

Mongabay Series: [Coral reefs](#)

Mesoamerican Reef gets improving bill of health

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- *The Healthy Reefs Initiative released its report card on the state of the Mesoamerican Reef. In the last decade, the grade has risen from poor to fair.*
- *The Mesoamerican Reef runs along about 1,000 kilometers of the coastlines of Mexico, Honduras, Belize and Guatemala.*
- *Fish populations have grown, as have the coral that make up the reef.*
- *But scientists were concerned to see an increase in macroalgae on the reef, which results from runoff and improperly treated sewage effluent.*

A recent report [tracking the health of the Mesoamerican Reef](#) indicates that conservation efforts might be helping to turn the tide for the reef itself and the people who depend on it.

“Reefs face ever increasing stress which is outpacing that of our management actions,” Melanie McField, an ecologist at the Smithsonian Institution, said [in a statement](#). “[The] measured improvement in reef health demonstrates our capacity to stem the trajectory of decline.”

McField directs a consortium of scientific, government, fishing and conservation organizations called the Healthy Reefs for Healthy People Initiative, or HRI, that produces regular “report cards” on the health of the reef. The most recent one was released in early January and pulls together data from more than 300 sites on the reef that measure the reef’s live coral, algae cover and fish populations.



Parrotfish are herbivorous and can help keep fleshy green algae on reefs in check. Photo by Francesca Diaco, courtesy of Healthy Reefs Initiative.

The Mesoamerican Reef, second in size only to the Great Barrier Reef in Australia, stretches through 1,000 kilometers (621 miles) of the territorial waters of four countries: Mexico, Guatemala, Belize and Honduras. Despite some differences in how sections of the reef are doing, the general health of the reef as a whole has risen from “poor” in 2006 to “fair” today.

HRI shared the report just after Belize [passed a moratorium on oil and gas exploration](#) to protect its part of the Mesoamerican Reef in late December 2017.

Although HRI says that more than one-fifth of the reef has been bleached, scientists did not observe any coral death in 2015 and 2016. And coral cover and populations of commercially important and herbivorous fish, such as parrotfish and surgeonfish, have grown.

“Communities in Mexico, Belize, Guatemala and Honduras depend on the abundance and biodiversity of Mesoamerican Reef fisheries for jobs, food security and economic development,” Larry Epstein, director of the Belize Oceans project at the Environmental Defense Fund, said in the HRI statement.



A school of juvenile to intermediate striped parrotfish (*Scarus iseri*) forage around staghorn coral (*Acropora cervicornis*) at Cordelia Banks. Photo and caption by Francesca Diaco, courtesy of Healthy Reefs Initiative.

The bump in fish populations means that the primarily traditional fisheries that depend on the Mesoamerican Reef could represent a “model” fishery management system, fisheries scientist Daniel Pauly of the University of British Columbia said in the statement.

“We see some evidence of rebounding fish populations, particularly in Mexico where a number of new ‘replenishment zones’ have been enacted and in Southern Belize with the managed access program,” Pauly said. “These are the kind of initiatives that we need to turn things around everywhere there are reefs, and reef fisheries.”

Some 47 marine protected areas have been set up in the vicinity of the Mesoamerican Reef, but replenishment zones, which are protected from fishing to allow fish to grow and reproduce, cover only 3 percent of the sea where the reef lies. HRI credits these zones for “doubling” commercial fish populations in the last 10 years, and the coalition recommends increasing this figure substantially and improving the connections between them.



A school of snapper, a commercially important fish in the Mesoamerica Reef. Photo by Francesca Diaco, courtesy of Healthy Reefs Initiative.

One area for concern is the spread of “fleshy macroalgae,” which now covers 23 percent of the reef compared to 12 percent in 2006. More herbivorous fish could help keep the algae in check. But the surging algal growth — the result of nutrients found in runoff from farms and poorly treated sewage effluent, as well as habitat destruction — threatens to force out the coral.

To address this issue, HRI is calling for the protection of parrotfish, which Guatemala enacted in 2015, across the entire reef, and the improvement of sewage treatment and sanitation facilities.

Madhavi Colton, program director with the Coral Reef Alliance, said in HRI’s statement that the report cards have helped transform monitoring data on the reef “into concrete management recommendations.”

“[Increasing] action by a suite of local partners has resulted in real and measurable improvements in water quality and fish biomass — which is encouraging to see when so much news about coral reefs around the world is bad,” Colton said.

CITATIONS

Healthy Reefs Initiative. (2018). Report card for the Mesoamerican Reef. Smithsonian Institution, Washington, DC.

Banner image of snapper photo by Francesca Diaco, courtesy of Healthy Reefs Initiative.

Link: <https://news.mongabay.com/2018/01/mesoamerican-reef-gets-improving-bill-of-health/>