



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

**AMERICA**

**Funding Agreement: (2010 66 836)**

**BIENNIAL WORK PLAN  
2018-2019**

**South Water Caye Marine Reserve**

**Belize**

## 1. LOGICAL FRAMEWORK OF THE PROJECT

INTERVENTION LOGIC	VERIFIABLE INDICATORS	SOURCES AND MEANS OF VERIFICATION	HYPOTHESIS
<b>MAIN OBJECTIVE (MO)</b>			
To contribute to the conservation of the ecological functions of the Mesoamerican Reef System (MRS).	Mangrove areas in the project's CMPA equal to or greater than those of the baseline.	Baseline study and final study.	
	Seagrass areas of the project's CMPA equal to or greater than those of the baseline.	Baseline study and final study.	
<b>PROJECT OBJECTIVE (PO)</b>			
To consolidate the CMPA selected in the project's region and ensure the use of coastal and marine resources in the medium-term.	<b>PO VIO1:</b> The financial gap does not increase in 100% of the CMPAs included in the programme.	Baseline study and final study.	<ul style="list-style-type: none"> <li>• The MAR ecosystem does not suffer irreparable damage by the effects of climate change.</li> <li>• Countries with participation in the MAR coordinate their strategy.</li> <li>• The four governments maintain and promote policies which support the protection and conservation of natural resources.</li> <li>• Worldwide and domestic macroeconomic conditions do not adversely affect the financial resources available for the CMPAs.</li> <li>• Social, migratory and population stability do not impose disproportionate pressures on the natural resources of the MAR.</li> <li>• There are supportive policies for the tourism sector and the volume of tourist visits to the countries and protected areas is stable.</li> </ul>
	<b>PO VIO2:</b> Management plans are updated and under implementation in 100% of the CMPAs included in the programme.	Five MP developed; qualitative analysis of the programme / sub programme running.	
	<b>PO VIO3:</b> The CMPAs included in the programme have natural sustainable resources use plans under implementation.	Monthly and annual Project reports, informes de seguimiento de los fondos miembros.	

INTERVATION LOGIC	VERIFIABLE INDICATORS	SOURCES AND MEANS OF VERIFICATION	HYPOTHESIS
<b>RESULTS</b>			
<p><b>R1:</b> The protection and conservation of the coastal -marine ecosystems in the marine area are secured.</p>	<p><b>R1 VIO1:</b> At least 12 initiatives for marine and terrestrial infrastructure built or rehabilitated and put into operation by the end of the third year (2017) and that will be used properly in accordance with their original purpose until the conclusion of the project.</p>	<p>Inventories and monthly and institutional reports; visitor records; patrol reports; Number of participants trained; user manuals. Photos.</p>	<p><b>VIO1 &amp; VIO2:</b> There are no adverse weather conditions that affect the integrity of the infrastructure of the CMPAs. Funds allocated by the Executor for maintenance are available.</p>
	<p><b>R1 VIO2:</b> The acquired facilities are being used properly and have regulation and usage logs.</p>	<p>Inventories; usage regulations; usage logs; operation and maintenance manuals; maintenance logs; biological monitoring reports; training reports. Photos</p>	
	<p><b>R1 VIO3:</b> The park rangers (officers and community members) receive at least two training sessions per year on the protection and conservation of natural resources.</p>	<p>Certificates/registration records/training reports and lists of participants.</p>	<p><b>VIO3 &amp; VIO4:</b> There are sufficient funds to maintain human resources of the CMPAs.</p>
	<p><b>R1 VIO4:</b> A control and supervision planning scheme exists and is being implemented in accordance with the operational capabilities of each area.</p>	<p>Reports on the planning and scheduling of control and surveillance activities; Patrol reports, logs.</p>	
	<p><b>R1 VIO5:</b> At the end of 2015 (second year) five management plans (programs) exist and are being implemented (over the lifetime of the project).</p>	<p>5 Management Plans produced; qualitative analysis of the ongoing programs/sub-programs.</p>	<p><b>VIO5 &amp; VIO6:</b> The five governments maintain policies which support the protection and conservation of natural resources; The CMPAs maintain their current administrative structures.</p>
	<p><b>R1 VIO6:</b> At the end of the Project, the five CMPAs have improved their socio-economic and governance indicators by x%.</p>	<p>Baseline studies using the Management Effectiveness Assessment/final measurement.</p>	
<p><b>R2:</b> Best management practices and the sustainable use of marine-coastal resources are applied.</p>	<p><b>R2 VIO1:</b> The five CMPAs have a strategy/community development plan for the end of the second year.</p>	<p>5 strategies developed; qualitative analysis of activities in progress as part of the project.</p>	<p><b>VIO1 &amp; VIO2:</b> There is community interest in participating in the project's actions; There is general macroeconomic stability (input costs/sales prices/open markets); Other entities (NGOs, local governments, academia) are interested in supporting productive initiatives that strengthen communities and grassroots organizations.</p>
	<p><b>R2 VIO2:</b> 100% of the proposed productive initiatives have undergone feasibility/market and business studies/plans, in addition to studies on business aspects and training and technical support mechanisms.</p>	<p>Complete proposals (support studies).</p>	
	<p><b>R2 VIO3:</b> Increased number of community members trained, accredited and involved in activities that support</p>	<p>Accreditation reports and records, lists of participants; activity reports.</p>	<p><b>VIO3 &amp; VIO4:</b> There is community interest in participate.</p>

