



GEF Small Grants Programme

IMPROVING CONSERVATION IN THE ORACABESSA BAY FISH SANCTUARY, JAMAICA

Project No: JAM/SGP/OP51/CORE/BD/11/06

Grantee: Oracabessa Foundation

Location: St. Mary, Jamaica

SGP Contribution: USD 46,260

Cash Co-Financing: USD 146,844

In-Kind Co-Financing: USD 73,386

Project Duration: Dec. 12, 2011 - Dec. 31, 2013

Number of people served: Over 600 direct beneficiaries

Focal area: Biodiversity, International Waters

Background

Jamaica's marine ecosystems suffer from severe degradation and one of the highest losses in biodiversity. This has led to declining fish catch and challenges for its local tourism industry. The small fishing village of Oracabessa Bay is one such community that has been heavily affected by these developments over the last 25 years. It has thus become increasingly difficult for fishers to support their families, forcing them to catch fewer smaller fish which has significantly reduced the breeding stock. In addition, fishers have been driven to focus on reef-grazing fish, which has harmful consequences on both the quality of the reef and the habitat it provides for marine life. Pollution has also added to marine degradation. Turtle (Hawksbill) populations especially

have been suffering from the accumulation of debris and foliage on the beaches which impeded proper nesting and sea migration conditions.

Aiming to reverse this decline in biodiversity, the St. Mary Fisherman's Cooperative and the Oracabessa Foundation entered a partnership in 2009 through which they managed to establish the Oracabessa Bay Fish Sanctuary (OBFS) in May 2010. SGP Jamaica became involved with the Oracabessa Bay Fish Sanctuary in 2011 to support the development of the 97-hectar sanctuary.

Project Objectives and Key Activities

The goal of the two-phase project was to preserve the marine ecosystem in the Oracabessa Bay Fish Sanctuary and to increase biodiversity and species population, including that of turtles and coral populations. In the short term, the sanctuary sought to create a no-fishing zone protecting the Bay's critical breeding areas and fish habitat. In the long-term, the project sought to reverse the decline of biodiversity in the Oracabessa Bay. To fulfill this aim, the project set the following objectives including (1) increasing the number of sea turtles and healthy coral, (2) improve surveillance and monitoring of fish, turtle, and coral populations within the sanctuary; (3) strengthening community capacity to manage its marine resources; and (4) improving livelihoods through increased local benefits from marine resources.

Community outreach and capacity building activities provided the foundation for the project. In total, three workshops were conducted where the 24 participants learned about fisheries management, coral and turtle conservation, marine composting, and the importance of national and international policies for sustainable fish stock.



The training was provided by various partners including the St. Mary's Fisherman's Cooperative who showed how to improve the sea turtles nesting area, the PADI SCUBA who trained and certified three (3) local fishermen as scuba divers, and Seascape Caribbean, who has scientific and technical expertise in coral reforestation, and trained the certified PADI Scuba divers in coral gardening techniques. The University of the West Indies (UWI) provided training in fisheries management as well as assessments on OBFS's estuarine area.

Environmental Impact

The OBFS initiative contributed favorably to the maintenance and conservation of various ecosystems including four (4) reef systems, two (2) sea grass areas, two (2) mangrove areas, one (1) turtle nesting beach, one (1) estuarine area and one (1) breeding lagoon.

Before the implementation of the SGP project, 91% of Oracabessa Bay's reef had been classified as 'degraded' by the National Environment and Planning Agency (NEPA), - a condition that had also severely affected the health of local marine biodiversity. As coral gardening is a pivotal tool for increasing healthy coral coverage, the project increased coral production by expanding three (3) coral garden nurseries with 2,000 pieces of carefully planted coral. Two (2) local spear-fishermen were trained and certified as coral gardeners, learning how to plant and replant corals and how to keep the reef healthy and growing. By 2013, coral cover had increased by 153%, fish density by 272%, fish size by 16%, fish biomass by 564% while algae had been reduced by 43% since 2011.



Corals. Photo by OBFS.

Overall, better surveillance and monitoring capacity of the protected area provided a critical contribution to the conservation of the sanctuary and its significant species. Seven "No fishing" signs and buoys clearly demarcate the sanctuary; and fishermen learned to understand and respect the significance of the fishing sanctuary for their livelihoods. As a result, several significant species have made a comeback. For example, over 100 Elkhorn corals, one of the most important reef-building corals in the Caribbean, can now be found and two West Indian Manatees have been spotted grazing together within the OBFS boundaries.



Wardens check on a turtle. Photo OBFS

The turtle population was able to recover thanks to the rehabilitation of more than 13,000 square meters of beach. The clearance of debris and foliage improved sea turtle nesting conditions and hatching rates. As the collection and recycling of debris material from the beach was designed as an income generation opportunity, removal occurs immediately upon accrual. This quick response is critical for having turtles safely enter and exit the beach and determine if the beach will become their prime nesting area. During the first year of the project, over 13,400 Hawksbill Sea turtles hatched in OBFS and returned to the sea, and over 12,000 Hawksbill Sea turtles did the same on Gibraltar Beach, - another beach protected within the OBFS boundaries.

Socio-Economic Impact

The sustainability and success of the OBFS is built on the community members' opportunity to support their livelihoods through the sanctuary. Approximately 35 people have been able to directly improve their livelihoods through the project.

