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Nova University's Oceanographic Center aims to create nests for baby coral

By TONI MARSHALL (Sun-Sentinel)
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DANIA BEACH -- The tugboat looked too small to pull the lengthy barge dotted with concrete bubbles that would make up an artificial reef a few miles from the shoreline.

But it cut through the turquoise seas with ease, steering the large vessel to the drop-off point.



INTO THE SEA: Workers guide modules into the ocean off Dania Beach for a Nova Southeastern University Oceanographic Center project aimed at repairing a coral reef. Sun photo/Janis Stocker

Scientists hope the 160 4-by-3-foot spheres on board the barge will buttress a gutted reef off John U. Lloyd State Recreation Area and provide a habitat for thousands of species of sea life. They were displaced when the USS Memphis attack submarine ran aground seven years ago, destroying the ancient reefs.

The project, undertaken by Nova Southeastern University's Oceanographic Center just a few miles from its Coral Reef Institute, is being funded with \$750,000 from the federal government.

With that money, man is attempting to replace what man has destroyed: hundreds of yards of marine habitat.

On Feb. 25, 1993, the wayward sub cut two long trenches through reefs said to be thousands of years old, leaving columns of debris where coral once lived. Navy officials said the accident was due to poor training. It can take up to 50 years for a reef to fully recover.

"We are doing this research project to see if we can accelerate the recovery of the damage reefs. We are looking at ways of attracting baby coral," said Ken Banks, manager of Broward County's marine resources division. Coral is a hardened, living byproduct secreted by certain marine life.

"It's like fertilizing before you plant a tree," Banks explained. He said attractants like iron, algae and coral transplants will encourage larvae to settlement plates that will be attached to the balls. Scientists say coralline algae and iron may attract baby coral.

The repair mission is something more for the Oceanographic Center. Richard Spieler, a professor there, says the institute also is studying what attracts coral and what makes it grow, move and die.

"By using reef balls, we can put different materials in them so we can get different fish populations, and see how different assemblages interact with coral," Spieler said.

It will take the next couple of days to lower the 1,600-pound balls, made by Nova students, and three years of monitoring by trained divers to study the balls, assembled in four pods and resting 100 feet apart. The project is about 700 yards long by 300 yards wide.

Coral reefs worldwide are being corrupted by pollutants or destroyed by vessels running aground.

In just the last 40 years, 30 percent of the planet's coral reefs have been removed by man's activities, according to Todd Barber, president and CEO of the Reef Ball Development Group and

Foundation.

In the Philippines, 63,000 of these reef balls have been planted because fishermen there throw explosives into the water to fish, destroying the reef, Barber said.

Barber came up with the idea of the balls after his favorite reef on the Cayman Islands was destroyed in a hurricane. His foundation supports 2,000 reef repair projects in 30 countries.

"I watched it every year, and came up with the reef ball because I got tired of trash and tires making up the reef. It was ugly -- a disguised waste-management program," he said.

The balls come in eight different sizes. The ones used Friday have 18 holes. They are made of pH neutralized concrete. Generally, different sized balls are used to mimic a reef; but at John U. Lloyd, all the balls are the same size, which is considered better for scientific study.

The government's settlement money is insufficient to pay for a traditional restoration, so to stabilize and prevent further damage to the reef, the county is adding limestone boulders and other materials to create a new home for fish, aiding the ball reef experiment.

The challenge in dealing with Broward's reefs is that coral does not thrive here as well as it does in the Keys. Broward's reefs are very sensitive, between 3,000 to 10,000 years old, and covered with stony corals, small star corals and brain corals.

Barber describes the project as medium-sized. The balls generally cost \$180 each, but these were about a third of the price because his foundation donated the materials to Nova students. All the coral reefs in the world are equal in size to the state of South Carolina, said Barber. "It is the second most diverse ecosystem on the planet. The rainforest is first."

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