INTERVATION LOGIC	VERIFIABLE INDICATORS	SOURCES AND MEANS OF VERIFICATION	HYPOTHESIS
	<p>daily management tasks (biological monitoring; control and surveillance) of protected areas.</p> <p><b>R2 VIO4:</b> The 5 CMPAs have mechanisms (community advisory committees or equivalents) which ensure the participation of local stakeholders in decision-making guidance regarding the management of the areas and meet at least twice yearly.</p>	<p>Rules on the constitutionality and functions of the committees/minutes of meetings/committee training reports/institutional reports/list of participants.</p>	
<p><b>R3:</b> Communication and effective exchanges to promote the adoption of new practices.</p>	<p><b>R3 VIO1:</b> At the end of the project, at least six (6) small regional projects implemented and monitored by the Member Funds: Three of them in a first call in 2015 and the other 3 in a second call in 2016.</p> <p><b>R3 VIO2:</b> At least two regional meetings have been held and a strategy for monitoring the implementation of the agreements has been reached.</p> <p><b>R3 VIO3:</b> At the end of the project, at least five exchanges of experiences between area managers and/or other stakeholders from each CMPA have been encouraged.</p>	<p>Technical and financial reports; monitoring reports of the Member Funds.</p> <p>Meeting minutes, list of participants; activity report; statement of the agreements reached and monitoring plan.</p> <p>Visit report, list of participants.</p>	<p>There is an interest of proponents to participate in small grants projects.</p> <p>The respective national authorities have shown interest in participating in regional meetings and monitoring the implementation of the agreements reached.</p> <p>There is interest in participating.</p>

## 2. CONTEXT AND ATTENTION POINTS (SENSITIVE POINTS)

Risks and assumptions that may interfere with the projected execution timeline of the Project include natural disasters, delay of matching funds disbursement and change in management of the CMPA. A natural disaster depending on the amount of damage caused may provoke a delay in the timeline as priorities may need to change to address whatever local/National issues are faced with at the time. The delay in one activity may cause the delay in other activities that depend on the first ones completion. A change in management may cause a delay as the new management will have to assume the responsibilities of the previous management and this usually takes an adjustment period.

During these two years, the Marine Climate Change Adaptation Project (MCCAP) Project will continue supporting the economic alternatives identified for the coastal communities that fish within SWCMR.

## 3. ACTIVITIES TO DEVELOP

### **RESULT 1. THE PROTECTION AND CONSERVATION OF MARINE-COASTAL ECOSYSTEMS IN THE MARINE AREA ARE SECURED**

South Water Caye Marine Reserve has been designated as one of seven components of the Belize Barrier Reef System - World Heritage Site, in recognition of the uniqueness of its contribution to Belize's reef system, the largest, and possibly the least impacted reef complex in the Atlantic-Caribbean area (UNESCO, 1996). The protected waters of the reserve provide nursery and feeding habitats for at least twenty four species of international concern, recognized under the IUCN Red list as Critically Endangered, Endangered or Vulnerable (Table 5; IUCN, 2008), including five species of coral, three species of turtle, fifteen species of fish and the vulnerable West Indian manatee.

The overall goal for the management of South Water Caye Marine Reserve is: To provide for the protection, wise use, understanding and enjoyment of the natural resources of South Water Caye Marine Reserve in perpetuity. Also the national objectives for conservation revolve around the protection, conservation and rational use of Belize's natural resources within the context of sustainable human development.

Since the creation of the marine reserve in 1996 the Belize Fisheries Department embarked on formulating a management structure. Erosion has been drastically affecting the Caye and has resulted in substantial investment in order to minimize land loss. For this reason studies have been carried out to design the most feasible erosion control mechanism. With a new and improved design on erosion control a beach containment apparatus will be installed at Twin Caye in order so that the land reclaimed is not lost.

In 2007 a fire completely destroyed the headquarters along with all the enforcement, monitoring and electrical equipment, and the existing infrastructure is rustic and barely accommodates the staff in a comfortable setting. The main headquarters is used as a base to house the staffs who conduct the day to day management at the marine reserve. This includes the enforcement activities, visitor impact management, collection of visitor's fee and the day to day outreach carried out to fishers

and visitors. These activities allow for the protection of important commercial species and coral life. By having presence in the PA the goals set out in the management plan will be achieved. It helps deter illegal tourism practices and ensure guides follow the regulations with their tourist and at the same time ensure education and outreach to fishers and the local and international visitors continues. The new facilities and equipment will allow the staff to be well rested and perform their duties in a timely and professional manner on a daily basis. The construction of this building will enhance productivity of the staff and raise the management effectiveness of the MPA.

The biologist along with the help of the other staff members and community researchers conduct monitoring activities which help in making management decision. The monitoring activities carried out by the staff require specific monitoring equipment, that once acquired will improve data collection and data use for management decision of the fishery industry. Awareness is also conducted as it's important to educate fishers on the importance of protecting the marine resources. The SWCMR staff has been working with limited resources and the Project will enhance staff morale, living and working conditions improving productivity.