The nutrient-rich debris collected from the beaches is repurposed as potting compost and soil for local markets, creating a new revenue stream, especially for the two (2) turtle nesting area composters that have been employed by OBFS. Three (3) coral gardeners were employed and also earn additional income by providing tour services around the coral gardens. Sea turtle nesting has resulted in a source of income for the OBFS foundation as guests from the Golden Eye Resort pay a small fee to view sea turtle nesting and release. In addition, eleven (11) community members are being employed by OBFS, of whom six (6) run a household with 4 or more dependents.

The project has helped OBFS build its organizational capacity with approximately fifteen (15) community members benefiting from specialized training and workshops in Information Technology, Financial Management, and Marketing. The United States Peace Corps also committed a volunteer to expand the management and organizational capacity of OBFS, and through the CaribSave Partnership, the OBFS was able to hire full-time staff to manage the sanctuary and increase surveillance. To increase its surveillance capacity, the Oracabessa Foundation hired twelve (12) sanctuary wardens - four (4) Permanent Wardens and eight (8) Rotating Wardens - to patrol the sanctuary. As a result, the fishing sanctuary is now monitored by six (6) fulltime fisheries wardens, 17 hours per day, 7 days per week, with a newly purchased patrol boat dubbed “The Enforcer”. The NEPA also provides continued monitoring and evaluation of OBFS’ marine biodiversity.



“The Enforcer”. Photo OBFS.

Thanks to the expertise and reputation gained during the coral rehabilitation project, the community hopes to offer reef reforestation services to other sanctuaries, marine protected areas and tourism operators. Because OFBS is one of, if not the best managed and enforced sanctuary in the country, it may also have the opportunity to generate income through consulting with other organizations that want to set up sanctuaries. OBFS has already been called upon to share its knowledge and experience on sanctuary formation and management, enforcement and various other technical aspects.



Youth helped clear the beach. Photo OBFS.

Youth Engagement and Participation

During the OBFS project, careful attention was paid to involving youth to build their capacity for future marine conservation and rehabilitation efforts. In this regard, sixty-eight (68) first graders from the Oracabessa Primary School participated in the clean-up of the local fishing beach and learned about the importance of keeping the marine ecosystem clean and healthy. In addition, over 200 youths were educated in environmental conservation and participated in baby turtle releases at the Gibraltar beach.

Policy Impact

OBFS has advocated for policy change. Following a Memorandum of Agreement between the Oracabessa Foundation & Fisheries, OBFS was one of the nine sanctuaries established on May 17, 2010. Consequently, OBFS has been granted power under the Natural Resources Conservation Authority Establishment of Authority (NRCA) to protect fish populations that live and breed within the parameters of the sanctuary. Based on its outstanding work, the Oracabessa group was invited to a stakeholder consultation on Jamaica’s National Biodiversity Strategic Action Plans.

Sustainability



Coral gardening. Photo OBFS.

The sustainability of increasing coral coverage in the sanctuary has been ensured by having trained coral gardeners to remove coralivorous invertebrates and nesting fish as well as competing macro-algae and disease until more natural fish populations return to the sanctuary. The new and healthy coral coverage also attracts more snorkeling, which provides direct value and income to gardeners keeping the project sustainable in the long-term. The turtle nesting sites have likewise attracted from hotel guests nearby.

The OBFS is well organized, ensuring that the training is up to date and that it adheres to national standards in regards to MPAs in Jamaica and the Caribbean. The no-fishing zone enjoys high compliance thanks to the strong support it enjoys from its stakeholders, including the fishers, the hotel owners, and community. The OBFS also has a lasting and successful relationship with the Ministry of Agriculture & Fisheries, the local police, private investors, and foreign and domestic grant agencies who ensure the sustainability of the reserve. The government, for example, provides Oracabessa Bay Sanctuary with a monthly stipend to fund the operation and maintenance of its surveillance boats and equipment.

Replication and up scaling

More beaches in surrounding areas have been identified where OBFS members work with local fisher folk, property owners, and community members to develop new turtle monitoring projects. So far, the project has been replicated and mainstreamed at different beaches such as Rio Nuevo, Reggae and Page Beach.

Lessons Learned

The project managed to create powerful synergies between the goal of improving livelihoods and conserving biodiversity in Oracabessa Bay. For example, OBFS' enhanced surveillance capacity of the no fishing zone provides jobs and improves the conditions for larger fish to repopulate, which in turn benefits the fishing community in terms of better fish catch and better livelihoods, whose positive results lead the community to maintain the fishing sanctuary as a source of well-being. Therefore, the project successfully invested in key activities that create a ripple effect on poverty alleviation as well as biodiversity conservation.

OBFS' greatest barrier was not having human resources with sufficient time and experience to implement the needed organizational policies. Bringing in an individual with the experience and time has removed this barrier for the time being. It is also important to make an evidence-based, realistic project plan and gain the community's support before implementing a project.

Furthermore, project policies should consider dealing with natural hazards. For instance, a hurricane showed that it can dislodge newly planted coral, tangle up nursery lines and easily destroy turtle nests in low-laying areas. In addition, out-planted coral needs to be consistently monitored and evaluated to keep it healthy and free from fire worms and snails.

The support of SGP's team was critical, having always been available to address key challenges that were important to project implementation such as the establishment of the right partnership or increasing networking. SGP also provided guidance in project proposal development, preparing project reports, data recording and funding.



OBFS' turtle specialist explains