

Cooperación Alemana



**PROJECT FOR THE CONSERVATION OF MARINE RESOURCES IN CENTRAL
AMERICA**

Funding Agreement: (BMZ 2007 66 667)

Annual Operational Plan (AOP)

September 2012 December 2012

Port Honduras Marine Reserve, (PHMR) Belize.

Toledo Institute for Development and Environment (TIDE)

1. HIGHER PROJECT OBJECTIVE

“To contribute to the conservation of the ecological functions of the Mesoamerican Reef System.”

2. PROJECT OBJECTIVE.

“Consolidation of the Marine-Coastal Protected Areas (MCPAs) selected in the region of the Project, with conservation and sustainable use of marine and coastal resources secured in the medium term.”

3. RESULT 1: Protection And Conservation Of Marine-Coastal Ecosystems In The Marine Area Are Secured.

To work towards realizing this result, for this AOP, TIDE will improve protection of marine species and habitats by investing to improve the infrastructure and equipment of the Port Honduras Marine Reserve and the capacity of the park’s ranger team. A key activity for the protection of marine species and habitat is the demarcation of the area using buoys installed by local stakeholders as hired laborers and contractors. In addition, the project will support TIDE’s biodiversity monitoring program for the park through servicing of dive equipment, establishing baselines for mangrove and sea grass cover, and consolidating other established monitoring programs, including conch, sea cucumber, coral cover, coral health and water quality. Some of these activities will be supported with KfW funding while others are supported with counterpart funding and in-kind contributions.

4. ACTIVITIES AND SUB-ACTIVITIES

B.1.01 INVESTMENTS IN INFRASTRUCTURE

Under this project, considerable investments are to be made in infrastructure at Abalone Caye. This is TIDE’s base of operations for the management of the Port Honduras Marine Reserve and is ideally situated close to the centre of the reserve. In recent years, Abalone Caye has been subject to rapid beach erosion, which threatens the integrity of the island and the ranger station. Thus, some justification for investment in the facility is required.

Due to the strategic location of Abalone Caye for law enforcement, the fact that TIDE owns the island and the presence of existing infrastructure there, TIDE wished to save the island from erosion if possible. In 2011, TIDE partnered with engineers from Texas A&M University to conduct a wave modeling exercise. This exercise, together with consultation with CISCO Construction, determined that the Caye could be saved by constructing an artificial stone barrier around the island. Later that year, TIDE began to construct this barrier using Gabion baskets filled with rocks imported from the mainland. The cost of this work was approximately US\$12,500. TIDE rangers and volunteers have provided the labor at no additional cost. Erosion on the segment of the island adjacent to the wall, which had previously been the most rapidly eroding, appears to have ceased. In addition, we are seeing a significant increase in juvenile fish in this area, which seems to be serving as nursery for juvenile fish.

The work is still on going and TIDE will continue to implement the restoration plan for Abalone Caye. The cost of this work, excluding labor, is estimated at US\$40,000, a portion of which will be requested from KfW

in AOP2. TIDE rangers and volunteers will continue to provide labor as in kind contributions. In the face of global sea level rise, the future of the island in 50 - 100 years is uncertain. However, given the findings of the consultations and the result of the work that has been conducted so far, we are confident that the life of the Caye can be extended sufficiently to justify investment in the infrastructure (i.e. ≥ 20 years).

B.1.01.01 Construction of compost toilet at Abalone Caye in Port Honduras Marine Reserve (PHMR)

The compost facility is necessary to provide safe disposal of human waste to avoid pollution of the marine reserve. The facility will consist of a portion housed inside the ranger station, an underground bio-digester and a vegetative filtering system outside. The bio-digester system will treat the solid and liquid waste before releasing them to the vegetative filtering system, which will filter out nutrients before the water reaches the ocean. The external portion will be constructed of treated hardwood that can last up to 25 years. KfW funds will cover the entire cost of installing the compost toilet. A contract will be granted to a service provider to handle all aspects of the installation including purchasing of the system and related materials, transporting all materials to Abalone Caye, constructing the outdoor portion of system and connecting the existing indoor system to complete the facility and ensure the facility is working properly. The contractor will also provide training to the PHMR staff on how to maintain the facility (\$3,500). TIDE will provide administration and supervision of the project as counterpart (\$750).

