

# Dorian left Bahamas coral battered, littered with debris

October 25 2019, by Kimberly Miller, The Palm Beach Post

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Mermaid Reef never should have thrived in the shallow curve of ocean

just 250 feet off Johnny Cake Lane in Marsh Harbour.

The water in that pocket of the Northern Bahamas is too hot in summer and too cold in winter, yet the fists of caramel-colored mountainous star coral were some of the healthiest in the island cluster—until Hurricane Dorian.

In one of the first scientific expeditions to the coral reefs following the Category 5 disaster, researchers from the Perry Institute for Marine Science found the popular Mermaid Reef battered, and littered with hurricane detritus—ladders, lawnmowers, pieces of ductwork.

Coral heads hundreds of years old were toppled, rolling like wrecking balls over the [reef](#) and under the violent waves whipped by Dorian's 185-mph winds.

"That was in the bull's-eye of the hurricane," said Perry Institute Executive Director Craig Dahlgren, who returned this week from a two-week survey of reefs around Great Abaco and Grand Bahama. "We can do some restoration to speed the recovery process at Mermaid Reef, but we are still talking decades to get back to where it was just a few weeks ago, if it ever gets back."

Dahlgren and a team that included an aquarist from Walt Disney World and a representative from The Nature Conservancy, worked with the West Palm Beach-based Angari Foundation on the expedition. The foundation, started by sisters Angela and Kari Rosenberg, offers trips on its 65-foot research vessel at cost to educational and non-profit groups such as the Perry Institute.

Over the two weeks, the team dove 29 sites and traveled 370 miles surveying reefs from as shallow as 15 feet to as deep as 60.

In about half of the areas surveyed, Dahlgren said there was minimal damage. He also saw no evidence on the reefs of the Dorian-caused oil spill on Grand Bahama.

But reefs near the west end of Grand Bahama and north of Abaco suffered badly under Dorian's battering.

One shallow reef, about 100 feet across, was cracked in half, pushing part of it out of the water and making it vulnerable to sponges and algae that can erode the reef over decades.

Other reefs were buried under two feet of milk-colored silt and invasive Australian pine trees that were uprooted during the storm. Some coral was bleached white—dead from heat or hurricane stress. Fields of sea fans were unrecognizable under the ghostly sediment that settled after Dorian.

"Places I thought would be the most devastated, you couldn't even tell a storm was there," Dahlgren said. "Figuring out the reason why some did better than others will mean looking at wave and wind direction."

In rare occasions, a hurricane can benefit a reef, bringing up cooler waters from the depths of the ocean to pause [coral bleaching events](#). Dorian pulled that off in the Keys, ending months of damaging heat. The scouring of coral can also clean off harmful algae. But if it's too deep of a scrubbing, the coral's protective mucus is scraped away, leaving it vulnerable to being choked by settling sand, burned by the sun and besieged by pollutants.

"The sand and silt that covers the reefs after a hurricane can look devastating, but it can be superficial, and after a couple weeks of tidal changes it all clears off and is beautiful again," said Neal Watson, president of the Bahamas Diving Association. "But if you don't have

electricity, water or a hotel, you can't run your dive business even if the water is pristine."

The Perry Institute survey is unique because the group has been studying and restoring coral reefs in the Northern Bahamas for years, taking thousands of photos that can be knit together to form an image of a full reef.

Mermaid Reef was a special interest because of its ability to exist in an area that would kill most coral. About 50% of Mermaid Reef's coral was alive, compared with an overall average in the Northern Bahamas of 10.8%.

A week prior to Dorian, Dahlgren was at Mermaid Reef when the mountainous star coral was spawning—when eggs and sperm are released into the water column simultaneously. The institute hopes to isolate the characteristics in the star coral that allows it to grow under harsh conditions.

Shelley Cant-Woodside, director of science and policy for the Bahamas National Trust, said Thursday she hadn't been updated yet on the Perry Institute's findings.

"The problem is the [coral reefs](#) are generally in really bad shape because of other pressures," she said in an interview earlier this month. "I don't have much hope for the coral nurseries."

But the four nurseries Dahlgren checked all survived.

"I'm left kind of hopeful," he said. "In a couple of months we can start planting."

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Citation: Dorian left Bahamas coral battered, littered with debris (2019, October 25) retrieved 23 April 2024 from <https://phys.org/news/2019-10-dorian-left-bahamas-coral-battered.html>

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