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PACT
Protected Areas Conservation Trust



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

Funding Agreement: (BMZ 2007 66 667)

**Biennial Work Plan
2015-2016**

Area: Port Honduras Marine Reserve, (PHMR) Belize.

Executed by: Toledo Institute for Development and Environment (TIDE)

1. CONTEXT AND SENSITIVE POINTS

This Biennial Work Plan (BWP) formulated by the Toledo Institute for Development and Environment (TIDE) encompasses the period January 2015 to December 2016. In preparing this BWP TIDE concentrated on ensuring that all activities are in line with the expected results of the project as well as the overall goals it is trying to accomplish. In addition to realizing these results, there are also other outcomes of implementing this project, these include building a stronger relationship with the communities that are impacted by the Port Honduras Marine Reserve. With the planned activities this relationship will continue to grow far beyond the life of this project. Our 14 years of experience has taught us that without the direct involvement of communities and their input into the management of natural resources, effective management can be an uphill battle. In the past years the communities have benefitted from investment in training and capacity building for microenterprise; however because of a lack of accessible finances to invest in the microenterprises these community members could not use those trainings. They were constantly in need of support from TIDE. With the targeted investments by this project the communities are now seeing the physical infrastructure being built in addition to the training offered. This is confirmation that TIDE will continue to assist them in sustainable development. This project is also functioning as a pilot project by default since it is the first to be implemented in the region and TIDE is pleased to be leading the way in its implementation and sharing of valuable lessons. As with all projects that are significant risks and sensitive issues that must be considered even though those risks may not manifest themselves during the life of this project. Since this project focuses on ensuring sustainability far after its life period these issues can still affect the impacts or outcomes of the project even after 10 years. These sensitive issues are discussed below and a brief description of TIDE action to address them are also listed.

- Exploration and drilling for oil in the Port Honduras Marine Reserve and in Belize's offshore continue to be the most significant sensitive issue that TIDE and the communities near the marine reserve are faced with. In a time when the Government of Belize (GOB) as most countries of the world is facing serious economic downturn the premise of oil in any country is likely to skew critical decisions related to the potential environmental risks. Governments will more than likely overlook the potential environmental impacts and proceed to allow exploration and drilling in offshore areas and in Protected Areas as we are currently witnessing in Belize. Perhaps the most interesting thing about this issue is that the Port Honduras Marine Reserve is a National Park owned by the state and is co-managed by TIDE through a co-management agreement with the government. Although TIDE may not support the exploration of drilling activities in the marine reserve, we still have to be professional in our approach; hence we have carefully crafted a position on oil exploration in the reserve that will be released shortly. We have also shared our information with an advocacy group called the '*Belize Coalition to Save Our Natural Heritage*' who have started a campaign against oil exploration in the Port Honduras Marine Reserve and offshore Belize.
- As indicated in previous work plans illegal fishing by nationals and non-nationals is still an issue. The sensitivity of this matter lies at the government level because of border issues between Belize and Guatemala. Whenever fishers from Guatemala venture into Belize's territorial seas to fish, they are committing crimes of illegal entry into Belize, illegal fishing in Belize, illegal entry into the marine reserve since it is now a special site for controlled access, etc. Law enforcement can be unclear and tricky given the current claim for Southern Belize by Guatemala, especially when our rangers have to arrest and charge Guatemalan fishers. As an organization working in the region, TIDE continues to be in the forefront of organizing Tri-national forums for fishers from Belize, Guatemala and Honduras through and alliance called the Tri-national Alliance for the conservation of the Gulf of Honduras (TRIGOH). TRIGOH has done significant work in these three countries in trying to get fishers and fisheries managers to see the gulf as a shared resource that has to be managed from that standpoint. TIDE believes that this is one of the main reason why illegal entry into Belize from the sea has decreased significantly.

2. HIGHER PROJECT OBJECTIVE

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

3. PROJECT OBJECTIVE.

“To consolidate the CMPA selected in the Project’s region and ensure the use and marine resources in the medium-term.”

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

TIDE continues to use the sustainable development approach to natural resource management focusing equally on Environmental, Economic and Social aspects. As it relates to environment and conservation we use the ecosystem based management approach through the determination of habitat types and sizes to make management recommendations. Economic and social aspects are similar in that in deprived communities like the ones TIDE works with the economic situation has a direct impact on the social situation. In the case of Punta Negra with decrease economic gains residents relocate from the community resulting in the erosion of the social fabric. Thankfully with the implementation of this project this community is on the path to recovery. In component 1 of the project for this BWP TIDE will continue to position itself to become more sustainable through continuation of investments in securing and improving current infrastructure, investment in new long lasting equipment for increased effectiveness in enforcement, environmental education and outreach as well as research and monitoring. This component also helps to build the capacity of the marine reserve staff to enhance the sustainability of the human resources, continue to invest in science based monitoring of commercial marine resources as well as critical ecosystems used as biological indicators to make better management decisions and recommendations and finally continue to strengthen the existing financial sustainability program to decrease dependence on grant funding and securing the future of the organization. The activities proposed below are in tandem with the Management Plan for the Marine Reserve as well as in tandem with the new TIDE strategic plan for the year 2015-2019. In cases where applicable, the section of the PHMR management and TIDE strategic plans are listed. Activities that contribute to the protection and conservation of marine-coastal ecosystems include investment in infrastructure such as securing valuable office equipment, protection of the ranger base from erosion, creation of a substation for increased presence and a new building for the new dive compressor; investment in equipment such as signs, vehicle, computer, safety equipment, GPS tracking of boats and dive maintenance kit; investment in evaluation of the implementation of strategic plans and creation of a new management plan for the marine reserve for the period 2017 to 2021; investment in law enforcement program along with capacity building for enforcement staff in relevant topics such as training in court procedures, conflict resolution and anger management and SCUBA diving; continuation of our marine resource monitoring program for commercial fish, ecosystems such as mangroves and coral reefs, water quality and habitat mapping; capacity building for other key staff and board of directors, investment in our financial sustainability program (Direct investment and marketing), communication and involvement of stakeholders in the management of the resources.

4. ACTIVITIES AND SUB-ACTIVITIES

B.1.01 INVESTMENTS IN INFRASTRUCTURE

Congruent with the management plan for Port Honduras Marine Reserve (2012 – 2016) under section **4.6.4 Infrastructure Management Program** ‘The Infrastructure Management Program covers activities such as the maintenance of present infrastructure and equipment, and planning for future infrastructure and equipment needs. Site and infrastructure management is addressed under three sub-programs;

Infrastructure, Equipment and Maintenance. Investment for infrastructure for this BWP includes securing the assets at the TIDE compound, climate change adaptation, repairs to substation and new compressor building.

B.1.01.02 Improve security at TIDE compound (2015)

Through this project TIDE was able to obtain much needed infrastructure and equipment including a boatshed, a new ranger/field office, lab and dive equipment, boat and boat engines, storage room etc. With the recent threat of break-ins and robberies around town it is becoming more important to secure our assets that we rely on to effectively manage the marine protected area. We would like to use the project funds to hire a contractor to construct and install 8 burglar bars on the windows of the TIDE office building at a cost of \$1,600 to the project. TIDE will contribute \$100 in counterpart through the use of electricity for the installation. Total cost to the project is \$1,600; total counterpart is \$100.

B.1.01.02 Construction of new building for new dive compressor (2015)

In 2014 TIDE bought a new dive compressor with the project funds. The compressor is currently being housed in the old compressor building which needs to be rebuilt. The current compressor building is over 10 years old and is falling apart resulting in an unsafe environment for filling dive tanks that are used for research in the marine reserve. TIDE is requesting the use of \$3,000 of the project funds to construct a new compressor building measuring 5ft X 10ft on Abalone caye. The construction will be contracted out to a qualified contractor who will take care of all costs associated with the construction.

B.1.01.09 Climate change adaptation measures to save Abalone Caye (Island) from erosion (2015)

In 2013 TIDE used a portion of the project funds to construct an artificial reef/protective structure to slow erosion of Abalone Caye where our ranger station has been for the past 14 years. With the impacts of climate change and possible sea level rise erosion of Abalone caye has increased significantly over the past 5-7 years. After 5 years of constructing a defense structure made of rocks Abalone caye is still eroding simply because the structure in place is not sufficient to enclose the caye. We noted that areas that are protected by the structure are not eroding as much as the unprotected areas. Based on previous experience we believe that an additional 20 truckloads of rocks would be enough to complete this structure as only about 1/3 of the caye remains unprotected. We have also invested heavily on this island and so it is critical that we make the investment to complete the structure.

It is also important to note that because of our efforts to adapt to a changing climate the National Protected Areas Secretariat of Belize (NPAS) is looking at this project as a learning experience for possible mitigation for the rest of the coast of Belize. TIDE implemented a project along with NPAS to share our experiences. We are requesting the use of \$15,000 of the project funds to complete the defense structure around the cay. This will include the purchase of 15 loads of rocks (\$3,000) as well as transporting them to the island and constructing the rest of the structure through a contract (\$12,000). TIDE will contribute \$5,000 for 5 truckloads and transportation to the island. TIDE already has gabion baskets that were purchased with project funds in 2014. Total project cost \$15,000; total counterpart contribution \$5,000.

B.1.01.10 Repair ranger sub-station and tower on West Snake Caye in PHMR (2015)

With the increase in fishing pressure from non-Managed Access fishers who cannot legally access the resources in the marine reserve; TIDE decided to increase its ranger presence in the replenishment zones of the marine reserve. Our research has shown that even though the current replenishment zones are small they can increase the fish stock if fishers comply with the no-extraction policy within the replenishment zone. By amalgamating 3 small circular zones into one larger zone with straight edges enforcement will become much more effective; in addition a bigger replenishment zone will increase the commercial fish

stock. TIDE continuously get reports of night fishing and other illegal entry into the replenishment zones so there is a need to have greater presence in this zone.

We are proposing to invest a total of \$2,000 to repair the existing sub-station making it livable and functioning properly. The substation is still in good condition but has lost its windows and ceiling. This budget is to replace the windows and remove the termite-infested ceiling. The work will be done by the TIDE rangers. Note that in 2013, TIDE invested in the furniture and fixtures for the substation. TIDE also has a new Memorandum of Understanding (MoU) with the new owner of the caye on which the substation is constructed. The MOU allows us to build these structures on an island that TIDE does not own. Total project cost \$2,000; total counterpart contributions \$500 in fuel to travel to the island to conduct the repairs.

