

Sustainable Livelihood Development Promotes Long-Term Conservation In Haiti's Massif-Plaine Du Nord

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Mangroves in Bas Limbé, Haiti. Photo: Jean Wiener

Once described as the “Pearl of the Caribbean,” Haiti today is one of the world’s poorest nations, with 80 percent of the population living under the poverty line. Decades of environmental degradation and disasters have depleted Haiti’s natural resources. Yet along the northeast coast of Haiti, a number of biologically rich areas in the Massif-Plaine du Nord Conservation Corridor remain, and offer hope for the well-being of people and nature.

The corridor supports an array of biodiversity, including four species of globally threatened sea turtles that nest along the sandy beaches. The corridor is also home to numerous mangroves that provide critical ecosystem services – fisheries production, shoreline protection and stabilization, and carbon storage – crucial for the local population’s well-being.

To enable the communities in the Massif-Plaine du Nord Conservation Corridor to protect and manage the mangroves, fisheries and sea turtles, while increasing economic benefits from these environmental resources, CEPF supported a project conducted by Fondation pour la Protection de la Biodiversité Marine (FoProBiM). A major component of the project was to determine the possibilities for ecotourism initiatives and sustainable livelihoods within the corridor.

Communities trained to protect the Plaine

From May 2012 through April 2013, FoProBiM worked closely with community stakeholders, including local fishers, farmers, schoolchildren, church groups, women’s groups, the local tourism industry and more, coordinating formal classes and seminars, informal meetings, and educational materials detailing the importance of mangroves and bees,

the prevention of pollution, the life cycle of sea turtles and fishes, and the need to sustainably manage and protect environmental resources. Environmental education activities were offered every month from project start for local communities, and more than 400 adults and schoolchildren participated. These activities and the establishment of two “Nature Teams” – 12 local people trained in environmental management activities and monitoring – resulted in the protection of more than 800 hectares of mangroves and more than 10 miles of sea turtle nesting beaches within the corridor.

Despite current Haitian laws protecting sea turtles and their eggs, they are often caught and killed for food, bait and sometimes for their shells. Training and a [turtle identification guide](#) were provided to the Nature Teams, and local communities were engaged on the importance of protective measures through educational programs. Two sites were targeted for sea turtle monitoring: the beaches along the area of Bas Limbé and the beach along the Limbé Bay area. Monitoring provided evidence that sea turtles, including the Critically Endangered hawksbill turtle (*Eretmochelys imbricata*), are still present in the area and come ashore to nest, although in significantly smaller numbers than in the past.

In addition to leading the sea turtle monitoring, the Nature Teams also participated in educational activities with the community and performed stewardship activities throughout the project term that will continue in future endeavors. “The Nature Team members were expected to establish relationships with and work through local organizations to create a foundation for community involvement in long-term conservation efforts,” said Jean Wiener, director of FoProBiM.



Nature Team member with FoProBiM apiarist. © Fondation pour la Protection de la Biodiversité Marine/photo by Jean Wiener

Increasing bees, trees and tourists

Mangroves in Haiti are often destroyed for charcoal production, raw fuel wood and construction material, and the bark is harvested for its tannins, which are used in leather production and for fishing nets. Reductions in mangrove cover within the Massif-Plaine du Nord Conservation Corridor diminish biodiversity and human well-being through the loss of ecosystem services, including carbon storage, shoreline stability and protection from storm surges and tsunamis.

FoProBiM's project used multiple approaches to reduce mangrove losses. The organization worked with the local communities to establish sustainable livelihood opportunities, including apiculture (beekeeping), mangrove nurseries and ecotourism. To develop sustainable apiculture, 10 bee hives were installed in the community at Bas Limbé, and the community groups were provided with some basic equipment and consulting services from an apiarist. Local stakeholders were trained in caring for the bee hives since the community will be responsible for maintaining these as a source of potential income from honey production. FoProBiM will continue to work with the communities to develop honey production and the eventual marketing of the honey to private individuals and supermarkets in Cap Haitien. Located near the mangroves, the bee hives will increase pollination and are expected to add value to mangrove protection for communities that are producing and selling the honey.



Local children volunteering at the mangrove nursery. © Fondation pour la Protection de la Biodiversité Marine/photo by Jean Wiener

Local stakeholders also were taught the importance of protecting mangroves for their socioeconomic well-being and more than 400 schoolchildren were provided with practical field knowledge about how to develop a mangrove nursery. On the northern ends of western and eastern Bas Limbé, more than 10,000 red mangrove trees were cultivated at two plant nurseries for reforestation activities.

The replanting activity is set to take place later this year, after which the local community groups managing the plant nurseries are free to sell any remaining trees to individuals or other projects in the area in order to gain revenue and contribute to the long-term viability of the nurseries. "With local stakeholders having participated in educational activities, hands-on development of mangrove nurseries and soon, mangrove planting, a vested interest in the mangrove trees in their community is being developed and encouraged," said Wiener.

The project also raised awareness of ecotourism opportunities for the communities in the Bas Limbé to Chouchou Bay coastal area, since the most popular Royal Caribbean Cruise Lines destination is located only 14 kilometers away, with approximately 6,000 tourists a week visiting Labadie. A tourism report identified potential ecotourism activities – tours of the mangroves and sea turtle nesting sites, iguana watching and more – that could be developed. However, the lack of infrastructure means the local communities are not currently equipped to receive large numbers of tourists.

The tourism report found, however, that approximately 1,000 Haitians a year currently make day trips to the Bas Limbé-Chouchou area and that there is potential to engage these day-trippers in ecotourism activities. Now that the

Nature Teams have knowledge about ecotourism potential, they will take the lead in continuing its development within the area.

After the project, progress continues

Although the project has concluded, FoProBiM, with the help of local stakeholders, developed recommendations for additions and modifications to Haiti's existing laws on protections for mangroves and sea turtles. These laws date back to 1978 and are in need of an update due to a lack of clarity, consistency and enforcement. The recommendations were presented to public sector officials for consideration under national legislation in order to bring Haiti's environmental laws in line with other regional and global statutes. On July 10, the Ministry of Environment adopted a resolution to protect Haiti's mangroves, with construction, fishing and hunting in mangrove forests banned. The ministerial decree also bans people from cutting, selling or otherwise making use of mangrove trees.

FoProBiM will also continue to work on elements of the project, as funding was awarded by the U.S. National Fish and Wildlife Foundation for FoProBiM to expand on the Nature Teams' sea turtle monitoring activities. A nationwide survey for one year will include continuation of the Nature Teams' monitoring of sea turtles in the areas of Bas Limbé and Limbé Bay, with the addition of 12 other sites for monitoring by FoProBiM. Additional leveraged funding from UNEP-CAR/SPAW will allow for manatee research until November 2013 and FoProBiM is self-financing a marine mammal survey until November 2013. Royal Caribbean has also provided FoProBiM with funding to continue and expand project activities related to the development of alternative livelihood activities such as artwork and apiculture in northern Haiti at Bas Limbé and/or Caracol Bay.

"Intrinsically including local stakeholders in both the project design process as well as all aspects of implementation provided them with the ultimate sense of ownership, pride in success, and responsibility," said Pierre Carret, CEPF's grant director for Haiti. "This resulted in great achievements, with the local communities' well-being impacted through sustainable livelihood development that will also ultimately protect the biodiversity of the Massif-Plaine du Nord Corridor."