

# **Effectiveness of Community-Based Education and Fisher Training Programs to Sensitize Local Populations in Southern Haiti about Endangered Marine Megafauna and Marine Ecosystems.**

## **Efectividad de la Educación Comunitaria y los Programas de Capacitación de Pescadores para Sensibilizar a las Poblaciones Locales en el Sur de Haití sobre la Megafauna Marina y los Ecosistemas Marinos en Peligro.**

## **Efficacité des Programmes D'éducation Communautaire et de Formation des Pêcheurs pour Sensibiliser les Populations Locales du Sud d'Haiti à la Mégafaune Marine et aux Écosystèmes Marins en Voie de Disparition**

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### **EXTENDED ABSTRACT**

As an island, much of Haiti's natural heritage is found in the surrounding ocean. The country's waters are home to a diversity of marine megafauna including endangered marine mammals, sharks, sea turtles and stingrays, especially along the southern coastline. These ecologically significant species are important for keeping marine ecosystems healthy. This includes the transportation of nutrients between and within habitats, carbon sequestration and positively influencing the productivity of marine ecosystems through their long-distance migrations, feeding and even their mortality (Hammerschlag, et al., 2019). These top predators keep the ecosystems in balance by controlling populations of smaller predators and herbivores (García-Barón, et al., 2020). Marine megafaunas also have an ecological, societal and economic value (Mazzoldi, et al., 2019).

Unfortunately, marine megafauna face many threats to their survival and are at risk of becoming extinct due to multiple factors including human exploitation, pollution, loss of habitat and global warming (Kashyap, et al., 2023). According to Hammerschlag et al. (2019) one-third of marine megafauna are at risk of extinction globally. Many of the world's marine megafauna inhabit the waters of the Caribbean, with over 40 of these species found in Haitian waters, including critically endangered species such as the oceanic whitetip shark and hawksbill sea turtle. In Haiti, a high concentration of marine megafauna species inhabits southern Haitian waters, specifically off the coast of the inner southern peninsula in the Nippes Department.

The problem facing all marine megafauna in Haiti is that they are seen as a food source or viewed as dangerous animals. This is a consequence of extreme poverty, food insecurity, the low priority of science in Haiti and the lack of knowledgeable and qualified educators. Haiti is one of the most food insecure nations in the world, which has resulted in the decline of many endangered marine megafauna species in the country. These species are killed by artisanal Haitian fishers daily. There are situations in which the local populations, including young children, participate in the capture and killing of marine species, such as when an adult female nesting sea turtle crawls on the beach. This is of grave concern as there are hundreds of fishing communities along the 1,600 kilometers of Haiti's coastline, comprised of approximately 50,000 local artisanal fishers. The number of marine megafauna species killed annually is excessive.

Solving any marine environmental issue in Haiti requires time and patience. Long-term sustainable plans must be established in stages. Gaining a clear understanding of the problem is the necessary first step. This requires investigation and outreach to local communities. Secondly, solutions require working alongside local stakeholders. Possible solutions need to be discussed, tested, and implemented by locals to ensure they can be successful now and into the future. This is the step-by-step model that Haiti Ocean Project (HOP) follows.

The approach to sustainable marine conservation and protection of marine megafauna in Haiti involves community-based outreach, education and research. HOP includes the entire community in its outreach, targeting fishers, youth, women and local leaders. Conserving marine biodiversity involves various aspects and perspectives, which requires understanding of the species and the stakeholders involved. It means working together with the local populations, and where necessary, connecting them to the leaders of their country, all the while respectfully considering everyone's requirements, traditions and limitations.

If individuals are lacking the knowledge or motivation to include conservation practices in their daily routines, they will not care about protecting habitats or species. This is evidence of the need for hands-on activities, grounded in Kolb's (1984) Experiential Learning Theory, based on the premise that learning can occur through discovery and action. Also, learning can happen when knowledge is applied in a real-world setting (Kolb, 1984).

To engage and involve local individuals and communities, HOP establishes programs that always include an element of hands-on learning. For fishers, this involves data collection, documenting marine megafauna sightings at sea, training workshops, communicating with HOP team members and the rescue and release of these species. Beach clean ups with the local youth are encouraged and they are actively involved with the tagging and releasing of sea turtles. The women learn how to melt plastic found on the beach to create practical and usable products. The community leaders join in workshops where they voice their opinions and provide feedback on marine conservation initiatives.

Since 2007, HOP has empowered local fishing communities in southern Haiti to act for the conservation of their marine resources and marine megafauna. This has been through a variety of hands-on activities, programs and direct learning instruction, which has yielded very positive results. Participants became more conservation-minded, exhibiting environmentally responsible behavior which is essential for the conservation of marine megafauna. Involving the local population in the marine conservation work, helps extend the knowledge of the distribution, abundance and habitat of Haiti's marine megafauna. This ultimately will better inform future policy stakeholders and inspire local communities to want to protect and conserve these vital species, all of which are essential for the health of the ocean. On a larger scale, this will contribute to conservation objectives in the Wider Caribbean Region. In the local communities, the conservation of Haiti's marine megafauna will provide balance in their marine ecosystems and establish long-term sustainability of the important marine resources in their water.

KEYWORDS: Haiti, Education, Fisher, Marine Megafauna

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