B.1.01.02 Repair docking facility at Abalone Caye ranger station

The repaired dock will improve safe access to the ranger station for rangers and visitors and provide safe mooring for boats, facilitating patrols, research, education and other activities. The repair work will include replacement of the wooden deck using treated lumber, replacement of support beams and use of stainless steel nuts and bolts to replace the current steel ones and prevent corrosion. KfW funds will cover a portion of the cost (\$2,500) and another donor (Seacology) will contribute counterpart (\$1,000 cash). TIDE will contribute \$1,020 in-kind for supervision of works. The works will be contracted to a local building contractor.

B.1.01.03 Repairs to ranger station at Abalone Caye.

The ranger station provides accommodation to the rangers on duty and includes a surveillance tower used for law enforcement. Contract work will be awarded to conduct the repairs, which will include replacement of broken windows, replacement of decaying lumber, rebuilding a 20ft X 12ft store room and rebuilding wooden water catchment stands. KfW funds will cover half the cost (\$15,000). The other 50% will be covered by funding from Seacology (\$15,000).

B.1.01.04 Signs for marine reserve.

We will install two signs in PHMR, one at Abalone Caye and the other at West Snake Caye in one of the 'no-take-zones'. The signs will be constructed of aluminum or PVC material bearing the map of the reserve as well as the rules and regulations in English and Spanish. They are needed to increase the visibility of the marine reserve for fishermen as well as visitors. Both signs will be designed by TIDE personnel and will be contracted out for printing. TIDE rangers will then install these signs on the locations specified above. The cost of the printing and transporting of the signs to the location will be covered by KfW (\$1,150). TIDE will contribute counterpart through the use of its boat and captain for transportation (\$300).

B.1.02 INVESTMENTS IN EQUIPMENT

B.1.02.01 Procure two first aid kits for PHMR rangers.

First aid medication is needed for rangers while on duty to treat minor cuts, sprains, bruises etc. before injured individuals are transported to a medical facility. Two kits will be purchased from KfW project funds, one will be used at the ranger station and the other will be used in the patrol boat. Each kit will include a plastic waterproof case and required first aid medication (various ointments band aid, straps, painkillers, allergy medicines, etc). The plastic waterproof case will be purchased from one vendor whilst the first aid medication will be purchased from another. TIDE will make these purchases directly (\$1,000).

B.1.02.02 Purchase of boat engine and repair kit for bilge pump for patrol boat.

TIDE owns two patrol boats; one boat is fully functional, the other larger boat requires two 100HP Yamaha outboard engines and a bilge pump repair kit. For a reserve the size of PHMR (414 km²), at least two patrol vessels are needed to protect the marine resources therein. The boat engine originally planned for the second year was moved to this AOP so that the two boats are functioning properly for effective patrols in PHMR. One boat engine (\$11,500), transportation from Belize City to Punta Gorda (\$150) and the bilge pump kit (\$250), which includes one bilge pump, one automatic and one manual switch for the bilge pump, will be purchased directly by TIDE using KfW funds from the same vendor. In addition, KfW project funds will be used to hire a mechanic to mount the two engines on to the boat (\$750 contract). The other boat engine will be purchased using COMPACT funds (\$11,500) as counterpart. Since this is a high cost, three bids will be obtained as per operations manual.

B.1.02.03 Purchase new kit to service dive equipment.

TIDE's science team uses SCUBA diving equipment for its research and monitoring activities in PHMR, including sea grass, coral reef, sea cucumber, conch and lobster monitoring and fisheries assessments. To ensure that the dive equipment is properly functioning and reliable, it needs to be serviced frequently. With the use of KfW project funds, a dive equipment servicing kit will be purchased directly by TIDE (\$1,500). The kit will contain various rubber seals, o-rings, hoses, and octopus needed to service the dive equipment.