B.1.02 INVESTMENTS IN EQUIPMENT

As indicated above the management plan for the Marine Protected Area (MPA) in section 4.6.4 addresses the investments in equipment needed for the effective management of the MPA. The activities proposed in this section span over 2015 and 2016 and include purchase of a computer, a motor vehicle, GPS tracking devices, safety equipment and dive gear repair kit.

B.1.02.02 Signs in English and Spanish featuring maps of new replenishment zones of PHMR (2015)

This activity was deferred from 2014 AWP, implementation method and costs remain the same. Four signs highlighting a map of the new replenishment zone along with rules of the zone will be designed, printed and installed in 2014. Two signs will be made in Spanish and two in English to ensure all fishers fully understand where the new no-take zone is. The signs will be constructed of aluminum and installed at key locations in the reserve particularly in the replenishment zones and in the general use zone. Signs 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 of the signs for a total of \$2,300 will be charged to the project. TIDE will contribute \$600 as counterpart through the use of its boat, transportation and boat captain.

B.1.02.03 increasing safety for park rangers and manager (2015)

The PHMR enforcement program assessment funded by this project in late 2013 found that the life vests now being worn by the enforcement officers are big, bulky and restrict movement. In addition, they cause the wearer to overheat and are altogether uncomfortable. It is recommended that these rangers wear inflatable life vests that are more comfortable and do not restrict movement. TIDE is requesting the use of \$1,260 to purchase 10 inflatable life vests for the TIDE rangers and MPA manager. The vests will be purchased online and shipped to Belize. In addition, the assessment also highlighted the fact that the rangers have no way of defending themselves if necessary. It is to be noted that the TIDE Board of Directors do not approve the use of side arms for the rangers, so the recommendation made in the assessment is for rangers to carry collapsible batons. These units are approximately 9 ½" inches in length when collapsed yet when deployed expand to a total length of 26". While collapsed, they are worn in a holster on the belt in an inconspicuous manner. Rangers will also need to be trained to address the batons proper use in defensive and offensive tactical situations. The batons also use a holster that is sold separately. TIDE is requesting the use of \$1,500 of the project funds to purchase 10 batons and 10 baton holsters. MPA Enforcement International recommends Galls Police & Emergency Supply as they carry quality equipment at competitive pricing and ship worldwide. <http://www.galls.com>. TIDE will cover the cost of shipping, duty and other applicable taxes as counterpart estimated at \$500. In addition, in 2014 TIDE purchased and installed demarcation and mooring buoys with project funds. It is also very important to conduct frequent servicing of the buoys including cleaning of ropes, shackles, buoys and mantas. TIDE hired a company to train rangers

on the installation and servicing of these buoys in 2014; included in the training was a recommended maintenance schedule and necessary equipment from the company who did the training. TIDE is requesting the use of project funds to purchase the protective clothing needed for the servicing of the buoys; these include 10 pairs of Rubbermaid gloves (\$100) and 6 rash guards (\$600). TIDE will contribute a total of \$5,000 in fuel needed over an 18-month period for maintenance of the as counterpart. Total project cost \$3,460; total counterpart contribution \$5,500.

B.1.02.04 Purchase of 1 laptop computer (2015)

In this year's AWP TIDE is requesting project funds for the partial purchase one laptop computer valued at \$2,500. The laptop will be used by the manager of the project whose responsibility is to oversee the implementation of the project, report on project progress, develop and submit annual work plans and budget for the project as well as implement some of the project activities. The cost of the laptop is higher than some laptops because of the need for a reliable Macintosh operating system that last much longer than its Windows counterpart. TIDE will cover a portion of the cost of the laptop, cost of shipping and duty for the computer estimated at \$1,500 as counterpart. Total cost to the project is \$2,000; total counterpart \$1,500.

B.1.02.05 Purchase of repair and maintenance kit for dive gears (2015)

With project funds we invested in dive gears and a dive gear storage/repair room in 2014. The idea is to reduce repair/maintenance cost by doing these activities in-house. Currently TIDE has to send all its dive gears to Belize City for servicing and basic maintenance. This has a very high cost because we have to transport the items back and forth as well as pay to have the items serviced or repaired. In this BWP TIDE is requesting project funds to purchase the repair/servicing kit needed. TIDE's Science Director is certified for dive gear repairs and maintenance and will be leading the servicing and repairs with other TIDE staff and community researchers assisting and learning. The cost of the kit is \$3,075; TIDE is requesting \$2,000 of the project funds and will provide the remaining \$1,075 for the purchase of the kit which will include an ultrasonic bath, wrench set, dive maintenance tools, storage boxes and spare parts (O-rings, various seals etc). Total project cost \$2,000; total counterpart contribution \$1,075.

B.1.02.06 Use of real-time GPS tracking for patrol boats (2015)

There are 2 main reasons why GPS tracking for our patrol boats are needed. The first is that it allows management to map where the boats are patrolling and if the rangers encounter illegal activities near the boundaries this can help to determine whether they are inside or out. This is important because many times fishers use the excuse that they don't know where the border is or they claim that they are outside of the reserve. A system like this can instantly tell whether they are inside or out. The second reason is that there have been a number of boats stolen in Belize that are never recovered. This GPS system can be set up in such a way that it sends an alert once the boat is outside of a particular area or if the boat is moved without authorization. This is important in preventing boats from being stolen. TIDE uses all of its boats to patrol within the Marine reserve at some point. Although we have 5 boats that are dedicated to marine management including 3 patrols boats and 1 education and outreach/ridge-to-reef boat, there are 3 other boats that are normally used on rivers but also do marine patrols from time to time. It is therefore important to install GPS tracking system on all of the TIDE boats. TIDE is requesting the use of project funds in the amount of \$2,800 to purchase 8 GPS tracking devices and \$4,000 for 2 years airtime plan to monitor the tracking devices via online services. TIDE plans to purchase a system similar to the one found at this website <http://guarddoggps.com/gps-products/marinetrac/> in the USA and will cover the cost of transportation, duty and other taxes as well as for the installation of the system for a total counterpart value of \$500. Total project cost \$6,800; total counterpart contribution \$500.

B.1.02.07 enhancing mobility for integrated MPA management (2015)

TIDE continues to struggle with implementing some of its programs such as education and outreach, community development, etc. that have to use a vehicle to access some communities by road especially when sea conditions are unfavorable. All of the vehicles that TIDE owns are over 10 years old and are constantly in the repair shop due to their high mileage and degraded physical condition. In 2012 and 2013 our records show that we spent over \$20,000 on repairs for vehicles that was related to the use within the management of the marine reserve. We are also struggling to transport boats to and from the launching dock especially in times of repairs cleaning etc. Some of the staff has used their personal vehicles in some instances because of the lack of a working vehicle. TIDE is desperately in need of a reliable vehicle which will save funds as there will be less repairs cost, less transportation cost especially to Monkey River Village as it takes about 30 gallons of gasoline fuel (\$195) to travel to there by boat. Based on an average of 30 trips per year for environmental education for schools and outreach purposes to Monkey River via boats this costs us over \$5,800 in fuel. If we use a new vehicle the cost would be about \$50 in diesel fuel or \$1,500 per year. This represents a savings of over \$4,300 per year. Once TIDE acquires a new vehicle it will retire the oldest vehicle to reduce the cost of repairs and maintenance. A new vehicle will contribute significantly to the success of this project because of the integrated approach to marine conservation that TIDE employs. Our education and outreach program focuses on coastal communities as well as inland communities that live along critical watersheds that empty into the Port Honduras Marine Reserve. The marine reserve is located along the coast so land-based runoff is of high importance to maintaining water quality for the survival of the marine species therein. It is therefore important that these land-based communities know the importance of how their actions upstream affects the marine reserve. TIDE also has a Community Development program in these communities that requires frequent visits to both the inland and coastal communities. We are requesting the use of \$25,000 for the purchase of a diesel fuel Toyota Hilux pickup truck to assist with project implementation and sustainability after the project concludes. TIDE will cover the remaining cost and cost of duty and other taxes as well as license and insurance for the vehicle as counterpart for a total of \$21,000. Total project cost \$25,000; total counterpart contribution \$21,000.

B.1.03 GENERATION/UPDATING OF MCPA MANAGEMENT PLANS

As per TIDE's strategic plan (Strategy One) Effective management of Protected Areas; Section 1.1 speaks to ensuring all three protected areas managed by TIDE have update and approved management plans. The recommendation of the strategic plan is that the marine reserve includes at least 2 miles of Deep River from the mouth of the river as well as the entrance of the Payne's Creek National Park lagoon to protect critical goliath grouper nursery grounds. The management plan for the Port Honduras Marine Reserve will have to be approved by both the TIDE Board of Directors and the Belize Fisheries Department. In this BWP TIDE will need to conduct an appraisal of the current management plan for the marine reserve in 2015 and update the management plan to ensure a plan is available after the life of this project.

B.1.03.01 Conduct a M&E of the current management plan for PHMR (2015)

It is important to Monitor and Evaluate (M&E) the implementation of the current management plan to enable TIDE to determine the extent of the implementation of the plan. The M&E exercise will entail revisiting each output and each outcome to determine whether that output was accomplished or whether that outcome was realized. It will also help to determine the level of implementation as well as identification of delays and determine what, if any action will be taken to mitigate delays. This evaluation exercise will be done based on the recommended M&E tool located within the TIDE strategic plan and will be led by TIDE's Program Director. All cost associated with the M&E will be absorbed by TIDE as counterpart and valued at \$3,000 in cost of fuel, food and materials for the exercise. The exercise will be done over a period of 4 months in 2015 and the results will feed into the updating/generation of the new plan scheduled for 2016. Total project cost \$0; total counterpart contribution \$3,000.

B.1.03.01 Update the Port Honduras Marine Reserve management plan (2016)

At the commencement of this project, TIDE had an active 5-year management plan for the Port Honduras Marine Reserve (PHMR). The plan active period is from 2012 to 2016 and will expire at the end of this project. It is important that TIDE has an updated management plan for the marine reserve before the current plan expires. TIDE plans to hire a consultant to update the management plan and create a plan for the period 2017 to 2021. The consultant will be responsible to hold consultation meetings with the TIDE staff, management, Board of Directors, Advisory councils and the communities near the marine reserve to incorporate their input into the plan. The estimated duration of generating the new plan including consultation meetings is 6 months. We plan on hiring the consultant starting in April 2016. The total cost to the project for the updating of the plan is \$6,000; Total counterpart contribution is \$500 in the form of fuel to travel to communities to inform them of the consultation process and set dates for consultation.

