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Reef Check Launches First Comprehensive Survey of Haiti's Coral Reefs

Initial survey reveals worst overfishing in the world

LOS ANGELES, California -- March 7, 2011 – Haiti's coral reefs are the most overfished in the world according to initial survey results by Reef Check, a non-profit organization focused on improving reef health worldwide. The first round of surveys completed on February 7th revealed that almost no food fish of reproductive age remain on Haiti's reefs. In a classic "fishing down the food chain" scenario, overfishing has also destabilized the entire coral reef ecosystem by removing plant-eating fish – allowing fast-growing algae to overgrow and kill corals. As a result, while the reef structure is intact, living coral typically occupies less than 10% of most reefs surveyed while algae and sponge occupy over 50%. The initial surveys covered the coast around La Gonave – a large offshore island and near St. Marc on the mainland.

The high biodiversity reefs feature a full complement of Caribbean fish and invertebrate species, and the reef structure still provides excellent fish habitat. According to Reef Check Director and coral reef ecologist, Dr. Gregor Hodgson, "Haiti's reefs are hanging on -- with some large stands of the Elkhorn coral, now on the US Endangered Species List, but we saw almost no food fish of reproductive age. The largest Reef Check indicator fish we observed during the surveys of 120 km of coast was about 6 inches (15 cm) long." Every 100 m along the reefs, the survey team observed a large fish trap, fishing net, spear or line fisherman. And this is despite the fact that almost all fishing is done from paddle or sailboats.

According to Reef Check, what is needed is the establishment of a network of marine protected areas, educating Haitians about the value of reefs and the benefits of reef conservation, and regular monitoring of reef status. The MacArthur Foundation supported project is the first to attempt a complete survey of Haiti's 1000 km of coastal reefs. Once the full survey is completed by the end of the year, a report will be provided

to the Minister of Environment that will present a plan for creating a network of MPAs that will allow fish and invertebrates to grow to maturity and reproduce.

Healthy coral reefs can provide up to 35 metric tons of fish per square kilometer, whereas overfished reefs such as those in Haiti provide a tiny fraction of this amount. By setting aside areas of coral reef where reef fish can grow and breed without disturbance, more fish and larger fish will produce millions of new young fish every year which would increase the available fish supply for Haitians.

Even before the earthquake, Haitians were short of food with 58% of the population under-nourished and some children reportedly being fed mud cakes seasoned with salt. The 10 million people of Haiti make up 25% of the total population of the Caribbean and are growing rapidly at 2.5% annually. Sadly, one in five Haitians dies before the age of 40. Haiti was already trapped in a cycle of environmental degradation and ranks 148th of 179 countries on the United Nations Development Programme Human Development Index prior to the earthquake; 76 percent of Haitians live on less than \$2 USD per day. Haiti imports 48 percent of its food. One third of newborn babies are born underweight.

According to Reef Check, most international environmental work has focused on terrestrial issues, neglecting the potential that improved management of coral reefs and associated fisheries could play in improving food supply and nutrition. Haiti is an island country surrounded by coral reefs. Most experts have assumed that Haiti's reefs were destroyed by sedimentation long ago. "Our rapid assessment indicates that any long-term plan for food security in Haiti should include reef fisheries," says Hodgson.

Founded in 1996 by marine ecologist Dr. Gregor Hodgson, the Reef Check Foundation is an international non-profit organization dedicated to conservation of two ecosystems: tropical coral reefs and California rocky reefs. With headquarters in Los Angeles and volunteer teams in more than 90 countries and territories, Reef Check works to create partnerships among community volunteers, government agencies, businesses, universities and other non-profits to achieve reef conservation. www.reefcheck.org

Available Photos and Video (Credit: Reef Check Foundation): Click the photos to download the high resolution image.



8060 -- Small patch reefs near St Marc are dominated by heavy growth of algae that have overgrown the living corals. Colorful sponges are also abundant. A healthy reef should have between 50 to 85% living coral but due overfishing and lack of algae-eating fish, there is less than 10% living coral. Very few food fish were observed and all were tiny and not yet of reproductive age.



7484 -- Some small areas of reefs at the Arcadine Islands are still healthy and show a high level of coral growth -- up to 50% of the seabed covered by living coral.



7559 -- The reef structure is quite varied forming excellent fish habitat, but the reefs are often like ghost towns with no fish at all



7602 -- Haiti's reefs show a high diversity of corals, and the reef structure is quite varied providing excellent fish habitat, but the reefs are often like ghost towns with no fish at all.



7950 -- Haiti's reefs are often dominated by algae which have overgrown reef building corals. Only flexible sea fans are able to grow above the algae.



7444 -- Although Haitian fishermen travel only by sailboat, 100 m long nets such as this one are commonly deployed. Other types of fishing include spear, handline and the use of traps. Haitian reefs are severely overfished.



7562 -- Reef fish such as this butterflyfish are extremely rare on Haiti's coral reefs due to overfishing.

7625 -- Haiti's corals are diverse and form dramatic structures.





7769 -- Trash is disposed directly into the sea and washes up on beaches.

7974 -- Marine biologist EJ Beucler records data on an underwater slate during a survey following a 100 m long transect line -- a giant survey tape.



7451 -- Over 100 km of reef was surveyed using the "manta tow" technique wherein a marine biologist is towed behind a boat at slow speed. Every two minutes the boat stops and the biologist writes down a quantitative estimate of how much living coral, sand, algae and other seabed types were observed. By tipping the manta board forward, the diver can carry out a controlled dive to about 20 feet (6 meters) depth.



7506 -- The elkhorn coral, *Acropora palmata*, formed the major reef zone closest to shore throughout the Caribbean until the 1970s, and then was killed off during the 1980s. Large colonies such as this are very rare.



7572 -- Haiti's corals are diverse and form dramatic structures.



7640 -- Haiti's reefs show a high diversity of corals, and the reef structure is quite varied providing excellent fish habitat, but the reefs are often like ghost towns with no fish at all.



7935 -- Deeper zones of Haiti's reefs are often in worse condition than those in shallow water due to overgrowth of the formerly living coral by algae.

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