B.1.02.04 Purchase of uniform kits for PHMR rangers.

Rangers in PHMR need to be properly identifiable while on patrols. Uniforms will distinguish them from fishers and visitors. To assist with making rangers more identifiable, project funds will be used to purchase 15 uniform kits for PHMR rangers. Each kit will include 1 shirt and 1 pair of trousers. Additionally, 6 caps, 6 pairs of booties footwear and 6 raincoats will be purchased using KfW project funds. Cost breakdown is as follows; 15 shirts (\$900), 15 pairs of trousers (\$600), 6 caps (\$60), 6 pairs of booties footwear (\$270) and 6 raincoats (\$300). The total cost for uniforms (\$2,130) will be purchased directly by TIDE using KfW funds from various vendors.

B.1.02.05 Purchase demarcation kits for PHMR

Additional buoys are required to consolidate demarcation of the southeastern, eastern and northeastern boundaries of the marine reserve as well as the boundaries of no-take zones within the reserve, particularly around East Snake Caye, to ensure that fishers and visitors are familiar with the boundaries. 20 demarcation kits (\$12,500) will be purchased directly by TIDE and shipped to Belize

from the USA using KfW funds. Each kit will include a demarcation buoy, a shackle and rope to secure the buoy to a footing on the seabed. Each demarcation kit requires the construction of a footing to secure the buoy. The 20 footings will be constructed by TIDE rangers (\$500 – in kind contribution). As counterpart, we have secured funds from the MAR Fund Small Grants Program to contract someone to install the 20 demarcation buoys at locations that TIDE has already determined (see activity B.1.06.01).

B.1.04 SUPPORT FOR IMPLEMENTATION OF THE CONTROL AND SURVEILLANCE SYSTEM

B.1.04.01 First aid training for PHMR rangers

PHMR rangers live on Abalone Caye away from Punta Gorda Town so there are no medical facilities nearby. Rangers need to know how to administer first aid in the event there are medical emergencies. The training is both theoretical and practical and will be done for 10 rangers on one day. Since no one at TIDE is qualified to deliver this training, it will be contracted to professional instructors. The first aid kit purchased in activity B.1.02.03 will be used so that the rangers become familiar with the kit. Using KfW funds, TIDE will contract an individual to implement this training, which will include transportation for rangers (\$125), training (\$250), materials (\$50) and food (\$75). TIDE will provide the use of boats and captains for this activity as counterpart (\$300).

B.1.04.02 Law enforcement training for PHMR rangers

This is an annual training workshop conducted to refresh the rangers' capacity in the laws of the marine reserve and the fisheries laws of Belize. This is necessary to ensure rangers have the capacity to conduct arrests, issue warnings or educate fishers on fisheries laws. Using KfW funds, TIDE will contract an individual to implement this training, which will include transportation for rangers (\$125), training (\$250), materials (\$50) and food (\$75). TIDE will provide the use of boats and captains for this activity as counterpart (\$300). The training is expected to last one day and will be for 10 PHMR rangers.

B.1.04.03 Boat navigation and boat engine maintenance training for PHMR Rangers.

Rangers need to know how to navigate in the shallow areas of PHMR and among cayes during patrols at night as well as during the day. They are required to service the boat engines frequently to ensure long engine life. This training involves both theory and practice and will be held at the ranger station on Abalone Caye for all 12 TIDE rangers. The training is to refresh rangers' capacity and will last for one day only. KfW funds will cover the cost of transportation (\$125), food (\$75) and materials (\$50). TIDE will provide the instructor and the boat for transportation (\$800).

