices, TIDE would like to suggest that Marine Reserves be exempted from paying duty on fuel.

As co-managers for PHMR, TIDE recommends being consulted prior to the issuing of leases on Cayes in the reserve.

### Visitors to PHMR

The total recorded visitors to Abalone Caye (PHMR) this year amounted to 750 of which 70% of these visitors were from North America. Additional visitors to the Snake Cayes included approximately 100 Guatemalans in transit to Sapodilla Cayes and Mango Creek.

During Easter, approximately 10 speed boats from Guatemala carrying some 60 people visited Middle Snake Caye during Easter for recreation.

From data gathered throughout this year, there has also been an increase in the number of fly-fishing boats per day. Last year, an average of 4 boats per day in the high season were reported, this year that number increased to 6 boats per day for the same season.

In May, Minister Servulo Baeza and other Government Officials visited PHMR and expressed his satisfaction in TIDE's efforts in PHMR and hopes to return for an extended visit.

In November, Minister John Briceño visited the PHMR. The purpose of his visit was to observe first hand the richness in biodiversity of Port Honduras Marine Reserve and Paynes Creek National Park.

## Education and Research

### Baseline Survey

Consistent with the goal of obtaining information necessary to make informed decisions about managing and protecting the ecosystem processes and critical uses of the reserve, in 2003, TIDE completed a baseline study of the Port Honduras Marine Reserve. Funding for the study was provided by OAK Foundation. The study had started in October 2002 with Julianne Robinson as the lead researcher.

The objectives of the baseline study were to:

1. To obtain a baseline survey of PHMR, against which changes can be accurately determined and measured
2. To develop tools to monitor changes in resource populations and the health of the ecosystem of the PHMR, which will provide TIDE with a needed management tool
3. To involve community members in data gathering and analyzing
4. To assess stream health and map impact hotspots (areas of intense ecological degradation caused by unsustainable use) on the Rio Grande River and present maps to stakeholders.

Additional outputs from the project included:

1. Increased effectiveness management of the reserve
2. Community awareness of the value of science as a tool of management
3. Increased stakeholder awareness about major threats to rivers and estuaries

Data collection focused on 6 key areas and involved several methodologies including CARICOMP methodology for seagrass productivity, Atlantic and Gulf Rapid Reef Assessment (AGRRA), Rover Diver Census technique, Bohnsack and Bannerot Stationary Sampling/Visual Fish Census and the Stream Visual Assessment Protocol (SVAP).

1. Water quality (temperature, turbidity, dissolved oxygen, salinity, pH, nitrates and phosphates)
2. Community composition, biomass and productivity of mangroves
3. Community composition and biomass of sea grass communities
4. Assessment and monitoring of benthic reef communities (corals, algae, Spiny Lobster and Queen Conch)
5. Assessment and monitoring of reef fish communities



## 6. Rapid assessment of the Rio Grande Watershed

Based on the results of the baseline survey and recommendations from the lead researcher, TIDE will develop a monitoring strategy for the Port Honduras Marine Reserve.

In October, the baseline study was completed and the results were presented to stakeholder groups in the villages of Punta Negra and Monkey River and Punta Gorda Town.



**Manager, FWI Coordinator and UB Interns collecting water quality data.**

The second component of the baseline study is a Resource Value Assessment of the Port Honduras Marine Reserve. The valuation assessment will provide all stakeholders with information about PHMR's goods and services and the value which people place on these. The study will be completed in February of 2004.

#### Other Research

In March, PHMR's Head Ranger, led the spawning aggregation monitoring at the Sapodilla Cayes. The monitoring team, also comprised of Sapodilla Cayes Marine Reserve (SCMR) staff, conducted a total of 12 dives that revealed two active sites (Nicholas and Rise and Fall). Species that were common to both sites was the Tiger grouper. Other species included Nassau grouper, Yellow fin, Black grouper, Scamp and Cubera snapper. Six fish were tagged in the process.

The PHMR rangers assisted the Fresh Water Initiative (FWI) Department of TIDE in conducting impact assessment along Rio Grande River; this impact assessment is a part of the Baseline survey of Port Honduras. The importance of this is to allow the rangers to understand and appreciate the 'Ridge to Reef' concept promoted by TIDE.

In June, the PHMR manager was part of a team that conducted a detailed investigation of the farm practices of the banana and shrimp farms along the Monkey River watershed. The team gathered information on the pesticides, herbicides and fertilizer used as well as took water samples for analysis. The team was lead by Fish Pathologist, Mr. Roy Polonio MSc., from the Health Education and Infectious Disease Research Program (HEIDRP). Other members of the team included Dr. Robin Coleman, FWI Coordinator, Mr. Joseph Villafranco, PCNP Head Ranger Mr. Mario Muschamp and Mr. Oswald Arzu, representing the Banana Growers Association.

