

Breaker's Reef Mooring Buoy Project

Palm Beach County, FL



Introduction

Shallow coral reefs off coastal Palm Beach County are being damaged by boat anchors. The Breaker's Reef Mooring Buoy Project was designed by the Florida Fish and Wildlife Conservation Commission (FWC) and Palm Beach County Department of Environmental Resources Management to protect the reefs and respond to the public's requests for moorings as an alternative to anchoring. Due to the proximity of the Gulf Stream and its strong currents, it is impractical to place moorings on deeper reefs but mooring systems are

feasible for near shore reefs. The project involved installing 16 mooring buoys on the heavily visited Breaker's Reef, a popular diving and snorkeling site, about a mile offshore of the Breaker's Hotel on Palm Beach Island. This is the only extensive coral reef at depths of 20 to 30 feet in the area. The highly diverse reef is dominated by branching corals and sponges but stony corals are also present along with 57 species of fish, including recreationally sought species of snapper and grouper. Sea turtles, especially green turtles, frequent shallow coral reef habitats to forage and often are observed at Breaker's Reef.



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Objectives

- Reduce damage to the coral reef, coral and other reef resources by providing permanent mooring buoys for boaters to use instead of anchoring their vessels.
- Monitor condition of reef resources in the vicinity of the mooring buoys and at control sites.
- Create and distribute brochures for boaters featuring a map of the mooring field and instructions on properly using the mooring buoys.

Approach

Breaker's Reef mooring buoys were first installed in 2009 using an FWC State Wildlife Grant funded through the U.S. Fish and Wildlife Service. With other moorings added, 16 moorings are available now to the public. Utilizing the "Halas System,"

pins were placed in either rock bottom or rock covered by shallow sand. Buoy locations were near natural reefs but placed on bare substrate. The pins were spaced more than 150 feet apart to allow for vessel movements around the moorings and prevent damage to adjacent moored vessels. During installation, project staff accompanied the contractor to ensure resources were not



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damaged. Now that the buoys are there, they are maintained on a quarterly schedule to check that they remain in safe operating condition. Project staff and volunteers conduct a monitoring program to assess buoy usage and if vessels using the buoys are mooring properly. Reef monitoring is done bi-annually to assess damage to stony corals, the presence of trash and fishing line, and anchor damage. Additionally reef fish abundance and diversity are measured. Brochures were created and distributed to local dive shops, marinas, and bait and tackle stores to target boaters, divers and anglers. Total project cost was \$63,222.

Benefits

The Breaker's Reef mooring buoy project protects a near shore coral reef and its resources from damage caused by boat anchors and provides an opportunity for the reef to recover from anchor damage. This will lead to more sponge, sea fan and hard coral on the reef and increased habitat for fish, lobster, sea turtles and other reef-associated species. The project also benefits residents and visitors who want to see a living coral reef and its inhabitants and thus it helps the local economy. Boaters supported this effort to relieve stresses on the reef, and the project's success has led to additional mooring buoys on other popular Palm Beach County reef systems.



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