B.1.04.04 Support surveillance and patrols program in PHMR

TIDE has a long-term resource protection program that includes surveillance and patrols in the PHMR. Patrols and surveillance are done on a daily basis and sometimes at night to protect the marine fisheries from illegal harvesting. This program is in collaboration with the Belize Fisheries Department, which is the legal authority for fisheries management in Belize. TIDE operates this program from Abalone Caye in the marine reserve, where it employs eight law enforcement rangers equipped with two boats and a surveillance tower to monitor the area. The KfW project will support this year's operational plan through the provision of a certain percentage of the costs of fuel, oil, engine filters, engine propellers which are considered as replacement parts (\$5069), painting and labeling of 2 PHMR boats (\$980). The Oak Foundation will contribute \$27,500 toward the costs of fuel and supplies. TIDE will conduct servicing of boat engines as counterpart (\$1,000). The support of the

KfW project will increase the number of patrols in the area. TIDE keeps a record of the number of infractions in the reserve, which will be included in the annual report to the MAR Fund.

B.1.05 SUPPORT FOR THE IMPLEMENTATION OF MONITORING AND EVALUATION SYSTEMS

B.1.05.01 Proposal to develop the methodology to determine the baseline of mangrove and and seagrass (marine grassland) cover in PHMR.

To measure the higher objective indicators of the project for mangrove and seagrass cover in PHMR, TIDE will hire a consultant to synthesise existing information on the state of mangrove and seagrass cover in PHMR (\$2,500). The consultant will collect existing information from TIDE, the University of Belize and other sources and analyze it to determine whether or not there is already sufficient information to establish the baselines. The consultant will propose a methodology and approximate cost to establish this baseline, which will be done in AOP 2.

B.1.05.02 Marine monitoring package that includes water quality, fisheries assessment, sedimentation and sea turtle monitoring

In this marine monitoring package, all of the following monitoring activities will be carried out during one trip to PHMR each month: water quality, fish stock, sedimentation and sea turtle monitoring. Water quality is monitored using electronic probes that measure temperature, dissolved oxygen, acidity, salinity and conductivity. Water is collected and tested in the laboratory to measure various parameters. Fish stock assessments include measuring and documenting fishermen's catch at sea and at landing sites. Sedimentation assessments are done through the collection of sediment from traps that are brought back to the laboratory, dried and weighed to determine the rate of sedimentation. Sea turtle nesting is monitored by scouting the beach for evidence of nests. All low-lying nests are relocated to higher elevation to ensure survival. The trip normally lasts four days and is done each month using four paid community researchers. The objectives of these monitoring activities are to gauge management effectiveness of PHMR as well as to monitor critically endangered species. This activity is done internally by TIDE's scientists and using TIDE's boat and captain. The costs for the activity are as follows: transportation \$480; stipend for community researchers \$750; food \$280; materials \$150 and staff time for collecting and analyzing data \$1,500.00 giving a subtotal of \$3,160 per month. For the four-month period of AOP 1, the total cost is \$12,640. All costs associated with these activities are funded by another donor and are considered counterpart support to this project.

B.1.05.03 Monitoring of queen conch population density and dynamics in PHMR

Queen conch is one of the main commercial species harvested in Belize for export to other countries. It is important that TIDE continues to monitor conch population densities and dynamics in PHMR to ensure fishers do not over fish this species. TIDE scientists monitor this species twice per year, once at the end of the closed season and once at the end of the open season. For this AOP only one of these monitoring activities will be done. This is done by diving along predetermined belt transects and counting and documenting all queen conch. The costs for this activity are as follows: transportation \$480; stipend for community researchers \$750; food \$280; materials \$150 and staff time for collecting and analyzing data \$1,000 giving a total of \$2,660. This activity is being funded by another funder and is considered counterpart for this project.