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

As indicated in previous AWP section 4.5.1 of the PHMR management plan describes the Resource Protection Program where this section of the BWP falls within. Since the section and corresponding objectives remain the same the preamble cannot be altered. The PHMR management plan focuses on ensuring the maintenance of healthy, functional ecosystems, through direct management of the marine environment, surveillance and enforcement and direct biodiversity management interventions. This program falls under the responsibility of the Marine Manager and rangers. Two sub programs have been identified under this program: Surveillance and Enforcement and Marine Resource Management. The program goal is 'To protect the physical and biological resources of Port Honduras through protecting and enhancing key species, habitats and ecosystem functions and services'. To accomplish this goal, 6 objectives were identified as follows;

Objective 1: To preserve the value of the area for fisheries, through the protection and enhancement of habitats utilized by commercially important species.

Objective 2: To reduce fishing pressure in the PHMR by 30% by eliminating illegal fishing and illegal fishing methods.

Objective 3: To maintain diverse and healthy fish populations in the rivers of the Mayan Mountain Marine Corridor - MMMC.

Objective 4: By 2018, increase commercial species (conch, lobster, snapper, grouper) and parrotfish to viable population levels

Objective 5: By 2015, increase shark numbers by 15% based on 2006 levels, and the population of large (>110cm) Goliath Grouper by 15%, in PHMR based on 2006 levels.

Objective 6: By 2020, have nest monitoring and protection in place for 25% of all known marine turtle nests in PHMR.

In partial fulfillment of the objectives set out in the section of the plan, activities listed under section B.1.04 will be implemented in 2015-2016.

B.1.04.03 Support surveillance and patrols program in PHMR (2015 – 2016)

This activity is a continuation of 2014 AWP and an ongoing program at TIDE. In 2014 we made some changes to the program by adding a piece of technology where rangers can track their patrol routes via GPS using a tablet. The tablet also allows the rangers to insert additional data on the patrols such as names of persons encountered, name of boat, pictures if needed weather information etc. 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 six law enforcement rangers equipped with two boats and a surveillance tower to monitor the area. TIDE is once again requesting the use of project funds in the amount of \$15,000 to cover some of the cost of fuel and oil over an 18-month period. With the use of the Spatial Monitoring and Reporting Tool (SMART) to conduct strategic patrols only a total of \$22,500 as counterpart funding and support will be needed by another donor and TIDE. This represents a decrease in fuel needs by over 30% or a savings of \$17,250 over an 18-month period as a conservative figure. The dependence of this project to fund fuel cost will decrease from \$1,000/month in 2015 to \$500/month in 2016. TIDE will also conduct servicing of boat engines, procurement of engine propellers and oil filters as counterpart for a total of \$2,000 in counterpart over an 18-month period.

In 2014 the project funded ration for the rangers which they were extremely grateful for. We are once again requesting a total of \$16,600 for ration for rangers for the next 18 months starting in January 2015. We also promised to research ways in which we can sustain this need. One possible avenue discussed by management is the procurement of food items that are near expiration that has to be removed from the store shelves. In most cases these items are still safe for consumption up to 3 months after expiration date. If we are able to work with these store owners we may be able to get the food items for half the original price or sometimes for free. We plan to pursue this avenue among others in 2015 with the goal of sustaining the need for ration by the ranger team by 2016. There are two service providers for gas in Punta Gorda Town so TIDE will share the purchase of gas among the two vendors, in addition the ration supply will also be shared among vendors in Punta Gorda Town, but rangers will try to find the best priced items. The nature of this purchase does not require estimates before purchase. TIDE will contribute a total of \$7,800 as counterpart for the same period. The total cost to the project for this activity is \$31,600; counterpart contribution is \$32,300.

B.1.04.06 Training in conflict resolution and anger management for Rangers (2015)

On a daily basis rangers are faced with conflicts between fishers and others who may be involved with illegal activities in the park. These activities may be minor in nature but as enforcement officers trying to ensure compliance the rangers are often viewed as Policemen and therefore meet resistance from many fishers. As officers of the laws they need to ensure that they do not contribute to conflicts while doing their jobs. They cannot afford to get angry in any situation especially since they have the power to apply the laws of the country. TIDE believes that rangers should be properly trained on how to resolve conflicts and manage anger in order to be effective in carrying out their duties. This training can be done over a 2-day period and will include the hiring of a trainer for \$500 and food for 6 rangers and 1 manager for 2 days (\$110). TIDE is requesting the use of \$610 of the project funds to conduct this training. A total of \$250 will be provided as counterpart for fuel for travel from the ranger station to TIDE office and back for the training.

B.1.04.06 Court procedures training for 6 rangers (2015)

Whenever rangers make arrests for illegal fishing in the marine reserve they have to go to local magistrate court to press charges to the persons they detained. This can be tricky and intimidating for inexperienced rangers and may result in a lost case if rangers are not meticulous, calm and composed. This training will help to ensure all necessary documents and evidence are correctly collected and presented in court so that rangers' confidence is increased while on trial. TIDE is requesting the use of \$300 to cover the cost of the one-day training on court procedures for the trainer and food for the participants. TIDE will provide \$250 in counterpart for fuel for travel to TIDE office and back to the ranger station in the reserve. Total project cost \$300; total counterpart contributions \$250.

B.1.04.06 SCUBA certification training for Marine Rangers (2016)

In 2013 this project funded open water dive training for the marine reserve rangers. Since then we have had changes in staff with the addition of 2 new rangers that isn't yet certified in SCUBA diving. Rangers are

required to SCUBA to service and maintain the demarcation and mooring buoys, assist with research and monitoring as well as using SCUBA in law enforcement when necessary. It was recommended by the company that trained the staff in installing mooring and demarcation buoys that the staff needed to have at least a rescue diver certification in order to service and maintain the buoys because of the intensive labor involved and the length of time required. It was also recommended that at least 1 dive master assist the rescue diver during the servicing of the buoys as some of the buoys are anchored in waters that are over 100ft deep. TIDE is requesting project funds to contract a dive center to conduct open water, advance diver, rescue diver and dive master training for 4 marine staff; the training needed by the staff varies as the level of certification also varies among staff. There is a need to have 2 new rangers trained in open water (\$1,600); these same rangers will also be trained in advance diver (\$1,000), rescue diver and dive master (\$2,000). One ranger is already a certified advance diver so that ranger will be trained in rescue and dive master level (\$1,000). The marine reserve manger is already trained in rescue diver so he will be trained in dive master level (\$500). All 4 marine reserve staff will be trained up to dive master level. TIDE is also requesting \$500 of project funds to cover the cost of food for the staff during the training. The total cost for these trainings is \$9,000; TIDE is requesting \$6,600 of the project funds to cover the cost of the trainer's fee, books and printed materials and food for the trainer. TIDE will contribute \$2,400 in counterpart funds to cover the cost of transportation and logistics (Phone and utilities) during the training. Total project cost \$6,600; total counterpart contributions \$2,400.

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

Section 4.6.2 of the PHMR management plan speaks to the 'Research and Monitoring Program' for the MPA. The plan stipulates that the research program is to provide ongoing information on the state of the marine resources that can be used for adaptive management, to assisting in prioritizing monitoring and research activities, and to informing management decisions. As indicated earlier there is no change to the plan, so the sections and subsections of the plan remain the same. The Research and Monitoring program falls under the responsibility of the Science Director, and consists of four sub programs:

- Research Program
- Monitoring Program
- Staff
- Communication and Collaboration

To implement a clearly documented research and monitoring program that supports ecosystems planning and management in the Port Honduras Marine Reserve and the wider Maya Mountain Marine Corridor, the following key objectives are essential;

- To monitor viability of conservation targets and water quality
- To provide information on the ridge to reef connectivity of the Maya Mountain marine Corridor
- To effectively assess success of no take areas, managed access and PHMR as a whole in maintaining viable populations of key conservation species
- To identify sites/coral species resilience and develop recommended adaptations for climate change
- To establish comprehensive datasets and effective data management and analysis for providing information for informing adaptive management strategies and assessing the management effectiveness of the marine protected area
- To improve engagement of stakeholders of PHMR through involvement in research and monitoring activities within the Marine Reserve, to build capacity and improve support for conservation activities.
- To improve capacity and ability of staff, rangers and community researchers to conduct research and monitoring within PHMR

In 2013 100% of the cost for research and monitoring within the marine reserve was funded through counterpart funds. In 2014 this cost was split between the project and counterpart funds. In 2015 and 2016 this cost will once again be split between the project and counterpart funds. The project funds will be covering stipend for community researchers, materials and supplies and food and the fuel for research will be covered by counterpart funds. Since the stipend for community researchers is a direct support to community members, that cost is inserted into component 2 of the AWP.

B.1.05.01 Measurement in the fifth year of implementation of the Project of the surface area and condition of mangroves and marine grassland in the four MCPAs, to achieve the established indicators (2016).

According to the verifiable indicators of the main objective of the Project, on 2016 it is necessary to implement a consultancy for the mangrove and sea grass cover assessment, to have the information of the last year of the Project and also to compare with the data from the first measurement. This consultancy will begin in May 2016, sharing the respective TOR in order to get three bids. The cost of the activity will be of \$15,000.00. The contract will be signed by MAR Fund but the disbursement of the funds will come from each BWP of the protected area.

This activity will give updated information on the percentage of coverage of these two ecosystems, mangrove forest and sea grass beds in the region measuring changes (Positive or negative or none) during project implementation. Total project cost \$15,000.

B.1.05.06 continue habitat mapping of PHMR GIS and Ground-truthing (2015)

Using counterpart funds in 2014 TIDE was able to map about two-thirds of the habitats in the Port Honduras Marine Reserve. Due to inclement weather conditions and poor visibility we could not map the remaining third of the reserve. Mapping of the reserve includes travelling out with a group of community researchers, snorkeling and recording the habitat located on the substrate. The results of the habitat mapping are used to inform sustainable fisheries management initiatives such as Managed Access in the marine reserve as well in the rest of Belize. If we are able to calculate the productive area for each of the commercial fish species such as conch, lobster, sea cucumber and fin fish we will be able to determine how much fish can be extracted over time and effectively advise the government on how to share or issue fishing quotas or limits to the number of fishers in a given area. The total cost of this activity is \$5,559; TIDE is requesting the use of \$4,659 of the project funds to cover the cost of some of the items under this activity; these are as follows; Food and water for 8 people for 10 days \$825; research materials (Write in the rain paper, batteries, oil and filter for dive compressor) \$234. There is also the need to contract the GIS specialist that volunteered with TIDE in 2014 for a period of 6 months at \$600/month (\$3,600). This activity also includes stipend for 6 community researchers for 10 days, a cook from the community and boat captain from the community which are included as part of activity B.2.03.29 not added here. Total project cost is \$4,659; total counterpart contribution \$900.