The main activities that lead to the **protection** of the area are the following:

- The investment in containment and reclamation will allow for the protection of Twin Caye, base Caye for Belize Fisheries Department headquarters, and provide areas for the visitors that come to the reserve to spend the day and a more secure way of collecting the entrance fee. It will also provide a secure space for the Belize Fisheries Department to deliver presentations to visitors and share information about the reserve.
- The control and surveillance program and the monitoring and research program continues to be strengthened with the acquisition of equipment for rangers, the office and headquarters and water quality.
- The organizations follows up on the strengthening of its personnel through capacity building with enforcement, diving and data analysis training

The main activities that lead to the **conservation** of the area are the following:

- The construction of the headquarters at Twin Caye for the organization, will allow: a greater visibility and governance of the organization and will provide a space for the Belize Fisheries Department to manage the area and schedule patrol activities, which will generate a better efficiency in conservation. Also this infrastructure will provide support for partner organizations that support the Belize Fisheries Department in conservation activities within the reserve.
- The update of the management plan will allow the Belize Fisheries Department to have an updated document that defines the threats and the main activities to be carried out in order to achieve the conservation and management of the reserve.
- The environmental education and outreach program continues to be strengthened through the contract of the outreach and education Officer. His activities are aimed to raise awareness to stakeholder communities and schools in regards to conservation and ecosystem protection.
- The implementation of the research and monitoring program, where water quality monitoring will begin and reef health and commercial importance species monitoring

continues, will provide data that is used in decision making aiming to the conservation of the resources.

- The support provided through the final measurement of mangrove and seagrass, will provide information that will guide the Belize Fisheries Department in the management of this ecosystems present in the reserve.

#### BS.1.01 Investments in infrastructure

A new headquarters is to be built on the island of Twin Caye which has been strategically chosen for its location. This will enhance the protection and conservation of the coastal marine ecosystem in the marine area and help the Belize Fisheries Department achieve the countries national and reserves management goals. Currently the reserve headquarters is a rustic building that lies on the island of Twin Caye which has eroded over the years. The island is to be reclaimed and a new dock is to be built as the one currently at the station is deteriorated. This new infrastructure along with the reclamation of the island will invite visitors to come and spend the day at the reserve base, pay their visitor fees, visit the visitor centre and be able to purchase items from the gift shop. The new facilities will allow the staff to be able to do their presentation on education and outreach with visitors more easily and encourage a better working relationship with our local stakeholders, and will also accommodate enforcement agencies (Coast Guard, Belize defence force, Tourism, Police, Customs and Immigration) that assist the Belize Fisheries Department in enforcement activities.

##### **BS.1.01.01 Containment and Reclamation (2018)**

Using the recommendations arising from the erosion control study and the Containment works in Twin Caye at South Water Caye Marine Reserve Study developed by TYPASA, a mechanism to mitigate the impacts of erosion will be constructed. The land reclaimed will secure the headquarters that will be built there and provide areas for the visitors to spend the day and recreate before going on dives or snorkels. This time spent on the island will also allow the staff to give presentations on the reserve and the collection of visitor fees and the sale of gift shop items. An Environmental Impact Study (EIA) or Limited Level Environmental Study (LLES) will be carried out and cleared with the Department of the Environment prior to completion of this activity. The total amount of this activity is USD170,593 of which USD10,000 will be covered as matching funds from Fisheries for the EIA or LLES, USD135,000 covered by MCCAP for assisting in payment of reclamation effort and the remainder USD25,593 to support the works and hire the supervisor will be covered by the Project. All application forms for environmental clearance will commence in February 2018 and the works will begin in April - May 2018.

##### **BS.1.01.01 Construction of Main Headquarters and Pier (2018)**

A headquarters 30'X40' two story building, will be built on the property belonging to the Belize Fisheries Department on the island of Twin Cayes to facilitate the stay of staff and other enforcement agencies. An architect was hired to design the blue print of the building along with the pier under BS.1.01.03. The architect will also supervise the work of the contractor to ensure that the building is built according to the blue print and meets the Central Building Authority codes. The old building will remain and be used as store room for all equipment. The construction of this building will enhance productivity of the staff and raise the management effectiveness of the MPA. The structure will also allow visitors an area to recreate at the base hence allowing the relationship

of the staff to better grow with stakeholders. The new infrastructure will have available space for other enforcement agencies that collaborate with the Belize Fisheries Department.

Also the access pier at the headquarters will be replaced to improve the landing operations of the rangers and visitors. A 70' long x 6' width pier that is 36" high off normal tide level will be built. A new safer pier will allow visitors that are spending the overnight a safe harbour from bad weather conditions. The total cost of this activity is USD277,418.69, of which USD2,995 last payment for the engineer, USD159,418.69 for the headquarters and USD15,000 for the pier (for labour, treated wood, pipes, nails, bolts, cement) will be covered by the Project. The matching funds provided by the Belize Fisheries Department is the land which has a value of USD100,000 and USD3,000 for the pier for materials and supplies. All application forms for environmental clearance will commence in February 2018 and the construction of the headquarter will begin May - July 2018 and the pier will begin in June - July 2018. Both works will be constructed under the same works contract.

The Belize Fisheries Department is committed to spending in materials and supplies for maintenance after completion of the headquarters and pier.