B.1.05.04 Conduct coral reef health monitoring in PHMR

Coral reef health is important as most of the commercial fish species spend a large portion of their lifecycle on the reef. If reefs are unhealthy, commercial fish species will be unproductive, resulting in decreased or low income for fishing families. Reef health monitoring is done using established protocols as per the Mesoamerican Barrier Reef Systems Project (MBRS). This protocol is used across the Mesoamerican Barrier Reef in Mexico, Belize, and Honduras. MBRS monitoring will be done once during this AOP using six paid community researchers for seven days (\$1,575). Other costs include: transportation \$600; food \$420, materials \$250 and staff time for collecting and analyzing data \$2,000 giving a total of \$4,845. This activity is being funded by another funder and is considered counterpart for this project.

B.1.05.05 Conduct monitoring of sea cucumber population in PHMR

Sea cucumber is one of the newest commercial marine species to be harvested from PHMR. Licenses to harvest sea cucumber were issued without a proper assessment on the fishery and populations in other parts of the world have been quickly overexploited following commencement of harvesting. Furthermore, current open and closed seasons are not based on biological factors. Hence, it is important that TIDE closely monitors this species to alert the Belize Fisheries Department and fishers of the dynamics of the population. This monitoring activity uses three paid community researchers for three days. Costs for this activity are as follows: stipend for researchers \$340; transportation \$240; food \$90 and materials \$100, staff time for collecting and analyzing data \$1,000.00 for a total of \$1,770.00. This activity is being funded by another funder and is considered counterpart for this project.

B.1.06 PROTECTION OF FRAGILE ECOSYSTEMS

B.1.06.01 Complete the demarcation of PHMR.

Using the demarcation kit purchased under activity B.1.02.07, we will hire a local contractor to install the demarcation buoys. The local contractor lives within the marine reserve and is a stakeholder so there is a direct benefit for the contractor and his employees. TIDE has already determined the location for, and will supervise the installation of the buoys (\$1,500 – counterpart in-kind). The contract to install the buoys will be funded by MAR Fund as counterpart (\$3,115). TIDE has a small grant from MAR Fund entitled “*Improving Fisheries Management and Biodiversity Conservation in the Port Honduras Marine Reserve*” that allows us to use the funds for the installation.

Result 2. Best Practices Are Applied To Management And Sustainable Use Of Marine-Coastal Resources.

To work toward realizing this result, for this AOP, various activities will be carried out that focus on awareness-raising, capacity building and provision of supplement livelihood options for fishers. The KfW project in Belize will be launched at an official opening with media and influential stakeholders to galvanize support for the project. TIDE’s new and improved communications strategy will be launched with the revamping of TIDE’s website. Learning visits will be carried out for fishers and a TIDE staff member to develop their capacity in natural resources management and law enforcement, respectively. Finally, fishers will be supported to establish supplemental livelihood options that will improve their economic well-being while reducing fishing pressure in PHMR.

B.2.03 INVOLVEMENT OF ORGANISED COMMUNITY GROUPS IN THE MANAGEMENT OF NATURAL RESOURCES.

B.2.03.01 Field visit to PHMR for school children.

TIDE has a strong environmental education program that has been on-going for the past 10 years. The goal of the program is to raise environmental awareness across a wide cross section of the communities in southern Belize. This project will support our program by increasing the opportunity for youths to visit the marine reserve. We plan to make at least four visits to the marine reserve for children from inland communities this year. The KfW project will fund a class of 15 children from one inland community school and 5 others teachers/parents to visit PHMR. The cost for this trip will include fuel for transportation (\$430) and food for 20 people (\$120). TIDE will provide the boat, a captain and its environmental education officer as counterpart (\$500). The remaining three planned visits will be done with counterpart funds from UNICEF and OAK Foundation (\$1,590).