In July, the PHMR Manager, transported personnel from the Coastal Zone Management Authority and Institute (CZMIA) to the Port Honduras Marine Reserve in order to conduct a visual survey and assessment. All the cayes in that area were marked by GPS and photographed. Likewise, cayes that had beaches or land were closely inspected and assessed for their developmental potential.

In November, PHMR Manager and Head Ranger assisted SCMR with the national conch count for Belize.



**FWI Coordinator collecting water quality data**

### **Visiting Scientists, Interns and Volunteers**

The Port Honduras area has been the subject of archaeological investigation for more than ten years by Dr. Heather Mckillop. Several archaeological sites have been identified and reported in her numerous publications. These include a trading post at Wild Cane Caye, settlements at Frenchman's Caye, salt production ponds at Stingray Lagoon of Punta Ycacos, and under-water sites of Green Vine Snake Caye and Pork-and-Doughboy Point. Dr. Heather McKillop, from Louisiana State University returned this year to continue field studies in the Port Honduras area.

Two University of Belize interns, Jacklyn Lambey and Shirley Humes, from the Faculty of Agriculture and Natural Resources assisted with data collection for the Baseline study and produced a report focused on the biological characteristics of Abalone Caye.



**Collection of mangrove samples**

Mr. Karl Castillo, a former employee of TIDE, now a PhD student at the University of South Carolina continued his research in the Gulf of Honduras - PHMR and SCMR. Mr. Castillo is researching the effects of temperature on corals.

Miss Nicole Cushion, an MSc student from NOVA University in Florida, assisted with the fieldwork, analysis and presentation of results for the baseline study.

A group of Business Administration Master's students from Instituto Centroamericano de Administracion de Empresas (INCAE), Alajuela, Costa Rica, created a Business Plan for PHMR. Their study is part of a pilot project that if successful, will be duplicated throughout the region. PHMR rangers were active in facilitating the University students from INCAE with their orientation visits to the different communities in the reserve.

## In the Community

### Support to Participatory Management of PHMR

The communities continue to assist the PHMR rangers by visiting the ranger station and calling the TIDE office to report illegal activities. Based on the requests of the local fisherfolk, TIDE will be stepping up its presence in the reserve by developing a 'Community Ranger Programme', whereby local fisherfolk and tour guides will be trained to assist staff rangers through an integrated communications system. The draft proposal entitled "Protecting the Port Honduras Marine Reserve through community involvement and sustainable livelihood development" was submitted to the United Nations Development Project.

### Involvement in Research

Community members of the villages of Punta Negra and Monkey River were trained in the science of data gathering and were able to assist the lead researcher and the PHMR rangers in collecting data for the baseline study. The community members were trained in fish and coral identification, mangrove monitoring and river assessment. Apart from the knowledge and research experience gained, the communities' involvement in the baseline study also gave them a better understanding of TIDE's mission, especially work done in PHMR.

### Training

In February 2003, one community member, along with two PHMR rangers successfully completed the PADI open water dive certification.

In July, a three day monitoring training was conducted by TIDE for the Rio Grande Fishermen Cooperative. The goal of the training was to enable locals to become stewards of PHMR and Sapodilla Cayes Marine Reserve. The fisherfolk were informed of the rules and regulations for the Port Honduras Marine Reserve (PHMR); the boundary area for PHMR, the handling of a VHF radio, the use of a GPS such as the reading and storing of GPS Points and discussions on how ranger and fisherfolk could work together were held. A total of 13 local fisherfolk participated in the training workshop.

### Education

In April, a group of 14 students from Blue Creek Indigenous School was given a tour of PHMR. They were educated on the importance of sustainable fishing and the function, role and importance of the Maya Mountain Marine Corridor.

In April, an environmental class from St. Johns Sixth Form led by Ms. Hoare, manufactured a number of signs for PHMR, these include cautionary notices and good conservation practices.

This year, the PHMR rangers were actively involved in the “Swimming Into the Future” TIDE Summer Camp 2003. Although the aim of the camp was to certify 100 new swimmers, all participants also visited the Port Honduras Marine Reserve and were educated by the PHMR rangers about the importance of the reserve.