#### **BS.1.02 Investments in equipment**

The equipment to be procured this year will be used for the daily management needs of the reserve, enforcement and monitoring activities developed by the staff. All furniture/equipment acquired for the office and headquarters will provide the environment needed for the staff to be well rested, be equipped to welcome visitor to the area and develop their education and outreach activities. Purchasing the water quality monitoring equipment is key for monitoring, as the data will tell if any external factors are influencing the water quality. This will in turn allow managers to take the necessary steps to assist in the mitigation of these blooms.

##### **BS.1.02.03 Equipment for Park Ranger/Gears (2018)**

Staff will receive the equipment needed for patrolling and equipment needed for monitoring activities. The procurement of this equipment will improve control of the area and the research and monitoring program develop in the area. It will help the staff track the data collected during patrols. The equipment will comprise of 2 dive gears and 1 GPS. The amount requested is of USD2,500 and will be covered with matching funds in February and March 2018.

##### **BS.1.02.04 Office Furniture/Equipment (2018)**

Materials and equipment to furnish the facility for the new headquarter at Twin Caye and the office in Dangriga will be procured, which will improve the operations and increase the management effectiveness of the marine protected area. The total amount for this activity is USD9,250, of which USD5,750 will be covered by the Project to acquire the equipment/furniture for the office in Dangriga: 2 desks, 2 office chairs, 3 chairs, 1 filling cabinet, 1 printer and the equipment/furniture for the headquarters: 1 meeting room table, 6 chairs, 2 single beds, 3 bunkbeds, 1 stove, 1 dining table, 6 chairs. A total of USD3,500 will be covered with matching funds to acquire equipment/furniture for the office in Dangriga: fans, computers, safe, office supplies and for the headquarters: 5 beds, 1 fridge, 2 butane tank and kitchen utensils. The equipment will be purchased in April and August 2018.



#### **BS.1.02.08 Water Quality equipment (2018)**

A water quality multi parameter sonde is needed for integration into the National Coral Reef Monitoring Network work plan and will assist staff in carrying out monthly water quality data collection. This will increase the quality of data currently being collected at the MPA. The data will assist in better management decisions for the MPA. The costs of this water quality equipment will be covered by the Belize Fisheries Department in matching funds of USD1,500 by February 2018.

#### **BS.1.02.13 Internet (2018-2019)**

The Belize Fisheries Department is currently in negotiations for the installation of a new phone line out at the reserve (headquarters) along with Internet. Internet is an integral part of the daily management of the reserve management. This will be used as a means of communication and it will also be used to disseminate important information. The cost of the internet and phone line is of USD75.00, monthly to be covered by the Belize Fisheries Department for a total cost of USD900. The Belize Fisheries Department will cover the cost of the internet for daily management of the reserve for the lifetime of the project (January 2018 through June 2019). This will also be a key piece of equipment in ensuring that the project is a success.

#### **BS.1.03 Generation/update of the MCPA management plans.**

The guiding document for all marine protected areas is the management plan. The management plan is a document that is created using baseline data from the area which comes from previous years looking at the management aspect of the protected areas. The management plan is then created to be a guiding document for the next five years of the protected area. Currently the South Water Caye Marine Reserve has a management plan that expired in 2015.

#### **BS.1.03.01 Management Plan Update (2018)**

The management plan of the SWCMR expired in 2015 and a consultant was hired at the end of 2016 to update the Plan. This update will provide tools for the development of short, medium and long-term actions to be implemented within the protected area. It also provides an opportunity to prioritise specific lines of strategic actions and strategies on major topics in the Management Plan. Having an updated management plan will enhance the capacity of the area management team as well as local, regional and national institutions to manage the area. Workshops will be organized by the Belize Fisheries Department and the local communities for the socialization of the Management Plan.

Also, as part of generating guiding documents for the reserve, the creation of the Community Development Strategy was merged with this contract.

The total amount for this activity is USD9,300, of which USD7,300 (last payment of the consultancy) will be covered by the Project on April 2018. A total of USD2,000 as matching funds will be used to cover final consultations and to finalize the zoning scheme on July 2018.

#### BS.1.04 Support for the implementation of the control and surveillance system.

A very important component for the conservation of the ecological functions in the South Water Caye Marine Reserve is enforcement. The Belize Fisheries Department has invested in the management of the protected area with five staff members to be present in the marine reserve all year round. The staff works on two weeks duty and one week off. At all times we have a minimum of three staff at the reserve. During the enforcement duties the staffs ensures the parks and fisheries regulations are upheld and respected. Other activities that will ensure the conservation of the ecosystems is training of the officers in enforcement. To ensure that the staff responsible for the area carries out their surveillance duties in a professional manner the Belize Fisheries Department will ensure they go through enforcement training.

##### **BS.1.04.03 Enforcement and surveillance activities (2018-2019)**

Part of the staff's daily management activities is to conduct enforcement activities. The staff head out on enforcement activities on a daily basis that cover the most important areas of the reserve. This includes the conservation zone 1 where we usually encounter many individuals trying to do poaching. The area is very fisheries productive area, hence the need for heavy enforcement. Under our mandate the officers are able to conduct arrest summons and prosecute individuals breaking the law. The cost per annum for fuel to do enforcement at the MPA is USD16,200. This is a total matching funds contribution from the Belize Fisheries Department of USD24,300 to conduct enforcement activities in the MPA which will be conducted in a monthly basis throughout the 2018 and 2019.