B.2.03.02 Official launch of the KfW project in Belize

It is important that the general public in Belize is fully aware of the KfW project and all the partners involved. The launch will provide an opportunity to promote the important intervention and support for conservation and marine habitat protection in Belize by the KfW, MAR Fund, PACT and TIDE. TIDE will organize an official project launch in Punta Gorda Town. Invitees will include the media, government officials that include the Mayor of Punta Gorda Town, the Minister of Forestry, Fisheries and Sustainable Development, Fisheries Department personnel, the Area Representatives of Toledo, the Minister of Natural Resources, Protected Areas Conservation Trust personnel, MAR Fund representatives and other key community representatives of Punta Gorda, Monkey River and Punta Negra. The total cost of \$2,000 to KfW project will include transportation to Punta Gorda by air for four government and 2 PACT officials from Belize City and Dangriga respectively and one media personnel, transportation for representatives from PHMR buffer communities (Punta Negra and Monkey River), snacks for invitees (50 people), lunch for 20 officials and representatives, materials and supplies and a project banner. TIDE will provide counterpart contribution such as boats, captain and other staff time valued at \$1,000.

B.2.03.03 Implementation of communication strategy for TIDE

TIDE uses a variety of media to increase the visibility of its work not only in communities that buffer PHMR, but also nationally and internationally. These include newsletters, annual reports, a Facebook fan page and a website. During this AOP, KfW project funds will be used to contract the services of a professional web designer to revamp the TIDE website (www.tidebelize.org) (\$4,000). In addition, KfW funds will be used to purchase information technology items (IT office chair, internal hard drives for computers, wireless routers, mice, etc.) \$2,500 that will aid internal and external communication. These will be purchased directly by TIDE from one vendor. TIDE staff will provide input and guidance to the web designer as a counterpart contribution (\$500). TIDE has also secured \$7,000 of additional counterpart funding for the advancement of its communication strategy.

B.2.03.04 Support 15 participants from PHMR to attend the fourth Tri-national Fishermen Forum in Guatemala

Fisheries management in the Gulf of Honduras is critical for Belize, Guatemala and Honduras. At these tri-national fishers' forums, fishers from all three countries get together to find common solutions for fisheries management and also to network and build relationships. KfW project funds will be used to support transportation, accommodation and a stipend for meals and incidentals for 10

fishers (\$1,750). TIDE will secure counterpart funds (\$875) to pay for transportation, accommodation and a stipend for the other five participants.

B.2.03.05 Support two TIDE staff to attend an international workshop on marine enforcement

With the implementation of a new fisheries management tool in PHMR (Managed Access), participation of stakeholders (Managed Access licensees) is critical. KfW funds will be used to support one PHMR staff member to attend an international workshop in San Francisco, USA, in order to learn about innovative ways in which Managed Access licensees can participate in enforcement of fishing regulations. KfW funds will be used to cover the following costs: one international flight, one local flight, food, and accommodation expenses, totaling \$1,800. TIDE will secure counterpart funds to support the other staff member to attend the workshop (\$1,800).

B.2.04 STRENGTHENING OF COMMUNITY/ASSOCIATIONS

B.2.04.01 Support supplemental livelihood projects for the Toledo and Monkey River Fishermen Associations

Rising fuel costs and decreasing fish stocks in southern Belize have resulted in decreased income for fishers. Providing supplemental livelihoods will ensure a secure income for fishers, reduce fishing pressure and may motivate fishers to more actively participate in fisheries management through improved relations with TIDE. Ten of the association members will establish poultry rearing enterprises. KfW funds will be used to hire a contractor to build and/or supervise the building of 10 chicken coops in PHMR buffer communities (\$3,000 – contract). KfW funds will also be used directly by TIDE to purchase a percentage of the materials and supplies (chicken coop materials, baby chickens, chicken feed) totalling \$9,713. The total cost to KfW will be \$12,713 and cash counterpart will be \$7,500 for remaining percentage of materials and supplies. TIDE will also provide in-kind counterpart through supervision of the project over a four month period valued at \$5,000. The project will be sustained over time by ensuring that participants use a portion of their income to purchase new supplies and materials to continue the enterprises. Each of the 10 members will also share a pair of their new baby chicks with two other association members so that those other members can start their own chicken rearing enterprises.