B.1.05.07 monitoring of water quality (On site and in lab analysis), sedimentation, fish stock and turtle nests in PHMR for 18 months (2015 – 2016)

TIDE has been monitoring the water quality of PHMR since 2003. The following parameters are monitored on a monthly basis in the reserve; dissolved oxygen, temperature, salinity and turbidity. Nitrates and Phosphates are analyzed in the lab on a monthly basis as well. On this same monitoring trip researchers also conduct sediments, turtle nest monitoring and fish stock assessment in the marine reserve. These monthly monitoring events are very important in determining trends that enable us to make critical decisions regarding the management of the marine resources; they will also provide valuable information that may help to prevent activities such as oil exploration from occurring in the marine reserve. TIDE is requesting the use of \$10,842 of the project funds to cover the following costs; Food for research team 10

persons for 18 months \$6,300, materials for water quality (Lab and field) includes (Write in the rain paper, batteries, pens, Millipore filters, NitraVer 5 Nitrate pack, PhosVer3 pack, disposable gloves, pipettes, disposable wipes, baking soda, deionized water, ethanol), materials for the sedimentation monitoring includes (filters, buckets, hoses), materials for fish stock assessment both on sea and at landing markets (dissection kits, chisels, sample bags, scales) and materials for the turtle monitoring include (Abney levels, sand thermometers, string, spirit levels, fencing, buckets). The total cost of all these materials is \$4,542. Total cost for community researchers' stipend for 18 months is included in activity B.2.03.29 below. All other costs including fuel and oil (\$20,925) associated with these activities are funded by another donor and are considered counterpart support to this project. Total project cost \$10,842; total counterpart contributions \$20,925.

B.1.05.13 Monitoring of queen conch population density and dynamics in PHMR and mark and recapture (2015)

Queen conch continues to be one of the main commercial species harvested in Belize for export to other countries as well as local consumption. Over the years our monitoring efforts have shown trends in decreasing conch population with overall shell length remaining within recommended size but lip thickness being decreased significantly. In 2014 we conducted a research to correlate conch lip thickness with maturity to determine whether the large conch being harvested legally is mature or not. At the time of the formulation of this work plan the work hasn't yet been analyzed, but speculation indicates that the conchs being legally harvested now are juveniles. It has also become important to determine whether conchs are moving into and out of the replenishment zones to determine whether the replenishment zones are functioning. This is done by capturing, measuring, marking and releasing legal size conch with unique markings and re-measure that conch if found again and noting where it was marked versus where it was recaptured to determine its movement. Knowing conch movement throughout the year will also assist us in making management recommendations for revolving replenishment zones. TIDE is requesting the use of \$620 from the project for food for researchers and materials for study for year 2015. The cost of stipend for Community Researchers is included in Activity B.2.03.29 below. The cost of fuel and oil for \$1,200 will be provided through counterpart funds. Total project cost \$620; total counterpart contribution \$1,200.

B.1.05.14 Conduct coral reef health monitoring in PHMR (2015 – 2016)

Belize continues to be a leader in coral reef health in the region according to the Reef Report Card produced by Healthy Reef Initiative. The reefs in the marine reserve funded by this project are among the best in the region and continue to support the marine resources and communities nearby that depend on it. 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 is done twice per year May and November in the reserve using paid community researchers along with the TIDE biologist and research assistant. TIDE is requesting the use of \$2,313 of the project funds for 3 monitoring events (May and November 2015 and May 2016) to cover the following costs; food (\$1,313) and materials (\$1,000) for waterproof paper, pencils batteries. Stipend for Community Researchers and boat captain are included in activity B.2.03.29 below. The cost of fuel and oil for \$2,250 will be funded by another funder and are considered counterpart for this project. Total project cost \$2,313; counterpart contribution \$2,250.

B.1.05.15 Conduct monitoring of sea cucumber population in PHMR (2015)

Belize continues to face some challenges as it relates to the management of sea cucumbers. Since it is a relatively new commercial marine species we haven't been able to establish fixed licenses or total allowable catch or even set open and closed seasons properly. In the past 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. TIDE continues to closely monitor this species to alert the Belize Fisheries Department and fishers of the dynamics of the population. TIDE is requesting a total of \$1,290 for food (\$520) and materials (\$770) for this activity. Stipend for community researchers is also needed but is included in activity B.2.03.29 below. The cost fuel and oil for \$1,200 is being funded by another funder and is considered counterpart for this project. Total project cost \$1,290; total counterpart contributions \$1,200.

B.1.05.18 Monitoring of lobster population in PHMR (2015 – 2016)

Lobster continues to be the most profitable commercial fish species in Belize. Although lobster fishers are creating artificial habitats to increase yields our research is showing a continuous decreasing population trend in PHMR; TIDE is yet to ascertain the causes for this trend. TIDE monitors lobster population twice per year (February and June) in the general use and no-take zones of the PHMR. Ever since this monitoring started in 2003 we have seen a continuous decline in population density. It is expected that the population will increase within 5 years of the implementation of Managed Access combined with the increase in the no-take zone acreage.

TIDE is requesting a total of \$1,240 of project funds for 2015 and 2016 for food (\$1,040) and materials (\$200). Stipend for community researcher is included in activity B.2.03.29 below. The cost of fuel and oil is \$2,400 will be covered by counterpart funds. Total project cost \$1,240; total counterpart contributions \$2,400.

B.1.08 INSTITUTIONAL STRENGTHENING FOR AREA MANAGERS

One of the key investments in TIDE is its human resources. Without a properly trained staff TIDE would not be able to successfully accomplish its goals and objectives. On an annual basis, TIDE seeks opportunities to increase the capacity of its staff through various trainings, conferences and workshops.

A part of strengthening of the organization is also to ensure that the work the organization does is highly publicized to increase the visibility of the organization in the community. Because TIDE works in a dynamic community it is important that we utilize several means of communicating with our various stakeholders. In this AWP TIDE is proposing to use printed materials, radio and television to cover all local and national stakeholders, as well as the internet to reach international stakeholders.

There is also the need for TIDE to become more financially sustainable. This is a relatively new approach that TIDE is taking with the hope of decreasing dependence on financial grants from donors through generation of income from TIDE Tours and its ridge-to-reef expedition program which requires volunteers to pay for their experience. The income earned from these two programs will assist with overhead and environmental education. All these aspects of institutional strengthening are discussed below.

B.1.08.01 Develop, print and distribute PHMR brochure (2015)

This activity is being deferred to 2014 AWP because of limited time to implement, the justification and cost remains the same. One of the ways in which we communicate with our stakeholders and the general public is through printed materials. In Southern Belize, only a small percentage of the population has access to internet, about half the population has a television with local cable and about 80% has a local radio. With these statistics, it is essential to have printed materials to distribute to communities not only around the marine reserve but to the wider district of Toledo.

TIDE will develop a brochure bearing information on the Port Honduras Marine Reserve and how people can become involved. A total of \$1,500 of project funds will be used to print 500 copies of the brochure. The

brochures will be distribute to local communities in Southern Belize, but will also be used to market TIDE and the Marine Reserve internationally as a tourism destination at tourism trade shows and taken along when TIDE staff visits other countries. TIDE will contribute \$500 in transportation cost to get the brochures to Punta Gorda and to distribute them to various stakeholders. Total project cost \$1,500; total counterpart contributions \$500.

B.1.08.02 National radio show on TIDE and PHMR (2015)

This activity is a continuation from the 2014 AWP with some minor changes. In past years we pay a national radio station to transmit a live show on TIDE from the TIDE office in Punta Gorda. This has worked well since we get most of the management staff to talk about their respective work on the radio. In 2015 we plan to travel to Belize City to air the show on television instead since many people requested it. The show will simultaneously be transmitted on radio as well so it will be reaching audiences that do not have a television set. Four of the TIDE staff will be travelling to Belize City to appear on the television show. The costs associated with this show include travel, accommodation, food and fee for the television transmission. TIDE is requesting project funds for the show as follows; \$80 for food for 4 people, \$300 for accommodation and \$750 for the payment for the television show. This is a total of \$1,130 of project funds for this activity. TIDE will provide the funds for travel to and from Belize City in the amount of \$200 in fuel and oil as counterpart.

B.1.08.03 training in conservation journalism for marine reserve staff (2016).

One of the many ways in which TIDE is preparing itself for financial sustainability is to ensure all its staff knows how to fundraise. Fundraising can be done in many ways and each of its staff has a role to play in increasing the friends of TIDE. Rangers and other marine reserve staff come in contact with potential donors frequently while out on the marine reserve, these potential donors (visitors) may be willing to fund TIDE's programs if they are impressed enough with the work that TIDE does. It is up to the front line employees such as the rangers to convince the visitors that it is worth investing in TIDE's work; this can be done by training the rangers to not just tell of the work but tell it in the form of a journalistic story filled with the passion they already have for the work they do.

Story-telling in journalism is becoming popular in North America and TIDE is planning to stay current by ensuring these strategies are used when necessary. TIDE is requesting the use of \$4,400 of project funds to conduct this training; this will cover the cost of hiring a professional conservation journalist from the United States of America to train the marine reserve staff; \$4,000 to cover the cost of trainers fee, airfare, accommodation and food and \$400 for food and materials for a marine staff of 10 individuals. This training is expected to last for 4 days and will be done at the TIDE office in Punta Gorda. At the end of the training each participant will upload their finished story to the TIDE website and Facebook fan page. TIDE will cover the cost of venue and fuel for transportation for rangers for \$500 as counterpart. Total project cost \$4,400; total counterpart contributions \$500.

B.1.08.03 training in project management for TIDE's Park Managers (2015)

TIDE recognizes that it cannot afford to expand its staff with new project managers so we decided that the park managers will be tasked with some project management to assist the Program Director who is currently managing all of TIDE's projects. This training will allow the marine reserve manager and the managers of the other protected areas that TIDE manages to receive formal training in project management so that they will be qualified to manage his own projects. TIDE plans to hire a trainer to conduct this 4-day training at its offices in Punta Gorda. It will also be an opportunity to open this training to other non-governmental organizations in Toledo where they can pay a fee to help cover the cost of the trainer. TIDE is requesting project funds to cover the cost of the trainer (\$1,250) in a contract, food for 4 participants for 4 days (\$125) and materials for the training (\$50) for a total of \$1,425. TIDE will cover the cost of fuel for the park

managers to attend (\$400) and the cost of venue (\$100) for a total counterpart cost of \$500. Total project cost \$1,425; total counterpart contributions \$500.