##### **BS.1.04.06 Enforcement training for staff (2018-2019)**

The enforcement training will include other enforcement agencies of the area. Topics to be covered for the training are: Fisheries Act and its regulations, procedures of conducting an arrest and for filling complaints, among others. This should minimize the amount of courts case dismissed or loss due to technical issues. A staff evaluation will be held at the beginning of each workshop to identify their level of knowledge about the subject and also to assess what they have learned throughout the year. The trainings will assist to achieve the management goals of the reserve and its guidelines in the management plan. The trainings are improved every year as lesson learned methods and laws that have changed are incorporated as components of the trainings. The cost of these workshops will be USD2,000 per year with a total of USD4,000 to be covered by the Belize Fisheries Department. This will include lodging, food, venue and instructors. This training will be conducted in August 2018 and June 2019.

#### BS.1.05 Support for the implementation of evaluation and monitoring systems

The National coral reef monitoring network has identified water quality as a data gap. Especially the southern node which includes South Water Caye Marine Reserve due to the land based sources of pollutants. Over the years an algal bloom spread over the coast line of Belize has been identified, which caused an immediate reaction from all the protected area managers. The purchasing of water

quality equipment will strengthen the actions developed in the reserve and the data collected will be used to make informed management decisions.

Conchs Baseline data showed that the area between Tobacco Caye and South Water Caye is a nursery ground, hence is designated a conservation zone. It is an important area for the replenishment of mature conchs to the fishery industry. The monitoring program focuses on habitat, abundance and distribution for conch, corals, SPAGs, lobster, sea cucumber, whelks, sharks, sea grass and mangrove and the data is used from Smithsonian institute. Great efforts are put into making these data collection and analysis to be used in management decision making. This data is used to determine catch quotas which allows a sustained fishery.

#### **BS.1.05.02 Final measurement of mangrove cover and marine grass land in the five MCPA (2019)**

The baseline study of seagrass and mangrove was done by RSS in 2016 and was covered by the Project during the BWP 2016-2017. The final measurement will be done during this Final BWP 2018-2019. RSS will be hired to carry out the study of seagrass and mangrove cover and measure and compare the data obtained, with the data of the initial base line conducted in 2016, in order to determine if there was an increase or decrease in both ecosystems during the course and validity of the Project "Conservation of Marine Resources in Central America, Phase II". The consultancy will be carried out in March 2019; with a total cost of USD10,000 covered by the Project. This activity will provide updated information on the percentage of coverage of these two ecosystems, comparing if it varied in the time of execution of the Project.

#### **BS.1.05.02 Ground truthing for mangrove cover and marine grasslands as required by the project (2019)**

One of the main objectives of the project is to contribute to the conservation of the ecological functions of the Mesoamerican reef system. The SWCMR staff in support of the consultancy carried by RSS, will conduct the ground truthing of the data collected by the satellite imagery. The total amount for this activity is USD1,260, of which USD600 will be covered by the Project as stipends for 8 community researchers for 3 days and USD660 will be provided by the Belize Fisheries Department as matching funds to cover fuel, equipment and snacks. This activity will be carried out in April and May 2019.

#### **BS.1.05.04 Monitoring of Reef Health (2018-2019)**

The Belize Fisheries Department uses the MBRS protocols for monitoring of fish abundance and coral health. The collection of this data is important for fisheries management and track ecosystem health affected by coastal development, coastal run-off and fishing pressure. This information helps inform regulations and improve management planning and decision making for the area. The cost of these monitoring is USD8,000 to be covered by the Belize Fisheries Department in April or May 2018 and April or May 2019.

#### **BS.1.05.06 Monitoring Species of Commercial Importance (2018-2019)**

On an annual basis during the peak spawning times of Nassau grouper in December- February for 10 days after the full moon the team conducts visual surveys to quantify spawning population. The

spawning site is located approximately one hour from the main headquarters. The cost of this survey is USD1,000, to be covered by the Belize Fisheries Department in January, February and March 2018 and January 2019.

#### **BS.1.05.07 Monitoring of Water Quality and Key Parameters (2018-2019)**

Water quality monitoring in the marine reserve is vital. The Belize Fisheries Department will use the water quality equipment purchased under BS1.02.02 to establish a water quality monitoring program. Water quality monitoring is important to identify key changes in water parameters that affect healthy ecosystems. The total cost of the water quality monitoring will be USD2,520, to be covered by the Belize Fisheries Department on a monthly basis from March – December 2018 and January – June 2019.

#### **BS.1.08 Institutional Strengthening for Area Managers.**

For reserve staff refresher courses are necessary to keep the old staff and new staff updated on new enforcement methods, tools, strategies and laws. The enforcement and data analysis trainings will assist the biologist, manager and staff in data handling, new analysis and interpretation for decision making in the reserve. This will assist the Belize Fisheries Department meet its national and area management goals. It will ensure that the technical staff make the necessary recommendations based on best management practices to guarantee the protection and conservation goals are achieved at South Water Caye Marine Reserve.