## Reaching Out

### Radio show

The PHMR manager reached out to the Punta Gorda community via “The Rising TIDE” radio show which airs once a week on Saturdays. The radio show provides a fast and efficient manner in which to capture a wide audience. During the shows, the PHMR manager was able to provide radio listeners with information about the rules and regulations of the reserve including the different activities which can be conducted within the different zones. The radio show also gave the PHMR manager an opportunity to inform the public about the purpose of the baseline study.

### Web site

The TIDE website at [www.tidebelize.org](http://www.tidebelize.org) also provides another avenue to reach out to a wider audience. The website is updated periodically and an entire section is devoted to the PHMR with information about the reserve, activities occurring within the reserve and research reports.

In May, the British Broadcasting Corporation also did a documentary on TIDE’s work which will be featured on a special program called “Television for the Environment”. Several PHMR Rangers were interviewed as well as other staff members.

### Events

In November, TIDE hosted its second annual Fisherman’s Fest. The aim of the festival is to promote ecotourism and sustainable development in the Toledo District. One of the main highlights was a fishing tournament in PHMR. The PHMR rangers also got the opportunity to demonstrate basic scuba diving techniques to the people in attendance.

## Partnerships

The Toledo Institute for Development and Environment collaborates with local organizations on a number of projects to enhance efforts in preserving southern Belize's resources. This year, TIDE has worked out an agreement with the manager of the Sapodilla Cayes Marine Reserve to set up joint patrols with Port Honduras Marine Reserve and Paynes Creek National Park rangers. All three protected areas share key resources and the rangers feel that their efforts will become more efficient if they all work together to stamp out illegal activities.

Joint patrols were also conducted with the Ya'axche Conservation Trust, Sarstoon and Temash Indigenous Institute of Management, Police Department, Belize Defense Force and Fisheries Department.

In October, six villagers from San Jose made a two day visit to the PHMR and PCNP. The PHMR and PCNP rangers shared their experiences in co-managing the reserve with the Fisheries and Forest Department, respectively, and getting communities actively involved in participating in management activities within the Reserve.



**San Jose Villagers**

## Institutional Development

In January, PHMR rangers received a Law Enforcement training sponsored by the Fisheries Department. In December, the manager underwent further training in Law Enforcement through a Special Constable Training sponsored by the Fisheries and Police Department. The Special Constable Training focused on report writing, approaching people, fisheries laws, how to make an arrest, dealing with a detained person, gathering and presenting evidence in court. Twelve people participated in the course including 1 person from Fisheries Department and 1 person from Friends of Nature.

In February, two PHMR rangers successfully completed the PADI open water dive certification. That same month, rangers were also trained in fish, coral and algae identification. The PHMR rangers were also trained in using Atlantic and Gulf Rapid Reef Assessment (AGRRA) as a monitoring tool, using the MesoAmerican Barrier Reef Systems (MBRS) monitoring manual for mangrove monitoring.

In March, the PHMR Biologist attended the Efrogmson workshop that was held in Loreto, Baja California, Mexico. The workshop highlighted discussions of viability/ecological integrity, critical threats on selected targets and conservation strategies from each organization. The Belize team comprised of Joseph Villafranco (TIDE), Wil Heyman and Nicanor Requena (TNC) and Eric Salas (Friends of Nature). The team represented the Meso-American Reef System.

In August, the PHMR staff hosted a boat handling training workshop. The topics of the workshop were boat safety, boat handling, basic boat maintenance and repair skills. Fifteen participants attended the training. In addition to TIDE staff, participants included members of the Punta Gorda Police Department, Ya'axche Conservation Trust, Golden Stream Corridor Preserve, TIDE staff, and local community members.

In September, the manager and the head ranger attended an MBRS synoptic monitoring training workshop in Marine Protected Areas. The training, which focused on data collection and analysis of mangroves, seagrass, and coral and fish identification, was sponsored by the MBRS project.

In October, PHMR manager, attended a workshop conducted by World Wildlife Fund at Coastal Zone Management Authority and Institute concerning Marine Protected Areas Assessment. A study case of Hol Chan Marine Reserve was presented as a model to be adopted by other MPAs in Belize.

In October, PHMR Manager, attended a one week Stakeholder Analysis training workshop in St. Lucia in relation to the Caribbean Regional Environmental Programme (CREP). The three year project funded by the European Union will work to conserve the resources of both the PHMR and the Paynes Creek National Park while simultaneously developing alternative income generating options for local residents.