B.1.08.03 training in quick books for finance staff

TIDE continues to build the capacity of its entire staff including the office staff that needs to stay current with latest tools available for effective management. One of these tools is software called Quick Books that is used to track expenditures and generate various financial reports. Currently this function is being carried out by an external accountant contracted for this purpose. TIDE believes that if its finance staff is trained in Quick Books it will be a lot faster to generate financial reports in-house needed for Board Members, Project Managers and donors. This training will be done in-house by TIDE's accountant for a cost of \$1,500 as counterpart. There will be no cost to the project.

B.1.08.03 training in Microsoft Project for TIDE Senior staff (2015)

TIDE's Program Director is tasked with the management of all of TIDE's Programs as well as all of the projects that TIDE is currently implementing including this project. His duties include project planning, budget and work plan preparation, implementation of projects and reporting on progress. It was recognized that TIDE do not use software to manage its projects so management can sometimes be confusing and time-consuming which can lead to inefficiencies. Microsoft Project is currently one of the most popular project management software available today and can be used to help manage all of TIDE's projects. TIDE's Program Director received basic training on this software but this limited training is not sufficient to allow effective use of this software. TIDE is proposing a more advance course for the project manager and 2 other senior staff to be done by either the Belize Institute of Management or the University of the West Indies Belize City or Sai Info Tech from Belize City. The cost of level I and level II trainings in MS Project is \$500 per person including lunch and snacks for 4 days; cost of training for 3 staff members is \$1,500. It is more cost effective to have the trainer travel to TIDE's office to conduct this training so we are also asking the project to fund the cost of the trainer's travel, accommodation and meals for the duration of the training; this cost totals \$500. TIDE will provide the venue for the training as counterpart for a total of \$100. Total project cost \$2,000; total counterpart contributions \$100.

B.1.08.04 to contribute to the effective national implementation of Managed Access (2015)

TIDE has successfully attended a conference in Australia in 2014 where it was requested that TIDE shared its lessons learnt from Managed Access. In 2015 we plan to continue to share our experiences but also to learn from others' experiences to build on existing knowledge to strengthen the program. Managed Access is in the process of being implemented throughout Belize for all of Belize's coastal waters. This decision by the Government of Belize is based on the lessons learnt from TIDE in the Port Honduras Marine Reserve. This project has also contributed in the implementation of this program in Belize. Currently the region is looking at Belize's Managed Access process to see if it can be adopted elsewhere; TIDE is proud to be the leader in this innovative fisheries management program. TIDE is requesting the use of \$2,000 of the project funds to fund the cost of one of its staff member to attend an international conference on fisheries management related to Managed Access. These funds will be used to cover costs such as airfare, hotel and food for the staff. TIDE will contribute \$1,000 as counterpart for incidentals and other travel expenses such as taxes and ground transportation. Total project cost \$2,000; total counterpart contribution \$1,000.

B.1.08.05 investment in accommodation facility for ridge-to-reef expeditions (2015)

TIDE's financial sustainability program Ridge-to-Reef (R2R) has had significant success in 2014. A total of 8 people participated in an 8-week expedition and all participants confirmed that the experience was worth the investment. In 2014 TIDE invested in some dive equipment and other supplies including BCD, Regulator, Mask, Snorkel, Wetsuit, Booties, Fins, Rashguard, Dive Knife, Dive computer, Gear bag, Reel, SMB, Slate,

Oxygen provider kit and camping gears. We also wanted to improve the water supply system at the expedition camp in the Payne's Creek National Park that TIDE also manages; however due to unexpected changes in weather which lead to high levels of rain we could not do so. TIDE is proposing to defer this portion of the activity to 2015 as there is still the need to improve on the water system. The cost for that part of the activity remains the same as in 2014; \$1,000 for a 1,000 gallon-capacity water tank and \$2,000 for a contract to improve the current water supply facility at the expedition base located in Payne's Creek National Park. This improvement is necessary to supply the 3 new showers and toilets constructed by TIDE through another donor in late 2014. In addition to the improvement in water supply, it is also necessary to provide energy to the expedition base camp. The current solar energy system is by far too small to accommodate a group of 20 or more people. TIDE is requesting projects funds in the amount of \$25,000 to install a 3.0 Kilowatts system. This is based on a recommendation by a solar technician for a group of 20-25 individuals. TIDE plans to contract the procurement of all materials and supplies as well as the installation of the system to a qualified solar technician. The value of the existing expedition base camp and equipment owned by TIDE for \$75,000 is considered counterpart. Total project cost \$28,000; total counterpart contributions \$75,000.

B.1.08.05 strengthen TIDE's financial sustainability through marketing of ridge-to-reef expeditions program (2015)

In 2014 TIDE participated in 2 international travel shows, one in the USA and one in the UK where our Ridge-to-Reef program was marketed to international travel agents from around the world. Our marketing has already starting to pay off as we are already receiving confirmation for booking for 2015 from various groups. TIDE plans to continue to invest in marketing of this program aimed at becoming more financially sustainable in 2015 and 2016. Through our contacts with the Belize Tourism Board (BTB), we participated in a 'BTB Roadshow' in the UK. This 'Roadshow' was planned by the BTB and targeted specific travel agents in the UK. BTB made all connections and logistics and all TIDE had to cover was the cost of airfare, hotel and food. BTB is again planning another roadshow in 2015 to Canada; this is another great opportunity for TIDE to market the R2R program. TIDE is requesting a total of \$4,500 to cover costs such as airfare, accommodation and food for the Manager of TIDE Tours (Manager of R2R program) to attend the roadshow in Canada in 2015. A total of \$2,000 to arrange logistics and registration is contributed by the BTB as counterpart. In addition, we now have a new and improved brochure on the R2R program that has been redesigned by a volunteer. We are requesting a total of \$2,000 to print 1,000 copies of the new brochure to distribute on the roadshow. A roadshow like this could easily reach over 2,000 individuals so we believe this is worth the investment as it has high returns. The BTB also tries to collect contact information from each of the individuals who attend the roadshows; these contacts are shared with TIDE as well so we can follow up with interested individuals. TIDE will contribute a total of \$500 to cover incidentals and taxes for the staff as counterpart. Total project cost \$6,500; total counterpart contribution \$2,500.

B.1.08.09 Conduct mentoring of community members that are involved with implementation of micro-enterprise to ensure project success. (2015)

One of the main issues that the communities that TIDE works with are having is that there is minimal involvement of TIDE after a training or investment in a microenterprise. Many times community members are left to struggle with their business without the support of TIDE. This has been one of the key lessons learnt from our past experience. The main reason for TIDE not being able to continue its support is due to the lack of a dedicated staff to work solely with these communities to ensure they remain focus and to continue to teach them how to manage their business. In late 2014, using project funds, TIDE was able to hire a mentor to help the community groups manage their business, this individual's work has already started to pay off as there is a formation of a new Women's Group interested in food supply as a means of supplementing their income from fishing. TIDE strongly believes that this is the key to successful microenterprise for communities that have little capacity to manage a business. TIDE is therefore

requesting \$12,500 of the project funds to continue funding this very important position for 10 months (March to December 2015). TIDE will contribute a total of \$2,500 in fuel costs for travel for the mentor to and from the communities. Total project cost \$12,500; total counterpart contributions \$2,500.

B.1.08.10 Strengthening of the TIDE Board of Directors (2015).

During a recent institutional assessment of TIDE, it was recommended that the Board of Directors needed to play a more prominent role in fundraising as well as communication about the organization thereby making the organization more visible. The TIDE board is made up of local businessmen, retired teachers, academia, natural resource managers and community representatives. These individuals each has their own network of individuals who they can rely on to help TIDE in some way; however, the board needs to be trained on how to perform their duties more effectively. It is also recommended that the board members can play an important role in communication about TIDE. Communication by board members can be more effective than a staff member simply because board members are not paid; they are giving a service to the development of the community by being on TIDE's board. TIDE is requesting the use of project funds to hold a Board of Director's retreat in Mexico. The main reason for holding the retreat there is that the board is keen on having Lorenzo Rosenzweig from Fondo SAM to talk to them about the fundraising role of board members. The board is also keen on having a board member from its partner the Massachusetts Audubon Society in the United States of America speak to them about communication and how they can become more effective communicators of TIDE's work. TIDE believes that by taking the board members outside of Belize it will allow them to bond on a personal and professional level. It is also cheaper and easier for the board member from Mass Audubon to travel to Mexico instead of to Punta Gorda, Belize. The total cost of this activity is \$8,300. The main costs associated with this activity are air and land travel to and from Mexico for the board member from Massachusetts Audubon Society (Boston), meals and accommodation; travel, meals and accommodation for Mr. Rosenzweig travel by road to Mexico in the TIDE Tours minivan for TIDE board members, accommodation for 2 nights for 11 people and food for 3 days for the board members. TIDE is requesting the use of \$1,800 of the project funds to cover the cost of Mr. Rosenzweig's travel, meals and accommodation as well as the board member from Mass Audubon's accommodation and meals. Total project cost \$1,800; total counterpart contributions \$6,500.

Result 2. Best management practices and sustainable use of coastal and marine resources has been promoted

The Port Honduras Marine Reserve is a multi-use reserve where commercial fishing, recreational fishing, sports fishing, low impact tourism and specialize microenterprise are permitted under certain restrictions. For all of these users to benefit significantly and live comfortably management must be integrated using a 'Bottom up' approach where communities are taking ownership because their inputs are taken into consideration in management of the resources. They must also realize that in order for the resources to continue to support them, they must use these resources in a sustainable manner. The activities proposed in this component focuses on support to the existing projects but also uses the various documents such as the Community Development Plan and Sustainable Tourism Development Strategy that were developed early in this project to guide future investments. The new activities are investments in sustainable developments that can continue to generate benefits to the communities long after the life of this project. In addition, TIDE is committed to ensuring the effectiveness of these investments are measured on an annual basis to protect the investments and help alleviate poverty while reducing pressure on natural resources. TIDE is proposing to continue to support the mentoring of the community groups that are involved with the microenterprise projects that were initiated in 2014. These include the fruit drying facility in Punta Gorda, the Restaurant in Punta Negra and the Sports fishing guides in Monkey River. We are also

planning on using the mentor to guide the communities' involvement in the new initiatives particularly strengthening the local governments and better prepare them to manage the affairs of the community to ensure they realize economic benefits from those investments. New initiatives proposed here are formulated to support and enhance the existing strategies to achieve the overall goal of increasing economic benefits while relieving pressures and building better partnerships. These investments are related to sustainable tourism development including the development of new tourism products as well as improvement of existing products and marketing the communities as tourist destinations. For responsible tourism to occur there has to be some fundamental investments in these communities including the provision of the basic needs of life – water. Other investments include the creation of a welcome center in Monkey River Village, enhancement of existing river and trail tours and crafts. In addition, there are investments that can benefit fishers such as provision of an ice maker to preserve seafood products so that they can get better prices. TIDE is also proposing to take more Belizean fishers on exchange with other fishers from abroad as well as bringing fishers to visit Belizean fishers to inspire the Belizean fishers to get better organized and more involved with management of their resources.

