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Prison work rehabilitates from the ocean floor on up

By Emilie Lounsberry
INQUIRER STAFF WRITER

MAURICE RIVER TOWNSHIP, N.J. -- Look out, developers. New Jersey officials are getting ready to launch an innovative style of seashore housing -- for fish.

This week, state officials will plunk the fish "condos" into the ocean off Barnegat Light on Long Beach Island.

The gray concrete structures are the latest element of New Jersey's artificial-reef program, which is intended to create new habitat for fish and protect them from aquatic predators while providing new hot spots for fishermen and divers.

Though the "reef balls" -- their official name -- are used around the world to build artificial reefs, they are being manufactured in New Jersey by an unusual workforce: prisoners at the Southern State Correctional Facility in Cumberland County.

The inmates, who earn \$1.60 to \$3.70 a day, use fiberglass molds to cast the poured concrete into 3-foot-by-4-foot structures that weigh 1,400 to 1,600 pounds each and look like igloos with holes. It is a back-breaking job, but prisoners said last week that it was satisfying work.

"It's like rehabilitation," said inmate Patrick Hellriegel, 52, who is doing time for aggravated manslaughter, as he prepared the molds for a new batch of concrete. "This is the first time I felt good in years, doing this kind of work. I know it's good for the environment."

Anthony Buddington, 35, of Jersey City, who is serving seven years for robbery, said he liked the idea of helping the fish.



"They need a home, too," he said.

When the first group of reef balls is put into the ocean about four miles from shore on Tuesday, they will join an ever-growing number of sunken ships, military tanks and other structures that are slowly transforming the landscape of the ever-shifting sandy ocean floor off New Jersey. Reef balls provide a place for fish to hide, lay eggs or just swim -- as coral reefs do naturally in other places.

"The idea is that they mimic natural reefs," said Richard Christian, sport-fish restoration coordinator for the Atlantic States Marine Fisheries Commission.

Christian, whose agency is composed of marine-fishery representatives of states from Maine to Florida, said that New Jersey's program, administered by the Department of Environmental Protection Division of Fish, Game and Wildlife, was one of the most innovative because of the variety of items used to create reefs.

Since the program began in 1984, more than 1,200 reefs have been built on a network of 14 sites between Sandy Hook and Cape May. Even a chunk of the old Ben Franklin Bridge is now part of a reef off Cape May. There are tires, boats and barges, military vehicles -- and soon, the reef balls. This year's plans call for installing 600 reef balls as well as tanks and vessels that have been cleaned up and inspected so they will not hurt the environment.

Bill Figley, who is in charge of the reef program for the state DEP, said the reef-ball project was funded by the federal excise tax on fishing equipment. He said making, transporting and installing each reef ball cost about \$125.

The state also has an adopt-a-wreck program, through which clubs, organizations and individual participants can donate money to pay for the sinking of a wreck or other reef structure. Last year's adoptions included the sinking of about 20 Army tanks, including one sponsored by the Philadelphia chapter of the Explorer's Club.

Andrew Applegate, who owns a fishing-party boat -- the Captain Applegate -- that goes out from Atlantic City and fishes above artificial reefs, said he believed the new reef balls, if properly placed, would attract fish and thus keep more fishermen and fisherwomen happy.

"I think they're going to work well," said Applegate, former president of the Artificial Reef Association, which has supported New Jersey's project.

Figley said the idea was pretty much that the artificial structures would attract fish -- crabs and lobsters, too -- and that they would

make their way into the hollow interiors.

"The environment moves and makes it impossible for a lot of animals to gain a foothold and stay put and survive," Figley said.

The structures also will provide a surface that encourages the growth of algae, mussels, barnacles and other life forms that, in turn, become food for the fish.

Figley said the reef balls should attract an array of fish -- sea bass, blackfish, triggerfish and others. He said the balls would be dropped into the ocean in varying configurations; in some areas there may be as many as 20 or 30 of them plunked down in a type of housing subdivision.

He said that once the reef balls become covered with underwater growth, the holes disappear and the structures resemble coral. "They look fairly natural," Figley said.

The balls were designed by a group of divers who were looking for a way to create a simple, affordable, environmentally sound way to replicate natural reefs, said Todd R. Barber, president and CEO of Reef Ball Development Group Ltd. in Sarasota, Fla.

Barber said the first design, which resembled a beach ball, was gradually refined into a structure that entices a multitude of species, does not move in storms and uses concrete additives suitable for the growth of marine life.

He said the devices helped fish by allowing them to hide inside and avoid predators and by giving them a place to rest. Small fry tend to survive longer in reef balls, he said, and fish also can conceal themselves outside the ball and wait for food -- smaller bait fish -- to swim by.

"They just need a place to hide and hang out," Barber said.

He said that there were now about 40,000 reef balls used in 400 projects around the world in the waters from Australia to the Caribbean to the Middle East, and that a new project will begin next week in Indonesia. New Jersey's project is unusual, he said, because of the use of prisoners for labor.

At Southern State Correctional Facility, Hellriegel and a handful of other prisoners were hard at work last week on the project -- a joint effort between the state DEP and the state Department of Corrections.

"It's like I'm giving back something," said Hellriegel, a Passaic County man who is serving a 20-year sentence with a 10-year

mandatory minimum.

For Willie Vaughan, 35, of Plainfield, serving three years for drugs, the project enables him to do "something constructive" that is also good for the environment.

"It kills time, gets me in shape, gets my mind to focus on other things," Vaughan said.

Andrew Morgan, 41, who is serving a seven-year sentence for eluding police in a high-speed chase, said he enjoyed the work and the whole notion that he was helping the fish.

Morgan, who is from the Manasquan area, said he grew up on the water, loved to fish and had three sons who also enjoyed fishing. When he is released, he said, he intends to head out to a rock jetty and tell people about the "fish bowls" he has helped build.

"It fits right in with the environment," Morgan said. "The potential is great with these things."

[For More Information](#)



For details on adopting a reef, contact the reef program at the New Jersey Department of Environmental Protection Division of Fish, Game and Wildlife at 609-748-2020.

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