## TIDE Board of Directors

Stanley Nicholas – Chairman - Dean of University of Belize, Toledo Campus  
Alistair King - Vice-Chairman - Local Businessman (Texaco & Fabrigas)  
Celia Mahung – Treasurer – Professor (University of Belize, Toledo Campus)  
Allen Genus – Secretary - Director of Operations, TIDE  
Robert Polonio – Local Fisherman and Tour Guide in Punta Gorda  
Eloy Cuevas –Fly-Fisherman and Local Tour Guide  
Sebastian Choco – Milpa Farmer  
Lyndon Bardalez - Local Businessman (Dick's Service Station)  
Elizabeth Enriquez – Manager (Punta Gorda Hospital)  
Gabriel Roches – Public Servant at the Ministry of Labor  
William Maheia - Executive Director, TIDE

## TIDE staff

TIDE currently has 19 full time paid staff members. Our staff is as follows:

### ***Management Staff***

Executive Director: William Maheia, Msc  
Director of Operations: Allen Genus, Bsc  
Science and Stewardship Director: Robin Coleman, PhD  
Development Director: Erika Diamond, MEd

### ***Programmatic Staff***

#### **Port Honduras Marine Reserve**

Manager: Dennis Garbutt

Mr. Garbutt has been very active in monitoring and research work in southern Belize. He is a certified dive master and has been involved with the baseline studies of PHMR. He has experience in coral and fish monitoring and identification and leads the SPAG studies in the most southern portion of the Belize Barrier Reef. Mr. Garbutt also has training in engineering technology and directed numerous construction projects for TIDE, including the building of our two Ranger Stations.

Head Ranger: Lionel Martin

Ranger: Carlos Ramirez

Mr. Martin and Mr. Ramirez previously worked as a fisherman in Port Honduras, and bring experience in boat handling and marine knowledge to TIDE. Both are certified open water scuba divers and have been active in the baseline study of the PHMR.

Ranger: George Sambula (Joined TIDE in August 2003)

**Temporary PHMR Rangers for 2003:**

Wilfred Muschamp – Monkey River Village

Edwardo Buchub – Punta Gorda Town

Reoy Ramirez – Head Caye

Melissa Jacobs - Punta Gorda Town

Philip Gabriel – Punta Gorda Town

Victor Jacobs Sr. - Punta Negra Village

**Paynes Creek National Park**

Head Ranger: Mr. Mario Muschamp

Temporary Ranger: Leonard Williams

Temporary Ranger: Raymond Williams

**Lands Initiative**

Head Ranger: Orlando Williams

Ranger: Carlos Bardalez

Ranger: Joe Guy

**Freshwater Initiative**

Freshwater Coordinator: Joseph Villafranco, BA

**Caribbean Regional Environmental Programme – Belize Project**

Demonstration Project Manager: Franklin Martinez, DVM

**Administrative Staff**

Receptionist: Elaine Sho

IT Officer: Serjio Briceno

Driver/Mechanic: Ernest Caliz

**Part Time Staff/Volunteers**

Ronise Caliz

Edwin Colon

Lynette Middleton, Information Officer

Nate Shanklin, Environmental Education Officer

**TIDE Tours**

Ecotourism Coordinator: Erika Diamond, MESC

Ecotourism Assistant: Stephene Supaul, BA

## **PHMR Advisory Committee**

William Maheia, Chairperson, TIDE  
Rudy Arzu, Fisheries Department  
Ray Jacobs, Punta Negra Village  
Thomas Garbutt, Fisherman Association  
George Coleman, Tour Guide Association  
Phillip Gabriel, Rio Grande Fisherman Cooperative  
Leanora Requena, Belize Tourism Industry Association  
Imani Morrison, Coastal Zone Management Authority and Institute  
Ovel Leonardo Sr, Fisherman Cooperative  
Michael Espot, Toledo East Representative  
David Linarez, Monkey River Village  
Carlos Galvez, Punta Gorda Town  
Stanley Nicholas, Ministry of Education Representative  
Dennis Garbutt, PHMR Manager

## **Scholarship Students, Interns and Volunteers**

Phillip Gabourel (Summer Camp Volunteer)  
Freida Palma (Summer Camp Volunteer)  
Jacklyn Lambey (Intern - University of Belize)  
Shirley Humes (Intern - University of Belize)  
Karl Castillo (MSc, Marine Sciences Programme, University of South Carolina)  
Nicole Cushion (MSc Candidate, Marine Biology, NOVA Southeastern University)  
Pablo Anastassiou (INCAE student)  
Mario Hernandez (INCAE student)  
Vinnitsa Leytón (INCAE student)  
Emerson Padilla (INCAE student)  
Javier Posas (INCAE student)  
Nicole Scherholz (INCAE student)

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