B.2.01 DEVELOPMENT OF THE PRODUCTIVE FABRIC OF COMMUNITIES/ASSOCIATIONS

TIDE continues to implement various programs such as the Community Researchers Program, the Community Stewards Program, the Freshwater football conservation competition (Freshwater cup), annual summer camps and building the capacity of fishing associations/groups in governance, program implementation, planning etc. to promote the productivity of community members. In this section of the AWP TIDE will work with fishers and community leaders involving them in the management of the natural resources.

B.2.01.04 support sustainable tourism in Monkey River Village (2015).

In accordance with the Tourism Development Strategy developed through this project, there is a couple of tourism developments in the pipeline for Southern Belize which are; development of a cruise port on Harvest Caye which is about 45 minutes from Monkey River Village by boat; the construction of a second international airport near Placencia Village and the completion of an international highway connecting Punta Gorda Town with Guatemala City through the West of Belize estimated to be a 5 hour drive when completed. These developments are estimated to increase visitors' flow to Southern Belize by 'six times' the current capacity by 2030. With these developments in mind the Southern destinations must position themselves to take full advantage and prepare in advance for such significant increases in visitation. It was identified that both Punta Negra and Monkey River Villages have extremely great potential for traditional tourism growth as well as new tourism developments. Currently Monkey River Tour is marketed extensively on the internet via tour operators from Placencia and Hopkins Villages; however little marketing is done from within the Monkey River Village itself. The Tourism Development Strategy for the coastal communities in Southern Belize suggests a couple of investments including management and improvement of Monkey hiking trail, establishment of a 'Welcome Center' along with signage in the community, Mangrove Restoration (nursery) and Mangrove Tour (Hibiscus Women's Group), Training on improvement of Tourism Services (Accommodation, Restaurants and Tour Guiding) and Marketing. TIDE has seen the need to invest in some of the recommendations from that strategy, in particular the management and improvement of the 'Monkey Trail', creation of village tour, craft making, training in improvement of Tourism Services (Accommodation, Restaurants and Tour Guiding) and Marketing. A description and cost of implementing of these activities follows.

"Monkey Trail" – (April-May 2015). The enhancement of the trail system includes the construction of a 'Rest station' at the entrance of the trail. The rest station is a small sheltered structure with park benches and a bathroom where visitors can rest, have a little snack or use bathroom after returning from the hike.

The 10 feet X 16 feet shelter which is an open building with concrete floors and metal roof would also contain educational information about the trail among other information. The cost of the rest station with picnic tables is \$6,000 including labor and materials; the cost of the bathroom with 2 compost toilets plus a water tank on a stand for hygiene is \$5,000 including labor and materials and the cost of the educational displays is \$500; this is a total of \$11,500 for the entire project. TIDE is requesting \$6,500 from the project to purchase the materials for the rest station and bathroom and the educational displays. The community of Monkey River will contribute the labor to construct these infrastructures (\$5,000). The Monkey River Village owns the land where the trail is located so their in-kind contribution will be in the value of the land as well for \$15,000. Total cost to project for this activity is \$6,500; counterpart contribution for this activity is \$20,000.

B.2.01.04 support for tourism development in Punta Negra Village (2015)

Based on the community development plan and the tourism development strategy both of which was funded by this project the village of Punta Negra is projected to become the heart of tourism for the Toledo District because of its over 14-mile long beach. Although the village is extremely small in terms of population, it was once populated with many families who moved out because of lack of economic opportunities. The documents pointed out that residents may move back in when the major tourism developments like the cruise port, international airport etc have been established within the next 5-10 years. Port Honduras Marine Reserve will also be heavily impacted by this surge of visitors especially since it has one of the healthiest reefs in the region. According to the community development plan for Punta Negra the community needs several basic investments to better position themselves for tourism, these are as follows;

A secured water supply. The community has never had a secure supply of fresh water for basic needs; families depend on rainfall to collect water in cisterns which have to be carefully used during dry season for about 4-5 months of the year. Unfortunately, this is also the peak tourist visitation period to Belize and the demand on scarce water is always high. Punta Negra has no electricity so electric pumps or small reverse osmosis packages isn't feasible here. Probably the only thing that can work is to supply 2 homes and the kitchen with water tanks and connections from the roof to capture rainwater. There is currently a water tank near the school that is supplying the school. This tank catches rainwater from the roof of both the old and new school buildings and is quickly filled after a day or two of heavy rains. Unfortunately because of its small size the water cannot supply the restaurant or other homes. In longer than normal dry periods residents have to transport freshwater from the Punta Negra Lagoon which is about $\frac{3}{4}$ of a mile away from the village. This is done by boat so the cost of obtaining water is high. If Punta Negra Village is to continue to exist, this basic survival need must be addressed. TIDE is requesting the use of project funds to purchase and install 3 large water tanks to 2 community members' homes and the newly constructed restaurant. The tanks will be placed on wooden stands which will be contracted for construction to qualified contractors who will be responsible for acquiring all the necessary materials and supplies for the stands in addition to construction and connection of tanks to roof for a total cost of \$3,000 for each stand and \$3,000 for 3 tanks. The Punta Negra community is contributing the existing buildings for the water supply as in-kind for a total value of \$30,000. Total project cost \$6,000; total counterpart contribution \$30,000.

B.2.01.04 Local marketing of tourism products in Punta Negra and Monkey River (2016).

After the completion of the development and investment in the tourism products in both Monkey River and Punta Negra, both villages need to share the products with tour operators in Southern Belize and the Belize Tourism Board (BTB) so that the operators and BTB can also market these products internationally. To do this it is essential to conduct a familiarization tour of what the villages have to offer. There are about 10 tour operating businesses in Southern Belize that are already marketing some products in Monkey River but not Punta Negra. The idea is to take them all on a tour of Punta Negra and Monkey River and give them the cost of the package so they can better sell the tour. TIDE is proposing to use project funds to transport and

provide food for 10 tour operators in Southern Belize and BTB for the familiarization tour of Monkey River and Punta Negra. Five operators from Placencia will travel by boat to Monkey River and Punta Negra, 3 operators will travel by road to Monkey River and 2 representatives from BTB will travel by air to Punta Gorda and then by road to Monkey River along with the operators from Punta Gorda. The participants of the tour will have lunch in Punta Negra Village. The total cost for this activity to the project is \$1,000 for transportation of tour operators and BTB to and from Monkey River Village, to Monkey River "Monkey Trail" and to and from Punta Negra Village and \$125 for food for 12 people. TIDE Tours will organize the familiarization tour as counterpart for a value of \$500 for logistical arrangements and some ground travel. Total project cost is \$1,125; total counterpart contribution is \$500.

B.2.01.11 Train 5 Monkey River tour guides in Fly-Fishing techniques and provide sports fishing kit to participants (2015).

Sports fishing, proven to be an alternative to commercial fishing, is becoming popular in southern Belize and there are limited number of trained sports fishing guides to meet the demand of tour operators. Monkey River tour guides already have boats and engines and can supplement their livelihood by engaging in Sports Fishing. An economic valuation of PHMR done in 2008 indicated that Fly-fishing guides can earn up to \$350 per day within the marine reserve. TIDE proposes to use \$5,000 of the project funds to contract an experienced local fly-fishing company to conduct the training that includes practical field sessions to 5 tour guides and fly-fishing gears at the cost of \$1000 per guide. This training cost includes transportation out at sea with the trainees on a daily basis to practice their fly-fishing techniques as well as for the fly-fishing company for their consulting fee. In addition each fly-fishing guide will receive a sports fishing kit after successful completion of training; the kit will include 1 fly-fishing rod and reel, flies and 1 fly-line at a cost of \$1,000 per kit for a total of \$5,000 which will be charged to the project. Counterpart will be provided by trainees in the form of boats and engines valued at \$5,000. Total project cost \$10,000; total counterpart contribution \$5,000.

B.2.01.13 Invest in a small-scale solar fruit drying facility for 10 women in fishing families including training and first year operational cost (2015 – 2016)

This activity is a continuation from the 2014 AWP. Operational training, conflict resolution and anger management training have been completed and training in business management has started and continues. The women's group in Punta Gorda who are involved with the fruit drying business also started to draft a detailed business plan which will be completed by the middle of 2015. There is a need to defer certain aspects of this activity due to delays; these activities include the main building structure for processing (\$12,550), 1 solar dryer room (indirect dryer) and support system (\$2,750), 4 direct dryers (\$1,500), cutlery and cutting boards (\$150), aprons, shoes and hairnets (\$150), two scale measure 10lbs (\$250), wood stove and heat exchanger plus piping (metal) (\$750), plastic containers and buckets all sizes (\$150), utility connection, plumbing and electrics (\$500), maintenance tools (\$500), stainless sink on metal legs and stainless table on metal legs (\$750). Total funds being carry forward is \$20,000. For 2015, there is a need to offset some of the operational cost of this business for the first year (April 2015 to March 2016) to enable the business to have a better chance of surviving. Based on the business plan, the following recurrent/operational expenses are required for one year of operation; salaries for workers based on 2 persons per day at \$17.50/day/person for 20 days per month for 12 months (\$8,400); Fruit purchase based upon averages \$800 per month for 12 months is \$9,600; maintenance supplies for the dryers at \$75/month for 12 months is \$900; social security at \$20/month for 12 months is \$240; licenses, fees and taxes \$50 annually and administration and book keeping at \$50/month for 12 months is \$600 for a grand total of \$19,790 for the year. We are requesting the use of project funds to cover the half of the cost of fruit purchasing (\$4,800), all of the cost of maintenance supplies (\$900) and licenses, fees, taxes and bookkeeping (\$650). The women's group will contribute the remaining cost as counterpart. There is also a need to continue to hold sessions with the women to complete the business plan. It is estimated that a total of 10

sessions are needed to complete the plan, these sessions are scheduled from April to August 2015 and two sessions are scheduled per month. TIDE is also requesting project funds to cover the cost of food for the women during the session. Cost of food for 12 women for 10 sessions is \$90/session totaling \$900 for 10 sessions. The company who is buying the dried fruit will hire a staff to conduct quality control inspections and oversee the cleanliness of the operation and ensure that workers perform their duties based on the methods established by the company. It is expected that the workers which will be the women trained will work on rotational basis. TIDE will dialogue with the group to consider the operational investment in the first year as a no-interest loan which they would repay over a 5 year period starting in 2016. Total cost to the project for 2015 is \$27,250; \$20,000 being brought forward from 2014 and \$7,250 budgeted in 2015. Total counterpart contributions \$13,440.