#### **BS.1.08.03 Dive Safety Training for Staff (2018)**

The Belize Fisheries Department will conduct dive safety training for the staff. The biologist and rangers conduct diving for monitoring. It is imperative that the staff take dive safety refresher courses to minimize diving accidents as diving is part of their annual activities at the reserve. Furthermore with the implementation of the community researchers the staff will be able to hand down first-hand knowledge to the community researchers ensuring their safety. The total cost of the training will be of USD2,000 covered as matching funds by the Belize Fisheries Department. This will include lodging, food, venue and instructors. The training will be in April 2018.

#### **BS.1.08.03 Data analysis Training for staff (2018-2019)**

The data analysis training is important for the reserve staff. With this training staff members will be able to analyze the data gathered during monitoring activities. The training will allow them to interpret and present their data for better management decision purposes. The cost of the training will be USD4,000 to be covered as matching funds by the Belize Fisheries Department to be conducted in June and October 2018 and June 2019.

#### **BS.1.08.03 Staging of Community Awareness-raising Campaigns by Conducting Public Presentations and Consultations (2018)**

The education consultant hired in 2017 has been conducting the educational outreach programs with the different stakeholders in their communities. The contracted worker assists in the creation

of a comprehensive education and outreach strategy and is responsible to liaise with all stakeholders including educational institutions. Playing a key role in starting an active education and outreach component community involvement and an integral part in the continuation of the programs after the project has finalized. The contract ends in May-2018 and the total amount for this activity is USD4,547.40 to be covered by the Project from January until May 2018.

## **RESULT 2: APPLIED BEST MANAGEMENT PRACTICES AND SUSTAINABLE USE OF MARINE-COASTAL RESOURCES.**

The Belize Fisheries Department is currently carrying out the day to day management of the marine reserve using its old Management Plan. Every year the reserve manager prepares an implementation plan which focuses on activities stated in its Management Plan. The Management Plan of the reserve was valid for 5 years. The South Water Caye Management Plan is currently being updated 2018-2023. Also the Community Development Strategy is being developed by the consultant updating the Management Plan. Stakeholder's engagement is very important to have updated information on the uses of the marine reserve and stakeholders. The new management plan along with the community development strategy are needed to have adequate activities needs to be implemented for better management of the reserve. The updated plan will assist the reserve staff in the implementation of updated and appropriate measures to manage the reserve and work with stakeholders. This includes the rights based approach to fishing being implemented as Belize national Managed Access. This management plan will also guide the reserve staff towards the results desired for SWCMR and set for the project.

Two activities under component two that will greatly assist the fishermen and the Belize Fisheries Department are the lobster casitas project and the marine tour guide training. The casitas will ensure that fishermen can follow the fisheries regulations and engage in best fishing practices. Community members and fishers will have an opportunity to get alternative livelihoods and income through tourism specialization guide training supported by the Project. The tour guide specialization is ongoing and will finish in April, providing alternate livelihoods to the community members by becoming employable in the tourism sector of Belize

In an effort to engage community members in management, members were trained as community researchers. The Project supported the training of the first cohort of community researchers and BFD has identified a second group of community members that will be trained and added their list of community researchers that will participate in biological monitoring at SWCMR when needed.

Schools and other educational clubs will be invited to visit the marine reserve on field trips. This is to assist in the education and outreach component for the reserve. A consultant will also be hired to create a community development strategy. In order to move forward and strengthen our commitment to working with the community a guiding document is needed to address where we have lacked and where to better address the issues.

The activities that have a direct impact on achieving this result are:

- The participation of users in the management and sustainable use of resources will be expanded through the lobster casitas project and the creation of the sustainable use plan, the final batch of community training as tour guides, the outreach and education campaigns and the program of community researchers.

- The exchange aims to provide broader understanding to the community researchers about the program, help them develop networking, share knowledge and participate in activities from other protected area. In addition this will strengthen their involvement in resource management through capacity building, which in turn will strengthen community engagement.
- Will continue to strengthen the environmental cultures in the reserve, working with children and youths from different educational establishments from the stakeholder communities.
- The building of the headquarters will promote dialogue discussions regarding the area management decisions with the reserve users.
- In order to increase community participation in the management of the area, the SWCMR Advisory Committee has schedule quarterly meetings

#### BS.2.01 Development of the productive fabric of communities/associations.

Upon the creation of the marine reserve some fishers were displaced from their fishing grounds. As part of the strategic measures through this project we will assist fisher folk from the reserve by giving them an alternative/supplementary avenue to generate income. Providing the communities with different resources of income will help reduce the fishing pressure, through the building of lobster casitas, the specialisation in marine tour guiding. The tour guiding will assist locals to be able to practice tour guiding and earn an income. Community members will also receive training as community researchers that will allow them to work with BFD to conduct monitoring which will engage community members in management activities at SWCMR.

##### **BS.2.01.02 Building of Lobster Casitas with the Local Fisherman Association to Benefit Fishermen in the Community and the development of the Sustainable Use Plan (2018)**

The Belize Fisheries Department will continue assisting the local fisher folk that utilize SWCMR area by finishing the construction of lobster casitas. This joint project with the fishers will continue to allow for best fishing practices and the removal of the current destructive shades being used inside the reserve. This project with the reserve fishermen will allow us to meet the project output by allowing best fishing practices and also in reducing the surveillance efforts made as the fishermen will be able to select the lobster size more easily without causing further damage to the live animals. This method will also allow the fisher folk to be selective of the lobsters they are harvesting. The total amount for this activity is USD30,210.48 of which USD15,210.48 will be covered by the Project. This cost includes the building of the casitas, workshops, instructors and fuel. The matching funds contribution will be done in labour by the association members USD50 per day at least 15 fishermen for 20 days to construct the shades and removal of old shades. Total matching funds USD15,000 for four months. This will be done from April and May 2018. The creation of the sustainable use plan developed by the Belize Fisheries Department will be carried out in June and July 2018.