4. PROJECT DEVELOPMENT TABLE

Objective	Expected result	Main Activity	Sub-activity	Unit of time				Performance indicator	Impact indicator	Sources of verification	Suppositions Risks	% Execution
				Sep	Oct	Nov	Dec					
Consolidation of the Marine-Coastal Protected Areas (MCPAs) selected in the region of the Project, with conservation and sustainable use of marine and coastal resources secured in the medium term	Result 1. Protection And Conservation Of Marine-Coastal Ecosystems In The Marine Area Are Secured	B.1.01 Investments in infrastructure	B.1.01.01 Construction of compost toilet at Abalone Caye in Port Honduras Marine Reserve (PHMR)					Functioning compost toilet established at Abalone Caye in PHMR	Improved water quality around Abalone Caye	The impact is unlikely to register in TIDE's water quality monitoring results since sample sites are distant. Rangers will be able to verify the impact through direct experience.	No natural disaster will destroy the compost toilet at Abalone Caye	
			B.1.01.02 Repair docking facility at Abalone Caye ranger station					Functioning dock at Abalone Caye with new planks	Ranger patrol operation occurs smoothly without accidents arising from faulty dock	Ranger daily patrol logs	No natural disaster will destroy the dock at Abalone Caye	
			B.1.01.03 Repairs to ranger station at Abalone Caye					Completed and functioning ranger station with store room	Consistent daily ranger patrols are not hindered by faulty ranger station	Ranger daily patrol logs	No natural disaster will destroy the ranger station at Abalone Caye	
			B.1.01.04 Signs for marine reserve					Two PHMR signs established on Abalone and West Snake Caye	Visitors and fishers adhere to the rules and regulations of the reserve as stated on the signs	Infraction reports	Visitors and fishers will be able to read English	
		B.1.02.01 Procure two first aid kits for rangers					First aid kits are present at Abalone Caye	Ranger patrol operation occurs smoothly with any adequate equipment in case of injury	Ranger daily patrol logs	No significant risks or assumptions		

		B.1.02 Investments in equipment	B.1.02.02 Purchase of boat engine and repair kit for bilge pump for patrol boat				Functioning boat engines on patrol boats	In XX years illegal fishing activities will have reduced within the MPA Ranger patrol operation occurs smoothly with functioning boat engines	Ranger daily patrol logs	No criminal activity, accidents or negligence causes harm to the engine		
			B.1.02.03 Purchase new kit to service dive equipment				Dive equipment is functioning well	Research and monitoring activities occur smoothly without any diving incidents	Research team monthly reports	TIDE staff members make proper use of the kit		
			B.1.02.04 Purchase of uniforms kits for PHMR rangers				Uniforms identify PHMR rangers clearly	Ranger patrol operation occurs smoothly	Ranger daily patrol logs	No significant risks or assumptions		
			B.1.02.05 Purchase demarcation kits for PHMR				Boundaries of PHMR are clearly demarcated	Reduced infractions within PHMR	Ranger daily patrol logs	No natural disaster or vandalism causes harm to the buoys		
		B.1.04 Support for implementation of the control and surveillance system										
			B.1.04.01 First aid training for PHMR rangers				Attendance of XX rangers at first aid training session	Rangers are able to administer first aid	Theoretical and practical test results	Sickness or other reasons do not prevent trainer or trainee attendance		
			B.1.04.02 Law enforcement training for PHMR rangers				Attendance of XX rangers at law enforcement training session	Rangers are able to knowledgeable about marine and protected area laws and enforcement techniques	Test results	Sickness or other reasons do not prevent trainer or trainee attendance		
			B.1.04.03 Boat navigation and boat engine maintenance training for PHMR Rangers				Attendance of XX rangers at boat engine maintenance training session	Rangers are skilled in boat engine maintenance	Practical test results	Sickness or other reasons do not prevent trainer or trainee attendance		