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

TIDE's mission is to foster community participation in resource management. TIDE achieves this through various programs such as 'Community Researchers Program' where youths that have graduated from high school or college are trained in marine resource monitoring by TIDE, and they are also hired to assist with research and monitoring. TIDE also has a 'Community Stewards Program' where fishers are trained on the various marine and fishing laws; they are given incentives for reporting catch and assisting rangers with resource protection. The community stewards are also tasked with the responsibility of teaching other fishers about the various marine ecosystems and how to document catch data for Managed Access Program. TIDE has an annual summer camp where children are granted an opportunity to learn about conservation and visit the various protected areas managed by TIDE. In this section of the AWP TIDE will work with Managed Access fishers, community leaders, other NGOs and children as a way on involving them in the management of the natural resources.

B.2.03.01 Conduct 3 fishing forums in Punta Gorda (2015 - 2016)

This activity is a continuation from 2014 AWP. Since TIDE started these regular Managed Access Forums in 2012 fishers look forward to them as a means of information sharing and addressing fisheries management issues. TIDE plans to continue holding these forums to ensure communication between the fisheries managers and the fishers. We believe that this is an effective way to ensure Managed Access works; it was also recommended by the program evaluators that TIDE continue to hold these forums.

TIDE will use \$3,000 of the project funds to cover the cost of 2 forums in 2015 (May and November) and TIDE will cover the cost of 1 forum in April 2016 (\$1,500). Cost to the project includes meals, accommodation, travel, materials and supplies. Forums last for one day only and focus on the implementation of Managed Access with an aim to improve the program and make it easy for fishers to comply. Some Government officials will travel by air, some fishers will travel by land and others will travel by sea. TIDE will also provide \$1,500 to cover the administrative cost of organizing the forums such as telephone calls, printed invitations, and fuel to invite fishers as counterpart. Total project cost \$3,000; total counterpart contribution \$3,000.

B.2.03.01 Networking - PHMR advisory council meetings, APAMO, Coral Reef Network, TRIGO, SPAGs, International travel, etc. (2015 – 2016).

This activity is a continuation of 2014 AWP. TIDE is recognized as leading Non-Governmental Organization managing protected areas in Belize and so we are asked to participate in national, tri-national and international conferences, meetings etc. We are also members of various umbrella organizations such as the Association of Protected Areas Management Organization (APAMO), the Coral Reef Network, the Tri-national Alliance for the Conservation of the Gulf of Honduras (TRIGO), the Spawning Aggregation Group

among others. TIDE is proposing to use \$3,000 of the project funds to cover air travel to participate in approximately 12 one-day work sessions and/or meetings mainly in Belize City in 2015 – 2016 (1 per month) March 2015 to February 2016.

Another very important aspect of decision making with respect to the management of the Marine Reserve is the involvement of the Advisory Councils. They represent the interest of the communities, the business community, institution and the government and they can recommend certain rules regulations for the management of the marine reserve. TIDE is proposing to use \$1,500 of the project funds to cover the cost of 4 of the advisory council meetings; 3 meetings in 2015 (March, July and November) and 1 in 2016(February); these costs will include reimbursement for travel and provision of food for community members. A total of 12 community members representing the stakeholder communities of Punta Negra Village, Monkey River Village and Punta Gorda Town sit on the Advisory Council for the management of the marine reserve. TIDE will provide \$1,000 to cover the cost of 1 advisory committee meeting, 1 additional airfare and for the use of venue for meetings as counterpart. Total project cost \$4,500; total counterpart contribution \$1,000.

B.2.03.09 Open water dive training for 6 community researchers (2016).

This activity is a continuation of the training activity in 2013 AWP. TIDE intends to train 6 new community researchers open water SCUBA certificate in 2016. Community researchers are vital in assisting TIDE with marine research and monitoring. They are provided with the training and in return they have to commit to assisting TIDE with its research and monitoring for at least 3 monitoring sessions for free. Subsequent to their free assistance to TIDE, they are paid for every dive they do with us; this is one way in which TIDE involves the communities in resource management while they still earn an income.

TIDE will use \$3,500 of the project funds for the training to cover the following costs; boat captain, Diver's Alert Network Insurance for participants and Dive Instructor, Instructor fee, Food, Open water manual, pool rental, PADI certification, First Aid Kit Supplies, Printed materials, materials supplies, food and an assistant dive instructor during the training. As counterpart, TIDE's Science Director, who is a dive instructor, will lead the training with the help of the assistant instructor. TIDE will provide the transportation, use of dive tanks, compressor and dive gear for a total counterpart of \$3,600. The trainings will last for 10 days. Total project cost \$3,500; total counterpart contribution \$3,600.

B.2.03.14 Support TIDE annual summer camp (2015).

TIDE's annual summer camps impacts children from at least 15 communities in 7 locations. The camps which will last for 2 weeks will focus on the importance of the sea grass and mangrove ecosystems including their economic value, ecosystem services, human and climate change effects on them, etc. There are many fun and learning activities along with trips from the rivers out to the marine reserve that allow children to experience the sea grass, mangroves and coral reef highlighting environmental problems affecting them and discuss ways to prevent and mitigate those problems. TIDE will hire an experienced college level student from the community of Punta Gorda Town to prepare the camp lessons, ensure implementation and reporting. This student will be supervised by our Environmental Education Coordinator and will be paid \$350 via a contract which will help that student with much needed funds for school. Other camp costs include fuel for 8 school trips \$1,500; Bus transportation for camp volunteers \$50; Camp teaching materials \$500; Food and snacks for children and volunteers \$2,000 and prizes for campers (School supplies) \$400. We are expecting a total of 160 children to participate in the summer camp as usual. These children will be divided into 8 groups of 20 participants including campers and volunteers each per trip. TIDE is proposing to use its own boat for the trip to save costs instead of chartering a boat as we did last year. The total cost of the summer camp for 2015 is \$5,800; TIDE is requesting \$4,800 from the project to cover the costs listed above. TIDE will provide \$1,000 as counterpart through logistical arrangements (Travel to schools to organize camps and trips).

B.2.03.18 to enhance the capacity of teachers in Toledo to teach environmental science (2015).

In 2014 TIDE was able to contract a consultant to develop the teaching materials (including lesson plans) for the middle division classes (5-6 grade). There was not enough time to train the teachers in schools how to use the information so that part of the activity was deferred to 2015 to ensure the materials produced are used effectively. Currently many teachers are asking TIDE to visit the schools and conduct these lessons because they do not feel comfortable teaching these environmental subjects. With these new lesson plans and training on how to use them this should reduce the dependence on TIDE to conduct these lessons in schools. There is also the need to increase awareness of the availability of these resources so that more teachers can use them. To accomplish this TIDE plans to invest in designing, printing and distributing posters with the information to the wider teaching community. Once the training is completed and teachers are using the materials TIDE will conduct an assessment of the program after 1 year to determine what is working and what isn't and make further improvements to the system. TIDE is requesting a total of \$4,300 of the project funds that equates the total brought forward from 2014. This will cover the cost of a contract for someone to train 20 teachers in Toledo on how to use the lesson plans and how to access them. This cost includes cost of travel, accommodation, food, consultation fee for the consultant (\$1,500) and food for the participants for 2 days (\$300). The program assessment will be conducted by an external consultant who will seek to determine the effectiveness of the program and make recommendations for improvements. The cost of the assessment is \$2,500 and is included in the overall cost listed above. TIDE will cover the cost of venue and logistics as counterpart valued at \$200. Total project cost \$4,300; total counterpart contribution \$200.

B.2.03.24 Stipend for community researchers, boat captain and cook to assist with monitoring and research (2015)

The community researchers program continues to build the capacity of community members to participate meaningfully in TIDE's work as well as increasing the trust between TIDE and the fishers as some of the community researchers are children of fishers. TIDE train youths in marine resource data collection and hire them to assist with the collection process on a monthly basis. All the activities that they are involved with are listed in the main activity **B.1.05 Support for the implementation of assessment and monitoring systems**. TIDE proposes to use project funds to cover the cost of the stipends for 6 community researchers who are not employees of TIDE, but are contracted to collect data for a period of 18 months. Based on the needs for the various monitoring activities the cost of the stipend for these community researchers varies between months for the various monitoring events, these are detailed as follows; Water quality on water and in the laboratory \$4,950 for researchers and \$2,700 for boat captain, conch monitoring plus mark and recapture study \$1,875, lobster population and dynamics monitoring \$3,750, Sea cucumber monitoring \$1,875, Finfish monitoring in water \$2,814 (3 times in 18 months), fish landing data at sea and at markets \$5,400, MBRS (AGGRA) reef monitoring \$2,813 for community researchers and \$563 for boat captain (3 trips), mangrove leaf litter monitoring once per year for 2015 and 2016 is \$600 for researchers and \$225 for boat captain and habitat mapping \$2,250 for researchers and \$375 for boat captain. During intense research and monitoring events the research team usually hires a cook from the community of Punta Negra for a couple of days so that the team can concentrate on getting the work done. Throughout the 18 month period the cook will be hired for 30 days for some of the monitoring activities, the cook is paid \$25 per day which is equivalent to \$750 for the period. The grand total for stipend for 6 community researchers, boat captain and cook for 18 months is \$30,940 and TIDE is requesting project funds to cover this cost. Because people are already trained and selected for TIDE, the procedure three tenders in the Project Operational Manual will not be made.