##### **BS.2.02.04 Specialisation in marine tour guiding certification issued by Belize Tourism Board (2018)**

The Belize Fisheries Department has seen the need to give an alternative to fishermen from the South Water Caye Marine Reserve. To continue with the training started in 2017 and conclude the

contract with the Belize Tourism Industry Association, this training has assisted the South Water Caye Marine Reserve by decreasing the fishing pressure on the reserve. 10 members from the Hopkins Fishermen Association are taking the marine tour guide and have taken the open water dive training. The total amount for this activity is USD11,325.20, of which USD3,325.20 will be covered by the Project for the purchase of studying materials, stationary, venues, instructors, and food and will be disburse in April 2018. The matching funds contribution is calculated at US D50.00 per day per person attending the seminars for four months at a total of USD8,000.

### BS.2.03 Participation of organized community groups in the management of natural resources

Under the Project guidelines for there are activities that have been achieved such as an education and outreach program and more trained community members involved in the day to day management of the MPA. This has helped moving forward and strengthen BFD's commitment to working with the community. The educational programs have been adopted to involve the current stakeholders and create stewardship that will encourage participation and an empowered sense of ownership of the reserve. A consultant has been hired to assist in the education and outreach program with all communities. Schools and active environmental clubs will be targeted, as well as primary, secondary and tertiary institutions for training purposes will be targeted. Lastly we will assist local institutions to get to know South Water Caye Marine Reserve by taking out school trips to the reserve. This will enhance and promote students interest and knowledge in marine ecosystems, and reserves.

#### **BS.2.03.02 Education and Outreach Trips to the Cayes with Local Educational Institutions/environmental Clubs, 4h-formation of Environmental Clubs with Assistance of Outreach Person (2018-2019)**

Through the project the Belize Fisheries Department has supported the education and provided the opportunity to many local stakeholders to visit the South Water Caye Marine Reserve. Through these trips not only do they grant the students the opportunity to visit a marine reserve but also seek to encourage more interest in the protection and conservation of the marine ecosystems. The trips will hopefully also encourage more students to study marine ecology and natural resource management. The total amount for this activity is USD9,491.66, of which USD7,491.66 will be covered by the Project for fuel, boat captain, deck hand, boat, snacks, promotional material for 6 trips, 3 sets of books (fish ID, coral ID and reef creatures) and one lion fish hunt activity. The matching funds of USD2,000 will cover for use of boats, fuel, educational material, screen and projector. This will be carried out in March and April 2018 and 2019.

#### **BC.2.03.05 Exchange of community members with other PA (2018)**

On 2017 the Belize Fisheries Department trained eight community members as researchers to assist with monitoring activities. In the line of involving the stakeholder communities and its members with other PA and their work, the Belize Fisheries Department planned to conduct one exchange visit for the eight researchers to visit the Toledo Institute for Development and Environment (TIDE) at Punta Gorda. The main objective of this exchanges will be for the researchers to learn from TIDE's Community Researchers Program for 3 days to develop networking, share knowledge and participate in activities from other PA. The researchers will gather experience in learning different monitoring techniques, learn how Managed Access has been applied all over Belize, how the science

component has helped, with statistical figures and facts, on how the species are today compare how they use to be before Managed Access. Also this exchange will educate the researchers on how TIDE has built partnership between the communities through the program and educate them on how other community members participate in management of the resources and the reserve. The total amount of this activity is USD1,800 to be supported by the Project to cover subsistence, transportation and accommodation for 8 community researchers on July 2018.

**BS.2.03.06 Staging of Awareness-raising Campaigns Focusing on the Existing MPA Regulations by Conducting Public Presentations and Consultations, Signage, Brochures, Posters (2018-2019)**

The Belize Fisheries Department will develop two public presentation events and one final socialization of results, as means to reach as much stakeholders and share information in regards to activities developed in the area and results achieved. The total amount for this activity is USD5,000 to be covered by the Project for venue, food, transportation and material for public presentations in first presentation in March 2018 (to present the BWP 2018-2019), a second presentation in November 2018 (share results of the year) and the final presentation of Project results in April 2019.

**BS.2.03.09 Training of Community Members/local Educational Institutions for Assistance with Monitoring (2018)**

In an effort to create community stewardship the Project trained 8 community members as Community Researchers to assist the Belize Fisheries Department in all monitoring activities carried out in the Reserve. Also enhancing community awareness through environmental education/training of community researchers via the local educational institutions. This activity has helped the Project achieve its goal by having an increased number of community members trained, accredited and involved in activities that support the daily management of the MPA. A small stipend will be paid out to the community researchers that assist in the monitoring activities (USD25 per person per day) with a total of USD1,600 to be covered by the Project for stipends and food. This will be paid when monitoring activities take place with the community researchers' assistance.