		B.1.05 Support for the implementation of monitoring and evaluation systems	B.1.04.04 Support surveillance and patrols program in PHMR					Patrol logs demonstrate that XX patrols have been carried out	Decreased number of illegal activities per unit of enforcement effort	Ranger daily patrol logs	Equipment and human resources continue to be available		
			B.1.05.01 Proposal to develop the methodology to determine the baseline of mangrove cover and marine grassland in PHMR					Available data on mangrove and seagrass cover in PHMR has been synthesised and methodologies are available for monitoring of such	<u>Same as the project's: Areas of mangrove and seagrass equal to or greater than the baseline Suitable scientifically valid methodologies for monitoring of mangrove and seagrass cover are available to TIDE and other implementing agencies in Mexico, Honduras and Guatemala</u>	Report summarising existing data on mangrove and seagrass cover in PHMR and recommending methodologies for determination of such during AOP2	The consultant honours the contract		
			B.1.05.02 Marine monitoring package that includes water quality, sediment, sea turtle and fish stock monitoring					Quantity and quality of data regarding water quality, sediment, sea turtle populations and fish stocks	Utility of results of monitoring activities for informing adaptive management	Research and monitoring reports	Weather conditions permit monitoring		
			B.1.05.03 Monitoring of queen conch population density and dynamics in PHMR					Quantity and quality of data regarding conch population density and dynamics	Utility of results of monitoring activities for informing adaptive management	Research and monitoring reports	Weather and sea conditions permit monitoring		
			B.1.05.04 Conduct coral reef health monitoring in PHMR					Quantity and quality of data regarding coral reef health	Utility of results of monitoring activities for informing adaptive management	Research and monitoring reports	Weather and sea conditions permit monitoring		
			B.1.05.05 Conduct monitoring of sea cucumber population in PHMR					Quantity and quality of data regarding sea cucumber population	Utility of results of monitoring activities for informing adaptive management	Research and monitoring reports	Weather and sea conditions permit monitoring		

		B.1.06 Protection of fragile ecosystems										
			B.1.06.01 Complete the demarcation of PHMR					XX Demarcation buoys clearly identify the boundaries of the reserve and no-take zones	Reduced infractions within PHMR	Ranger daily patrol logs	No natural disaster or vandalism causes harm to the buoys	
	Result 2. Best Practices Are Applied To Management And Sustainable Use Of Marine-Coastal Resources	B.2.03 involvement of organised community groups in the management of natural resources										
			B.2.03.01 Field visit to PHMR for school children					Attendance of XX students on field visit	Improvement of students' knowledge and attitudes toward PHMR and marine biodiversity	Student tests and feedback	Weather conditions permit school visits. Parents give permission for children to participate	
			B.2.03.02 Official launch of the KfW project in Belize					Attendance of XX government officials and other stakeholders to project launch	Improvement of government officials and other stakeholders knowledge and attitudes toward KfW project	Photographs, testimonials from informal interviews	Weather conditions Government officials are willing to participate	
			B.2.03.03 Implementation of communication strategy for TIDE					TIDE website is revamped	Increased visibility of TIDE and its mission in the local and international community	Website analytics	The contractor honours the contract	
			B.2.03.04 Support 10 fishers from PHMR to attend the fourth Tri-national Fishermen Forum in Guatemala					Attendance of XX PHMR fishers at the Tri-national Fishermen Forum	Increased Capacity of 10 PHMR fishers to engage in sustainable fisheries management for the Gulf of Honduras	Fishers' testimonials	Fishers are willing to participate. The forum goes ahead as planned	
			B.2.03.05 Support two TIDE staff to attend an international workshop on marine enforcement					Attendance of XX staff member at international workshop	Increased Capacity of staff member in marine enforcement	Report from staff member	Sickness or other reasons do not prevent attendance	
		B.2.04 strengthening of										

		community/associations	B.2.04.01 Support supplemental livelihood projects for Toledo and Monkey River Fishermen Associations				<u>At least XX Number of</u> fishers establishing supplemental livelihoods	Income of participants <u>has increased by XX%</u> from supplemental livelihoods	Participants' accounts	Markets for produce remain viable. Participants apply sufficient effort and business acumen
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