B.2.04 STRENGTHENING OF COMMUNITY/ASSOCIATIONS

As indicated above, TIDE's mission is to foster community participation in resource management. TIDE achieves this through various programs such as the Community Researchers Program, the Community Stewards Program, the Freshwater football conservation competition (Freshwater cup), annual summer camps and building the capacity of fishing associations/groups in governance, program implementation, planning etc. In this section of the AWP TIDE will work with Managed Access fishers and community leaders involving them in the management of the natural resources.

B.2.04.07 Provide 10 scholarships to children of the Managed Access Fishers for one year (2015)

This activity is a continuation of 2014 AWP. TIDE continues to assist the Managed Access fishers who are struggling to earn an income from fishing. For the past 10 years TIDE has been awarding scholarships to those fishers' children who are attending high school. The program has been very successful in giving the children the option to take up a new career if they choose not to go into fishing. It has also brought relief to the fishers who are struggling to make ends meet.

Using the project funds, TIDE will expand its scholarship program to include 5 high school children and 5 college level students to cover the cost of tuition, books, uniforms and other small fees for the students. Each student is expected to continue to assist TIDE with conservation projects such as summer camps, clean up campaigns, tree planting events etc. They will present their semester reports to TIDE at the end of the semester, if their average is below the passing score, the scholarship will be revoked. Since some of the books that TIDE bought earlier will be reused by new students the cost of scholarship per students will decrease to \$200 per child in high school. This is a total of \$1,000 for 5 high school children. College student do not use uniforms but their cost of tuition, books and other fees are considerably higher than high schools and they do not get relief from the government. For the 5 college students of Managed Access fishers a total of \$750 is requested per student totaling \$3,750. Since the students attend various high schools, is not possible to have 3 quotations as the cost of tuition, books and fees vary among schools. The contribution by the 10 students will be considered as in-kind and is valued at \$200 each for a total of \$2,000. Total project cost \$4,750; total counterpart contribution \$2,000.

B.2.05.02. Cost of wire transfer of project funds for payment of goods and services under the project

With every wire transfer of funds from the project account held by TIDE for payment for services or goods acquired under the project, there are bank charges. These charges can become significant depending on the number of transactions involving wire transfer. TIDE will use \$735 of the project funds to offset this cost in order to ensure the vendors get the exact amount of funds as per their invoices.

5. SUSTAINABILITY STRATEGY

The global economic downturn over the past couple of years isn't showing any signs of improvement. Many of the donors that TIDE relies on have decreased their funding over the last 4 years. Coupled with the decrease available grant funds is the rise in cost of living mostly due to the rise in fossil fuel cost. TIDE's Board of Directors has been adamant in guiding the organization to become financially sustainable. This goal remains difficult to achieve but one that TIDE's board and employees are determined to obtain.

TIDE is in the process of developing a sustainability strategy which will be used to guide our activities and ensure that everything is done with sustainability in mind. Ongoing sustainability activities include building the capacity of the staff and the community members around the protected areas, engaging in activities that allow us to earn an income such as sustainable tourism and a ridge-to-reef program, implementation of activities that promotes the general improvement of the environment,

the use of appropriate technology in communities to ensure they have the capacity to maintain such technology to their benefit and engaging community members in activities that promote sociocultural sustainability such as marine monitoring using SCUBA diving, manufacturing of craft from natural and available materials, promotion of the activities of the daily lives of fishermen through competition at events such as the TIDE's Fisherman Festival.

5.1 Institutional Sustainability

TIDE's strength lies in the capacity of its employees to effectively perform their duties. Over the years TIDE invested in training and capacity building not only for its staff, but also for the community members surrounding the Protected Areas TIDE manages. Staff has been trained in various disciplines ranging from technical capacities to basic manual capacities. The staff is evaluated on an annual basis where their capacities are noted; any increase in salary or benefits is based on capacity and performance so it is imperative that training occurs annually.

The field staff also participates in exchange visits to other protected areas to broaden their knowledge and appreciation of conservation and sustainable development. In this AOP, the TIDE rangers' capacity will be enhanced through training such as public relations and the analysis of the patrol information to better target patrols.

In addition, TIDE invests in building the capacity of the community members around the protected areas it manages. TIDE's mission is to foster community participation in resource management and sustainable use of those resources by the communities. TIDE works on the premise that empowering community people will result in their effective participation in resource management along with TIDE; therefore, the communities also help in institutional sustainability.

5.2 Financial sustainability

It has been documented in various institutional assessments that TIDE plays a key and vital role in the unbiased development of the people of the Toledo District in Southern Belize and by extension the rest of the country. It is noted that TIDE, one of the largest employers in Toledo fills certain financial and gap that otherwise would have been critically lacking; therefore TIDE must continue to exist. Parallel to other non-profit, non-governmental institutions, TIDE relies on donations to sustain all of its programs. In the current economic climate, it is becoming increasingly difficult to fundraise to sustain these programs; as a result, TIDE must strive to become financially independent to continue filling this critical gap in this society.

Currently, TIDE has a tour operating arm called TIDE Tours where its income is primarily from tourism. Profits from TIDE Tours are used to fund TIDE's education and outreach activities. Over the past 10 years, TIDE Tours profits has been minimal due to the many challenges with tourism not being as lucrative as it used to, as well as our vision of empowering communities while at the same time trying not to compete with local tour operators in the community.

In 2012, TIDE initiated a program called 'ridge-to-reef expeditions'. Ridge-to-reef targets students from universities who must do an internship as a part of their curriculum as well as other students who plan to volunteer and get experiences that make them more competitive and marketable. Students would pay a fee to TIDE to get the experience they need and TIDE would get some of its work done as well as earn a profit in the process.

At least 3 volunteer organizations are currently benefitting from such programs in Belize. In fact some of these volunteer organizations are using TIDE as a way of marketing their program since they send volunteers to TIDE to get field experience. TIDE does not benefit from the income paid by volunteers, but rather just from the work the volunteers do. Income earned by these volunteer organizations for sending their volunteers to TIDE should be earned by TIDE instead. A recent business plan developed for this program indicates that TIDE can start making a profit in year 3 with net profit of \$50,000 annually after year 5.

TIDE also owns an endowment fund obtained through a debt for nature swap between the governments of Belize and the United States of America. Under that agreement, TIDE can only use 5% of the endowment to manage its Private Protected Lands. 25% of that portion is used for administrative purposes which pays salaries for admin staff. The endowment as at the end of 2012 is over \$800,000.

5.3 Environment

TIDE's focus is environmental protection and conservation; its 4 program areas are based on conservation at all levels so consideration for the environment is of outmost importance. All of the planned activities at TIDE, for this project as well as others fall under either one of the following program areas; (1) Resource Protection – Where rangers conduct patrols and surveillance, install signs with the rules and regulations of the reserve as well as training in law enforcement etc, all towards the protection and conservation of natural resources; (2) Education and Outreach – Increasing conservation and sustainable development awareness in community members from children to adults through a variety of ways including school visits, community meetings, school trips, summer camps and conservation athlete's program; (3) Research and Monitoring – to inform management of the status of the resources used for commercial purposes or the status of the biophysical parameters that affect the productivity of the resources that communities depend on for their livelihoods; and (4) Community Development – A relatively new program that seeks to invest in communities through capacity building to create marketable individuals, building support for conservation through the creation of community stewards, creating employment opportunities in specialized fields such as using SCUBA to do marine biodiversity monitoring and investment in infrastructure that supports sustainable development.

5.4 Appropriate technology

With respect to the use of technology, TIDE ensures that with every new investment in the communities that a feasibility study is carried out to ensure community members are able to adequately benefit from those investments and that the planned activities are using available resources so that they can be sustainable. One activity worth mentioning here is the feasibility study for a business enterprise to be implemented in Punta Negra Village. Punta Negra doesn't have electricity; there is one solar panel that powers the village telephone so any business investment here has to take that limitation into consideration, hence the need for the feasibility study.

Other investment at TIDE office and ranger station that has 24hr electricity can be more updated with current technology that can be sustained over time.

5.5 Sociocultural sustainability

For years the people of the communities along the border of the marine reserve have been saying they want better opportunities to earn a secure income and increase their living conditions. In Southern Belize, there is no industry that has high employment rates or many opportunities for people to create their own jobs simply because they are not qualified to access funds from lending institutions. In the district with the highest poverty rate in Belize, and an extremely unbalanced distribution of wealth, people need affordable loans or grants to sustain themselves.

TIDE has been managing the marine reserve for over 12 years, and though there hasn't been a significant increase in the population of harvestable marine resources, there hasn't been a drastic loss of resources either. In reality, if there were no management of the marine resources, there would be nothing left to manage today. The proposed investments in this AOP place high considerations for the sustainability of the sociocultural aspects of the communities in which they are being implemented. Coastal community members that have always been interacting with marine resources are being trained in SCUBA diving and marine biodiversity monitoring. These trainings and capacity building sessions adds value to something that they have always been a part of so naturally they will appreciate it even more.

TIDE also organizes an annual Fisherman Festival where sociocultural activities in the daily lives of fishers such as coconut husking, cast net throwing, fishing etc. are promoted through competition. The fest is attended by over 2,000 individuals from all over Belize and even visitors from abroad so it is an ideal way for other people to know a little about the lives of fishers.

To ensure the investments are not gender biased fishermen as well as women will benefit directly. A women's group from Punta Negra will benefit from a business enterprise tailored to suit their capacities and needs.

6. Unforeseen expenses

6.01.03 Unforeseen expenses.

Throughout the projects lifetime the prices of materials and supplies may increase due to global changes in the market. As a contingency, a small amount of money from the project is set aside to cater for these activities. A total of US\$ 9,386.67 to be covered by the project is set aside.

7. CLOSURE ACTIVITIES

Although the following activities do not represent expenses to be inserted in the BWP of the protected areas and the dates schedule are indicative, it is advisable to take into consideration in the planning of the BWP:

- 7.1 Support the mission of an external consultant for the final financial gap analysis (May 2016).
- 7.2 Support the mission of an external consultant for the final management effectiveness evaluation (August 2016).
- 7.3 Development of a final report with the systematization of activities developed (October-November 2016).
- 7.4 Preparation and signing of a closing letter (November 2016).
- 7.5 Administrative and Financial Close: final inventories, closure of specific accounts, transfer of unspent funds, etc. (October – November 2016).
- 7.6 Support the final evaluation mission of the Project (January – February 2017).
- 7.7 Support the final audit of the Project (January – February 2017).

8. DEVELOPMENT TABLE

In annex 1 (Excel format) you can find the development table.

9. PLANNING GRID

For the Biennial Work Plan, the planning have a single plan sheet, which has united both general and project expenses and you can find it in Annex 2.