**BS.2.04 Strengthening of Communities/Associations.**

The advisory committee is an essential part to the management strategy of the South Water Caye Marine Reserve. On a quarterly basis the board meets and issues affecting the reserve are discussed. The primary role of the board is to assist the management of the reserve by giving recommendations. The board is made up of all the key stakeholders of the reserve and hence is a tool to disseminate information to all the relevant stakeholders of the reserve.

**BS.2.04.01 Strengthening of Community Associations through Support to the SWCMR Advisory Committee (2018-2019)**

Over the last three years through the commitment of Wildlife Conservation Society the advisory board was reactivated. All expenses have been covered through the partnership of the Belize Fisheries Department and the society. The board is essential in building the relationship and partnership of the Belize Fisheries Department with the local stakeholders. Total cost per meeting is of USD800 and per annum is of USD3,200. This comes to a total cost of USD6,400 for both years and it will be matching funds from the Belize Fisheries Department for food, fuel and venue.



## **I.6 Unforeseen expenses**

### I.6.01.01 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. These will also cover the expenses incurred from the transfer of funds, and bank charges. A total of USD7,879.09 to be covered by the Project is set aside.

## **4. SUSTAINABILITY**

### • INSTITUTIONAL SUSTAINABILITY.

The Belize Fisheries Department is a ministry in the government of Belize, it is endowed with enactments that are geared at sustainable development. In this vision the government of Belize has mandated that the Belize Fisheries Department, along with its policies and laws that govern the fisheries resources, fortify and consolidate its resources for the sustainable management of the people's fishery. With this mandate it has also given the Belize Fisheries Department most of the resources needed to carry out that mandate. This project will enhance the mission and vision of the Belize Fisheries Department by allocating more needed resources. The Belize Fisheries Department currently has a total of five staff hired for the sole purpose of the management of the area. It has invested in a building and boats that are used for enforcement activities. The Belize Fisheries Department has partners and stakeholder support and involvement that have the interest of the marine reserve and its perpetuity. The Wildlife Conservation Society is assisting in strengthening of community associations through the support of the advisory committee. The support given to the advisory committee assist the marine reserve by strengthening the participation of the local stakeholders in the recommendations for improved management. The Smithsonian Institute, Projects Abroad, and Wild life Conservation Society all assist in the collection of monitoring data for the marine reserve. These organizations assist in filling the gaps with monitoring and it frees up resources for the reserve to use in other management activities.

### • FINANCIAL SUSTAINABILITY.

As has been mentioned before the Belize Fisheries Department is a ministry in the government of Belize. The project will enhance the current work being done by the Belize Fisheries Department. Currently the Belize Fisheries Department is funded by the Government of Belize. There is a variety of ways that the Belize Fisheries Department contributes back to the Government and as such is an asset to the country. The management of the CMPA contributes to the country's tourism industry by maintaining pristine areas that appeal to tourist, that in turn then contribute to the country's revenue. The protection of the CMPA ensures a strong sustainable fishery which contributes to the country's revenue consolidated funds. The Belize Fisheries Department also collects a park fee from visitors that visit the CMPA. Through another project with National Protected Areas System (NPAS) the Belize Fisheries Department has managed to acquire items that are to be sold to visitors. These funds will be used for the assistance and management of the area, also to assist some students from the local communities with scholarships. The program has not been as successful as projected due to the fact, that the base does not have a good pier. This Project will enhance the CMPA base and

allow for more revenue to be collected as the boats will be able to dock at the Caye, the staff will be able to collect accurate data on visitations, and the visitors will be able to visit the reserve station, purchase items from the gift shop and pay their park fees.

- ENVIRONMENT.

Environmental considerations are being made and all appropriate standards will be met for the construction of both buildings. The Belize Fisheries Department is filling all the necessary paperwork along with all the studies conducted prior to any construction or works on the island. All the activities being develop with the Project are carried out with due consideration to all the environment risks, environmental impact studies and all other environmental rules and regulations. The Belize Fisheries Department will adhered to the procedures placed by the Ministry of Environment. The Project will also not have any negative human effects.

- APPROPRIATE TECHNOLOGY.

The technology being introduced at the CMPA is consistent with the traditions, capacities and knowledge of the stakeholders. Some of the technology being introduced will enhance and be environmentally sound. The technology will also enhance and allow better and sounder management decisions especially in patrolling. The SMART system will allow the Belize Fisheries Department to see trends in the enforcement area that have not been observed and will allow any necessary changes.

- SOCIOCULTURAL SUSTAINABILITY.

The Project has taken into consideration the stakeholders of the CMPA and their needs. The Project will greatly benefit the stakeholder communities in the area through the education and outreach component, community researchers, the specialised tour guide training and the lobster casitas project. For many years the fisher folk of this community have been seeking the assistance from the Belize Fisheries Department through projects such as this. Due to the high number of fisher folk and decrease in fishing product they have been seeking other alternatives. The project will not only assist but enhance the working relationship of the Belize Fisheries Department with its stakeholders, providing resources for the stakeholders to seek job opportunities. The projects do not discriminate in any way and seek to benefit women, children and men of all ages that are to be engaged through the Project activities.

## 5. BWP's Annex 1: Development table format (Excel file).

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

## 6. BWP's Annex 2: Financial Planning Matrix (Excel file).

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

