Protection plan deep-sea coral reefs considered

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In this undated photo provided by arthowardphotography.com, a deep sea coral reef is seen from a four-man submersible more than 1,000 feet down in the Atlantic Ocean about 50 miles off the southeastern coast of the United States. Scientists are studying the deep water reefs in a 23,000 square mile region stretching from North Carolina to Florida that has been proposed for protection from fishing and other endeavors that could damage the ecosystem, such as energy and oil exploration. (AP Photo/arthowardphotography.com)

(AP) -- Deep beneath the crystalline blue surface of the Atlantic Ocean off the southeastern U.S. lies a virtual rain forest of coral reefs so expansive the network is believed to be the world's largest.

A 23,000-square-mile area stretching from North Carolina to Florida is just part of that entire reef tract now being proposed for protection from

potential damage by deep-sea commercial fishing and energy exploration.

So far, it's been relatively untouched by man because of its largely unreachable depths, providing scientists a unique opportunity to protect an ecosystem before it's destroyed.

"Most of the time, science is trying to catch up with exploitation," said Steve Ross of the Center for Marine Science at the University of North Carolina at Wilmington.

Ross is leading a four-part research cruise that began Aug. 6 aimed at studying these deep sea environments, hoping to find new species of fish, crab and corals that could lead to scientific and medical discoveries.

Environmentalists say crab pots and bottom trawling for shrimp are the most immediate threats.

Margot Stiles, a marine scientist for Oceana, an international environmental advocacy group, said other deep water reefs off the U.S. have been severely damaged by trawlers.

"In this case, we have 23,000 square miles of known deep sea corals, and it's not too late to protect them," Stiles said. "This particular reef is to the deep sea what the Great Barrier Reef is for the world."

The South Atlantic Fishery Management Council is pushing the proposal to protect the region, about the size of West Virginia, in depths down to 2,500 feet and below, creating the largest deep water coral protected area off the Atlantic Coast.

Specifics on regulations and restrictions are still being reviewed, but if approved by the U.S. Commerce Secretary, the plan could take effect by

next year.

"As far as we can tell, there's relatively little damage," Ross said. "That's very different from other parts of the world. In Scotland and Ireland ... there's been significant damage mostly from fishing and now those reefs are being protected."

While fishermen have for centuries dragged up corals from the deep sea, it wasn't until the early 1900s that scientists discovered these extensive cold-water reefs existed. And it wasn't until the 1970s that researchers were able to use submersibles and cameras to reach the sea floor to document them. It had long been thought coral reefs only formed in shallow, warm waters.

Deep water reefs and pinnacles are much more slow-growing and can take several million years to form. Ross said science is only now beginning to understand these underwater "frontier zones."

Out on the research ship, scientists gather corals, sponges and fish samples by sinking deep to the ocean floor in a four-man submersible about the size of a Volkswagen Beetle. The team is comprised of researchers from the National Oceanic and Atmospheric Administration, Florida Atlantic University, the U.S. Geological Survey and others.

"We've barely seen the tip of the iceberg in terms of new species out here," Ross said. "We'll find out five or 10 years from now that we made an amazing discovery and we just didn't realize it ... A lot of our pharmaceuticals come from a tropical rainforest environment. The same people are looking for these in the deep sea, and there are expectations that there will be drugs made that could potentially provide cures for some types of cancer.

"There is just a great deal of concern that once these habitats are gone,

the potential for realizing those discoveries are eliminated," Ross added.

The deep water reefs also are seen as indicators of the ocean's overall health; because they are so remote, it takes longer for phenomenon like climate change to affect them.

"Science is questions, it's not answers," said Liz Baird of the North Carolina Museum of Natural Sciences, cautioning that it may be years before researchers realize the full potential of the reefs.

Most in the fishing industry agree that protecting these reefs is good for business, said Steven Wilson, owner of International Oceanic Enterprises in Alabama. Wilson has been shrimping in the Atlantic for 30 years and has been working with officials preparing the protection plan.

While law enforcement says some fishermen will drop crab pots or drag nets near fragile corals to score big catches, regardless of the damage, Wilson said it's mostly accidental.

"We can't make any money trawling over coral. In fact, we lose money," he said, noting that it destroys the nets.

Woody Moore, a commercial fishermen out of Jacksonville, Fla., has been trawling for shrimp in the Atlantic for three decades and also has been helping develop the deep reef protection proposals.

Moore puts it simply: "We don't want any closures but you gotta give them something or they'll take it all. You gotta play the game."

On the Net:

Daily logs and information from the research cruise:

http://fl.biology.usgs.gov/DISCOVRE/cruise(underscore)plan(underscore)2009.html

http://naturalsciences.org/microsites/education/deepsea/index.html

South Atlantic Fishery Management Council: http://www.safmc.net/

Oceana: http://www.oceana.org